EXIT, VOICE, PATIENCE, AND NEGLECT: YOUNG WORKER RESPONSES TO OCCUPATIONAL SAFETY CONCERNS

by

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Preface

In 1989, when I was 15 years old, I had a summer job as a labourer for a small construction subcontractor. My employer, whom I will call Jim, was a family friend. Jim turned out to be the hard-driving type, who didn’t have time for safety training or answering questions about how work should be done. I remember that he treated his employees poorly, though at the time I didn’t think this situation was unusual, nor did it cross my mind that his management style might lead to someone being injured on the job.

One of the first jobsites we worked at was a light industrial warehouse, a cavernous two-and-a-half story structure. My task, which I did perched atop about 4 sections of scaffolding, was to stuff pink insulation into crevasses where the wall met the building’s ceiling. I had only been working for a few minutes when the wooden plank supporting me gave way and fell to the ground. I will never forget the sound it made when it hit the concrete floor. Fortunately, I was able to grab onto an exposed ceiling beam and swing myself onto the other plank. Later I discovered that the plank that had fallen was too short and should have never been used with scaffold. In addition, several years later while analyzing a business case for an undergraduate class, I learned that the dimensions and strength of wooden scaffold planks are regulated to prevent incidents like the one I experienced.

Days after the incident I stopped working for Jim. Thankfully, my subsequent work experiences were much safer; however, this early job had a profound effect on me and, in part, is what motivates me to research young worker safety. Young workers are more likely to be injured on the job than working adults, and as this thesis shows, there is

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1 Several years later, when Jim took a job as a safety supervisor, I invited him to participate in a research project on occupational safety. He gladly accepted.
evidence that young people receive little job-related safety training, scant information about their basic employment rights, and are frequently not taken seriously when they raise concerns about safety to supervisors. I aspire to conduct high quality research that contributes to improving young worker safety. The research presented here is part of this larger project.
Abstract

I conducted four studies that develop and test a safety-specific model of exit, voice, patience, and neglect (EVPN) in the context of young workers’ reactions to declining safety conditions (Hirschman, 1970). In the face of hazardous working conditions, contemplating exiting (i.e., quitting the job) or voicing concerns about the risks (e.g., reporting a safety issue to a supervisor) are proactive responses. Conversely, neglecting safety concerns (i.e., ignoring personal safety in the face of danger) is a passive response. Workers may also choose patience (i.e., taking a wait-and-see approach) about concerns.

In total, 833 young people participated in four studies. Manuscript 1 (Chapter 5) is a focus group study that explores the types, frequency, temporal patterns, and consequences of the safety-related EVPN behaviours. The results showed (1) most participants favoured patience if and when they have concerns about workplace safety; (2) voice is reserved for serious safety concerns; and (3) exit is very uncommon and only used as a last resort.

Manuscript 2 (Chapter 6) describes the development of age-appropriate measures for general turnover intentions (i.e., exit), and safety-specific voice, patience, and neglect. The reliability, dimensionality, and validity of these scales are demonstrated over three studies.

Manuscript 3 (Chapter 7) used an experimental scenario approach in which safety conditions (high vs. low), financial reasons for working (high vs. low), and being injured (injured vs. not injured) are manipulated. The role of participant gender (male vs. female) was also examined. Participants assigned to the injury condition were more likely to exercise patience than those assigned to the non-injury condition. Low quality safety conditions were associated with higher turnover intentions. Finally, females reported
higher voice than males.

Finally, Manuscript 4 (Chapter 8) reports on findings from a short-term longitudinal design meant to replicate and extend the results from the previous studies. Support for Hirschman’s loyalty proposition was also found. Specifically, felt responsibility for improving safety was found to moderate the relationship between organizational loyalty and both exit and voice.

The final chapter integrates these findings and discusses future research directions as well as implications for public policy, management practice, and theory.
Co-Authorship and Manuscript Notes

Nick Turner is gratefully acknowledged as a co-author on each of the four manuscripts: “Waiting for safety: Young Workers’ Responses to Unsafe Work”, “Young Worker Safety Behaviours: Development and Validation of Measures”, “Young Worker Responses to Declining Workplace Safety: A Policy-Capturing Study”, and “A Short-term Longitudinal Field Study of Young Worker Safety Behaviour.”

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Many people have directly or indirectly assisted with this research. I am forever grateful to my friend and supervisor, Nick Turner, for his unwavering support of me while I was a graduate student and during this project. It’s been an enjoyable journey!

I deeply appreciate the support of Julian Barling who first got me thinking about research and, perhaps unwittingly, suggested that I have a look at Albert Hirschman’s book Exit, Voice, and Loyalty. Who knew where that would lead!

I owe a debt of gratitude to Julian Barling, Bill Cooper, and Jacoba Lilius who served as my dissertation committee and provided constructive feedback at all stages of this research. I also thank Joe Hurrell (external examiner) and Will Pickett (internal-external examiner) for their comments and helpful suggestions.

I deeply appreciate Bill Cooper’s encouragement and support. Bill invited me to participate in Commerce 451 (2008, 2009), took the lead on an ASAC (2008) symposium on exit, voice, and loyalty, and helped bring Jim Detert (Cornell University) to Queen’s in 2008 to talk about his research related to employee voice. I appreciate the feedback from students in Commerce 451 and from special guest, Michael Withey (Memorial University).

I feel very fortunate to have had wonderful colleagues at Queen’s University. I thank Alyson Byrne, Stacie Byrne, Ann-Francis Cameron, Jennifer Carson, Amy Christie, Catherine Connelly, Angela Dionisi, Garth Harris, Colette Hoption, Michelle Inness, Manon LeBlanc, Lukas Neville, Jennifer Robertson, Andrew Stevens, and Jeff Wylie for their helpful feedback and support of this research. And I am also very grateful to Rick Jackson, for providing sage advice and a good laugh when I needed it. I also appreciated
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I thank my parents for their help with this research and making their cottage on Kingsford Lake, Ontario available for reading, reflection, and writing. I also thank my sister, Kim Tucker, who early in this project insisted I go to her cottage near Bennett Bay on Mayne Island, BC (her cover story being that her garden needed watering!). Upon arrival, I found Mayne Island to be one of most beautiful and tranquil places I’ve ever visited – and a fine place to block out the world and write.

Finally, I thank my loving wife, Jessica Wood. Your support and patience kept me going especially when this project wasn’t progressing as smoothly (or as quickly) as we would have liked. You inspired me throughout graduate school.

Sean Tucker
Regina, Saskatchewan
August 17, 2010
Statement of Originality

I hereby certify that all of the work described within this thesis is the original work of the author. Any published (or unpublished) ideas and/or techniques from the work of others are fully acknowledged in accordance with the standard referencing practices.

(Sean Tucker)

(August, 2010)
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Chapter 1

Introduction

“Be safe, be tough and don’t compromise your right to a healthy and safe workplace. Don’t be bullied or fooled into doing anything you feel is unsafe.” (Comish, 1993, p. 58).

In his book *The Westray Tragedy: A Miner’s Story*, Shaun Comish (1993) recounts the series of events that led to a massive explosion that killed 26 miners at the former Westray coal mine near New Glasgow, Nova Scotia. Once a miner at Westray, Comish recounted how before the deadly blast he and many of his colleagues rarely complained about deplorable safety conditions around them for fear they would lose their jobs – the only “good jobs” in an economically depressed region. Those who risked raising safety issues with management were ignored, told to find another job, or fired by mine managers who were singularly focused on maximizing production.

The following account of a confrontation between senior Westray manager, Roger Parry, and experienced coal miner, Roy Pasemko, over Pasemko’s refusal to work in a section of the mine that he thought was unsafe reflected management’s attitude towards underground safety:

I remember very clearly Roy saying [to Roger] "I'm not going in there. You're fucking going to kill somebody here and you don't care." And Roger's answer to that was: "Roy, either you go in there and bolt that fucking heading or you can fucking take your lunch can and go up the drift; you're fired." (Wayne Cheverie, Westray Public Inquiry, Vol. 21, p. 3988).

In confronting deteriorating safety conditions, such as those at Westray, workers can respond in different ways. They may comply with management or co-worker instructions and perform potentially dangerous work. Conversely, and like Roy Pasemko, workers may make a fuss by refusing dangerous work, or they can bring the situation to
the attention of government officials such as a safety inspector. If workers are unionized, then they have recourse to file a grievance about their working conditions. Alternatively, union and non-union workers may make constructive suggestions to management about how to improve safety, or they may choose to remain silent. Finally, workers may opt to quit an unsafe job and search for a new employer that offers safer working conditions.

The factors which determine these responses – to exit, to voice, wait it out, or be neglectful – in the context of declining safety is the focus of this research. The theoretical girding of this research is exit, voice, and loyalty (EVL) theory (Hirschman, 1970). The sample population of this research is teenaged workers in Manitoba, Canada.

1.1 Young Workers and Occupational Safety

The vast majority of “young workers” (defined as workers between the age of 15 and 24 years) experience paid employment within the formal economy. Research has examined both positive and negative aspects of early employment (Barling & Kelloway, 1999; Greenberger & Steinberg, 1986). One potential negative consequence of early paid employment is becoming physically injured on the job. Serious bodily injuries can be devastating for workers young and old, and studies from across different countries consistently find that young workers are more likely to be injured on the job than older workers (Salminen, 2004).

The present research focuses on workers aged 15 to 19 years for several reasons. First, this is a more homogenous group in terms of work (e.g., part-time employment) and educational experiences (students versus non-students) compared to the population of young workers as a whole (i.e., those aged 15 to 24 years). Second, the work experiences of teenaged workers are underrepresented in the management literature. Third, experience in the formal paid economy usually begins at the age of 15 years – the age when youth are
legally permitted to work in many occupations. Fourth, teenagers have lower practical knowledge and experience in occupational safety matters than older workers. Finally, and relatedly, research that focuses on the safety experiences of teenaged workers can better inform education and injury prevention programs targeting this vulnerable age group.

In the past decade, young worker safety has received considerable attention from policy makers, educators, and researchers (e.g., Loughlin & Frone, 2004). High school and media-based injury prevention initiatives, which aim to raise awareness about safety hazards and health and safety rights, have been widely adopted in Canada (e.g., Boychuk, 2005; WSIB, 2007). Despite efforts to better understand and prevent workplace injuries among teenaged workers, gaps in knowledge of this persistent social problem remain. One particular gap is how teenaged workers respond to declining safety conditions. Given the potential long-term social and economic consequences of having teenagers injured on the job, and the deficit of research on teenager responses to unsafe work situations, a focus on how this cohort reacts to this circumstance is warranted. The theoretical framework applied to this problem is Albert Hirschman’s (1970) exit, voice, and loyalty (EVL) theory.

1.2 Responses to Decline: Exit, Voice, Patience, and Neglect

The political economist Albert Hirschman (1970) observed that consumers, citizens, and employees respond to deteriorating market, societal, or organizational conditions with either exit (i.e., leaving the marketplace, society, or organization) or voice (i.e., speaking up about the deteriorating market, societal, or organizational conditions in an effort to change them). Furthermore, the decision to exit or voice is influenced by one’s attitudinal loyalty to that market, society, or organization. Two additional responses to declining conditions, namely neglect and patience, were later incorporated into Hirschman’s model.
by Leck and Saunders (1992) and Rusbult and colleagues (1982), respectively. Neglect accounts for deliberate action of ignoring or withdrawing effort from declining conditions, whereas patience reflects waiting for improvement. The exit, voice, loyalty, and neglect (EVLN) model, as it is known, has been widely applied in work and non-work settings. Indeed, Hirschman (1995) commented that “it is remarkable that so primitive a model was able to account for so many diverse situations and experiences” (p. 13). A search of Google Scholar in August 2010 confirmed the popularity of Hirschman’s seminal work – Exit, Voice, and Loyalty: Responses to Decline in Firms, Organizations, and States – which has been cited 5,500 times since it was published in 1970. The current research examines EVPN as outcomes and loyalty as a moderator of exit and voice in the context of occupational safety.

To date, despite being widely studied by organizational researchers, occupational safety research drawing on Hirschman’s theory has primarily focused on voice (e.g., Mullen, 2005) and, to a lesser extent, voice and exit (e.g., Barling, Kelloway, & Iverson, 2003). The concepts of neglect, loyalty, and patience, which I will argue are also conceptually relevant responses to declining workplace safety, have been overlooked.

I believe there are theoretical and practical benefits to concurrently and temporally studying exit, voice, neglect, and other responses under conditions of declining safety. Contemplating exiting (e.g., quitting the job) or voicing concerns about the risks (e.g., reporting the issue to a supervisor, telling a co-worker not to do dangerous work) are proactive responses in that they may decrease the probability of injury and may lead to improvements in workplace safety. Conversely, neglecting concerns (i.e., not caring about one’s own safety or safety of co-workers in the face of danger) or exercising patience (i.e., tolerating conditions) is a more passive response that may increase the
probability of injury and does nothing to improve workplace safety. How loyalty affects these responses is a logical and worthwhile extension.

Specifically, the current research addresses three main questions:

1. How do deteriorating organizational safety conditions influence exit, voice, patience, and neglect (EVPN) responses used by young workers?

2. What individual (e.g., gender, personality) and situational (e.g., supervisory leadership) factors encourage or prevent young workers’ use of EVPN strategies in response to declining workplace safety?

3. How does Hirschman’s concept of loyalty affect exit and voice behaviour in an occupational safety context?

1.3 Practical and Theoretical Contributions

There have been increasing calls for management and organizational scholars to conduct research which addresses practical problems in organizations (e.g., Bazerman, 2005; Rynes, 2007). In particular, Rynes and Shapiro (2005) noted that there is a deficit of research on public policy issues. In discussing the role and relevance of management research in this area, Dutton (2005) lamented that while “organizational-management researchers have much to say about public policy questions [they] are not at the table and are not having influence” (p. 956). In the following pages, I explain why the proposed research is relevant to public policy, management practice, and theory.

As previously stated, the rate of injuries among teenaged workers has attracted growing attention from government, school educators, unions, and researchers. Government-sponsored young worker injury prevention initiatives, which are now widely adopted across Canada, have two primary goals. First, these programs seek to increase young worker knowledge of their health and safety rights and, second, to improve young
worker risk perception (Breslin, Day, Tompa, Irvin, Bhattacharyya, Clarke, & Wang, 2007).

Proponents of these kinds of approaches claim positive results in reducing injuries (e.g., Boychuk, 2005; Linker, Miller, Freeman, & Burbacher, 2005); however, the programs have yet to be independently and systematically evaluated. Given that research has found a very weak relationship between newly-acquired safety knowledge and change in future work behaviour (Loughlin & Frone, 2004; Robson, Stephenson, Schulte, Amick, Chan, Bielecky, et al., 2010), there is reason to question claims about the efficacy of these programs. As Gray (2002) put it, “forms of safety rights’ education give off an implicit message: once workers are aware of their rights they can begin to refuse unsafe jobs, and most importantly, it is their individual responsibility to do so” (p. 142).

The broad aim of the proposed research is to identify social, psychological, and contextual barriers to teenaged workers constructively and effectively responding to workplace hazards (e.g., exercising their legal rights to make their workplace safer). In addition, this research will develop reliable survey measures for young worker safety behaviour, which in turn may be valuable for evaluating educational workplace safety programs. Currently, age-appropriate measures for young worker safety behaviour do not exist. For these reasons, the results from the proposed research should be of relevance to public policy-makers and educators.

The findings from the proposed research will also be important for management practice. There is little research on young worker responses to unsafe work. Employers who employ large numbers of teenagers and value high levels of safety performance will be interested in understanding how young employees respond to job-related safety concerns. These results may be especially relevant to the design and content of
supervisory occupational safety training programs. For example, new supervisors would benefit from knowing which contextual factors encourage and inhibit young workers from speaking up about safety concerns.

Finally, the proposed research has implications for theory. As was mentioned, Hirschman’s (1970) theory of exit, voice, and loyalty and related models have been applied to a wide range of organizational phenomena, but have yet to be fully applied to occupational safety. Therefore, an additional goal of the proposed research is to test the boundary conditions of Hirschman’s ideas in this context. Another contribution of this research is that it fairly tests Hirschman’s propositions related to decline and loyalty, concepts that are introduced in Chapter 4. In particular, my research is the first to operationalize Hirschman’s concept of conscious and unconscious loyalty.

1.4 Organization of this Dissertation

Edmondson and McManus (2007) emphasize that it is important for research to have a high degree of internal consistency among the research questions, prior work related to the topic of interest, the research design, and theoretical contribution. The current research was conducted with these elements in mind. Chapters 2-4 of this dissertation set the stage for four manuscripts. In Chapter 2, I review current research on young workers with particular attention to why young people work, their labour market participation, and employment characteristics (i.e., occupations, hours worked per week). The focus is on conditions in the province of Manitoba, the primary site of this research. Chapter 3 summarizes research on the safety experiences among young workers (e.g., prevalence of injuries). Here I also review current trends in safety research, and highlight methodological and conceptual gaps.
Chapter 4 provides an in-depth review of Hirschman’s EVL theory. In this chapter, I summarize the original propositions contained in *Exit, Voice, and Loyalty* (Hirschman, 1970) and identify methodological and conceptual limitations of related research. I also discuss how aspects of the theory have been applied to occupational safety research.

Chapter 5 reports on an exploratory focus group study that investigates the nature and patterns of exit, voice, patience, and neglect responses used by teenagers towards safety concerns. Information collected from these focus groups was used to generate items for measurement scales (Chapter 6), develop and refine hypotheses, and develop scenarios for an experimental study (Chapter 7).

Chapter 6 describes the development and refinement of age-appropriate scales for measuring general turnover intentions (i.e., exit) and safety-specific voice, patience, and neglect.

Chapter 7 is a policy-capturing study that experimentally manipulates workplace safety conditions (e.g., low quality safety versus high quality safety) and other conceptually relevant factors (e.g., financial reasons for working).

Chapter 8 describes a short-term longitudinal field study that attempts to replicate the results from the previous studies but in a real-life work environment. Hirschman’s loyalty proposition is also tested in this study.

Finally, Chapter 9 summarizes and integrates the findings and discusses future research directions. Implications for public policy, management practice, and exit, voice, and loyalty theory, more broadly, are also discussed.
References


http://libmain.stfx.ca/newlib/collections/westray/index.htm
Chapter 2

**Teenaged Employment in Manitoba: A Literature Review**

Abstract

This chapter describes teenagers’ experiences of paid employment with a focus on labour market statistics in Manitoba, the site of the current research. The vast majority of teenagers between 15 and 19 years experience paid employment during their high school years. Teenaged workers are typically employed part-time in low wage, low skill, non-unionized jobs in the service sector. In addition, these workers experience shorter job tenures than older workers. Within-group differences in teenager experiences of paid employment also exist, and these are especially pronounced between student and non-student populations, with the latter group more likely to work full-time.
2.1 *Definition of “Young Worker”*

While the category “young worker” – defined as workers between the ages of 15 and 24 years – may be convenient for making comparisons with adult workers, it is a rather arbitrary classification (Barling & Kelloway, 1999). Labour economists have noted significant variations in the employment experiences of young people in terms of gender, age, and student status (Usalcas, 2005; Gunderson, Sharpe, & Wald, 2000). A comparison of two common profiles of “young workers” illustrates this point. The first young worker is a 16 year old male high school student who works handling cash for 10 hours a week at a fast food restaurant. The second young worker is a 22 year old female university graduate who is employed full-time as a nurse in a hospital. Thus, since young workers have a “variety of experiences” (Barling & Kelloway, 1999), caution needs to be exercised when conducting research in this area. Of particular concern is sampling and making claims about the generalizability of research models to this age cohort. A straightforward, less problematic approach to increase the homogeneity of young worker samples is to study either high school aged workers (i.e., 15 to 19 year olds) or older young workers (20 to 24 years).

A large body of research has examined various aspects of youth employment (e.g., Barling & Kelloway, 1999). One question that has been explored in this research is why young people work. Not surprisingly, several factors have been identified such as financial needs (e.g., Dupré et al., 2006), pro-employment societal norms (Greenberger & Steinberg, 1986), personal fulfillment (Dupré et al., 2006), and gaining work experience (e.g., Ruscoe, 1996).

The present research focuses on the safety experiences of 15 to 19 year old non-agricultural workers because (a) this is a more homogenous group in terms of work and
educational experiences compared to the population of young workers; (b) participation in the formal paid economy usually begins at the age of 15 years given employment legislation; (c) teenagers generally have the least knowledge of and practical experience with occupational safety matters; and (d) safety research which focuses on teenaged workers can best inform interventions targeting this vulnerable group.

2.2 Limitations of Labour Market Data

Before discussing teenager employment characteristics, it is necessary to first highlight the limitations of official labour market statistics, which are cited throughout this chapter. First, Statistics Canada which collects employment data for its Labour Force Survey typically reports responses for 15 to 24 olds. Therefore, for the purposes of this review, it was not always possible to access precise data related to the target sample (i.e., 15 to 19 year olds). Second, official data do not include the disproportionately high percentage of teenagers who experience paid employment in the informal sector (i.e., baby-sitting, general labourer in family businesses, and casual labourers for small employers). More generally, high school-aged workers who are paid “under the counter,” a common enough occurrence, are less likely to be included in research studies or labour market data. Third, official labour market statistics are based on monthly household surveys conducted by telephone. Employed teenagers who leave high school before graduation and are separated from their family home are not likely to be surveyed. Finally, some unemployed teenagers become discouraged and give up searching for work when they believe jobs unavailable. Moreover, a disproportionate number of unemployed workers are likely to be youth, particularly in periods of economic recession (Gunderson, Sharpe, & Wald, 2000). When this happens, youth become a source of “hidden
“unemployment” because they are excluded from calculations of the unemployment rate.²

On balance, these survey and measurement issues likely suppress employment and unemployment statistics for teenagers. With these caveats in mind, I now turn to the state of employment for 15 to 19 year olds using the most recent data from Statistics Canada. Where possible, I highlight labour market conditions in Manitoba. In 2006, this province had a population of 1,148,000, of which nearly 7% were between the ages of 15 and 19 years (Statistics Canada, 2006).

2.3 Current Employment Conditions for Teenaged Workers in Manitoba

Teenager employment has grown significantly since the late 1990s, with the rate in Canada increasing by 21% between 1997 and 2004, which outpaced population growth for this cohort (Usalcas, 2005). In 2009, 49% of Manitobans aged 15 to 19 years were employed (Statistics Canada, 2009). This was the second highest labour market employment rate among the provinces. Table 2-1 shows the seasonally adjusted rates of full- and part-time employment for 15 to 19 year olds in Manitoba in 2009.

Table 2-1: Full- and Part-time Employment, and Unemployment among Teenagers in Manitoba (2009)

<table>
<thead>
<tr>
<th>Ages 15 to 19</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>79,700</td>
</tr>
<tr>
<td>Employed</td>
<td>49%</td>
</tr>
<tr>
<td>Full-time</td>
<td>32%</td>
</tr>
<tr>
<td>Part-time</td>
<td>68%</td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>15%</td>
</tr>
</tbody>
</table>


² My research was conducted during the recession of 2008/09. Labour market conditions in Manitoba were surprisingly resilient during the period. For example, employment decreased by 0.3% in Manitoba and Saskatchewan between October 2008 and October 2009, compared to a national decline of 2.3% (LaRochelle-Côté & Gilmore, 2009). The unemployment rate in Manitoba during June 2009 was 5.2%, second lowest to Saskatchewan’s rate of 4.6% (Labour Force Survey, 2009).
In 2009, nearly half of the teenagers in Manitoba were employed and of these jobs 68% were part-time (defined as less than 30 hours per week). Other data reveal that the rate of teenager employment among males and females is roughly equal (i.e., 48% versus 50%, respectively; Statistics Canada, 2009). In terms of unemployment, the rate among teenaged workers in Manitoba was approximately twice as high as the rate for workers 20 to 24 years (i.e., 15% versus 7%), and 3.5 times compared to workers 25 years and older (i.e., 15% versus 4%) (Statistics Canada, 2009). These data suggest that a relatively large proportion of teenagers who report having no job were either recently employed or were searching for work.

Statistics Canada recently began collecting detailed data on the labour market experiences of students and non-students aged 15 to 16, and 17 to 19 years during the summer months (i.e., May to August). Table 2-2 provides a more nuanced view of the employment patterns by age and student status in Manitoba during June 2009.

Table 2-2: Full- and Part-time Employment and Unemployment among Teenaged Workers in Manitoba by Student Status (June 2009)

<table>
<thead>
<tr>
<th></th>
<th>Students 15 to 16</th>
<th>Non-students 15 to 16</th>
<th>Students 17 to 19</th>
<th>Non-students 17 to 19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>29,600</td>
<td>1,400</td>
<td>33,900</td>
<td>14,800</td>
</tr>
<tr>
<td>Employed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-time</td>
<td>33%</td>
<td>36%</td>
<td>62%</td>
<td>74%</td>
</tr>
<tr>
<td>Part-time</td>
<td>91%</td>
<td>47%*</td>
<td>29%</td>
<td>68%</td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>23%</td>
<td>25%*</td>
<td>71%</td>
<td>32%</td>
</tr>
</tbody>
</table>

Note: * Based on national data. Results for Manitoba were suppressed to meet the confidentiality requirements of the Statistics Act.

Source: Statistics Canada. (June, 2009). Table 282-0006. Labour force survey estimates (LFS), by students during summer months, sex and age group, unadjusted for seasonality, monthly (persons).

As shown in Table 2-2, nearly 35% of 15 and 16 year olds reported being employed, and about 25% reported being unemployed. This suggests that a sizable...
minority of younger high school students were employed, and furthermore that almost an equal percentage were either recently employed or were actively searching for employment. What is perhaps most interesting about these figures is the higher percentage of early school leavers and high school graduates who do not pursue post-secondary education and who work full-time, as compared to similar-aged students, who are more likely to have part-time employment. Keeping in mind the aforementioned limitations of these data, these figures suggest that teenagers are active participants in the labour market, and that part-time and full-time work arrangements are variable, based on student status and age.

2.4 Characteristics of Youth Employment in Manitoba

To more fully appreciate the work experiences of teenagers, it is necessary to consider characteristics such as average wages, work hours, and job tenure. Table 2-3 ranks non-agricultural industries where teenage workers in Manitoba are most likely to be employed.\(^3\) The service sector, which is comprised of retail, accommodation, and food services, has generated the highest level of employment growth among young Canadian workers in the past decade (Usalcus, 2005) and has the highest concentration of teenaged workers in Manitoba. In terms of specific occupations, teenagers are most likely to work low skilled, entry-level positions across industries, such as sales clerk and labourer.

---

\(^3\) According to the 2006 Canadian Census, 1 and 18 Manitobans lived on farms. Compared to other provinces, a relatively high proportion of young Manitobans are employed in agriculture.
Table 2-3: Occupational Distribution of Workers Aged 15 to 19 Years in Manitoba by Industry (2006)

<table>
<thead>
<tr>
<th>Occupation by industry type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Sales and service</td>
<td>65</td>
</tr>
<tr>
<td>- Trades, transport, and equipment operators and related</td>
<td>9</td>
</tr>
<tr>
<td>- Business, finance, and administration</td>
<td>8</td>
</tr>
<tr>
<td>- Occupations unique to primary industry</td>
<td>8</td>
</tr>
<tr>
<td>- Occupations unique to processing, manufacturing and utilities</td>
<td>4</td>
</tr>
<tr>
<td>- Occupations in art, culture, recreation, and sport</td>
<td>3</td>
</tr>
<tr>
<td>- Natural and applied sciences and related</td>
<td>1</td>
</tr>
<tr>
<td>- Occupations in social sciences, education, government service,</td>
<td></td>
</tr>
<tr>
<td>and religion</td>
<td></td>
</tr>
<tr>
<td>- Other</td>
<td>2</td>
</tr>
</tbody>
</table>


Table 2-4 shows the average weekly work hours for Manitoba workers aged 15 to 24 years in 2009. The average (31 hours) reflects the high prevalence of part-time work. Fourteen percent of employed 15 to 24 year olds reported working 40 or more hours per week at their jobs. This likely reflects the high prevalence of full-time work among 20 and 24 year olds. A study of Canadian workers found that approximately 28% of 15 to 19 year olds surveyed reported working on a school day; however, it also found that work hours were mostly concentrated on weekends (Marshall, 2007).

Table 2-4: Average Weekly Work Hours among Employed 15 to 24 Year Olds in Manitoba (2009)

<table>
<thead>
<tr>
<th>Weekly Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-14</td>
<td>18</td>
</tr>
<tr>
<td>15-29</td>
<td>26</td>
</tr>
<tr>
<td>30-34</td>
<td>13</td>
</tr>
<tr>
<td>35-39</td>
<td>9</td>
</tr>
<tr>
<td>40</td>
<td>20</td>
</tr>
<tr>
<td>41-49</td>
<td>7</td>
</tr>
<tr>
<td>50+</td>
<td>7</td>
</tr>
</tbody>
</table>

Source: Statistics Canada. 2009. 282-0018. Labour force survey estimates (LFS), by actual hours worked, main or all jobs, sex and age group, annually (Persons unless specified).
Statistics on wages, employment arrangements, job tenure, and unionization further enrich our understanding of teenaged employment. Nationally, 31% of 15 to 19 year olds received their provincial minimum wage in 2008 (Perspectives on Labour and Income, 2009). Compared to adult workers, young workers are more likely to have temporary work arrangements (defined as contract, seasonal, agency, or casual) (9% versus 29%) (Galarneau, 2005). The most recently reported data also show that the rate of temporary employment among teenagers aged 15 to 17 was 25% in 2004 (Galarneau, 2005), and furthermore that the majority of young workers prefer part-time temporary work arrangements. For example, a recent Labour Force Survey of workers aged 15 to 24 years in Manitoba cited “going to school” more often than “business conditions and unable to find full-time work” as their primary reason for working part-time (69% versus 10%) (Statistics Canada, 2009).

In terms of job tenure, younger workers are more likely to have shorter employment tenures than older workers (Statistics Canada, 2006). In 2005, employed 15 to 24 year olds in Manitoba worked an average of 35 weeks (Statistics Canada, 2006). Currently, the average tenure among 15 to 24 year old employed Manitobans is 19 months (Statistics Canada, 2009). Census data collected in 2005, and summarized in Table 2-5, show that under half of employed 15 to 24 year olds report working 49-52 weeks in a particular job (Statistics Canada, 2006).
Table 2-5: Average Number of Weeks Employed in Manitoba, 15 to 24 Years (2005)

<table>
<thead>
<tr>
<th>Weeks worked</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 13</td>
<td>18</td>
</tr>
<tr>
<td>14 to 26</td>
<td>19</td>
</tr>
<tr>
<td>27 to 39</td>
<td>11</td>
</tr>
<tr>
<td>40 to 48</td>
<td>12</td>
</tr>
<tr>
<td>49 to 52</td>
<td>40</td>
</tr>
</tbody>
</table>


The relatively low average number of weeks worked by this cohort is likely due to different factors such as a preference for part-time or temporary arrangements, lower seniority whereby youth are “last hired, first fired/laid off,” relatively easy entry and exit into low-skill jobs, and more frequent exit and entry from employment and school settings. For these reasons, teenagers end up conducting job searches more often than adults.

Teenaged workers also have different experiences of unionization compared to older workers. While union density has gradually declined in Canada since the early 1980s, young workers have experienced the sharpest decline in collective bargaining coverage over this period (Morissette, Schellengberg, & Johnson, 2005). Across Canada the union density among 15 to 24 year olds is currently 17% (Perspectives on Labour and Income, 2009) compared to Manitoba where it is 20% (Statistics Canada, 2009). Nationally, the rate of unionization among temporary workers aged 15 to 17 is even lower (6%) (Galarneau, 2005). It is unclear whether this is due either to fewer opportunities to join unions because of the types of industries in which young people are employed or young worker attitudes towards unions (e.g., Gallagher, 1999; Lowe & Rastin, 2000). It seems reasonable to assume that it is both, yet it has been documented that companies
such as McDonalds and Wal-Mart, which employ large numbers of teenagers, aggressively resist attempts by their workers to unionize (e.g., Bianco, 2006; Schlosser, 2001).

Finally, these general characteristics of teenaged employment and labour market mobility patterns (i.e., relatively high entry and exit, higher levels of unemployment) have implications for power relations between these workers and management (e.g., Lehmann, 2005; Mayhew & Quinlan, 2002). For example, teenagers in service jobs generally have few opportunities for meaningful participation in organizing or controlling work.

2.5 Summary

In sum, the vast majority of teenagers in Manitoba between 15 and 19 years of age experience paid employment during their high school years. Teenaged workers are typically employed part-time in low wage, low skill, non-unionized jobs in the service sector. In addition, they experience shorter job tenures than older workers. Within-group differences in teenager experiences of paid employment also exist, and these are especially pronounced between student and non-student populations, with the latter group more likely to work full-time.
2.6 References


Chapter 3

Teenaged Workers and Occupational Safety: A Literature Review

Abstract

This chapter reviews research related to teenaged workers experience of safety and shows how young workers are at greater risk of being injured on the job compared to adult workers. While individual differences (e.g., risk taking) and situational (e.g., work pressure, job characteristics) factors have been found to be associated with work injuries, samples of young and adult workers reveal that situational variables may be more strongly related to injuries. While progress in identifying correlates of young worker injuries is encouraging, the problem of how young employees respond to declining safety conditions has received very little theoretical and empirical attention.
3.1 Teenaged Worker Injuries: Prevalence, Definitions, and Methodological Issues

Both Canadian and international studies indicate that young workers are more likely to be injured on the job than older workers (see Salminen, 2004). For example, a recent study of Canadian workers, which controlled for several work-related characteristics (e.g., part-time versus full-time employment), found that workers aged 20-24 experience the highest risk of being injured, followed by workers aged 15-19 years (Breslin & Smith, 2005). Before examining research on the factors associated with young worker injuries, it is necessary to first define the term “injury” and briefly discuss some limitations of official and self-report injury data.

Drawing on definitions from several sources, Barling and Frone (2004) defined an injury as “a wound or damage to the body resulting from unintentional or intentional acute exposure to energy [(e.g., kinetic)] or from the acute absence of essential elements [(e.g., oxygen] caused by a specific event, incident, or series of events within a single workday or shift” (p. 5). In using the term ‘injury,’ this thesis focuses on physical injuries (e.g., cuts, burns, sprains).

It is also necessary to bring attention to methodological issues related to official injury statistics. Loughlin and Frone (2004) provide several reasons for which young worker injury statistics may be unreliable. First, definitions of what constitutes a physical injury vary among studies. For instance, some studies define injuries as requiring first aid attention while others classify injuries as requiring both medical attention and time away from work. Furthermore, young people may view some physical injuries as “part of the job” (Breslin et al., 2007) and thus these injuries may go unreported. In the current research, I rely on self-reported physical injuries.
Second, as was previously discussed, key populations may be excluded from research studies. In particular, those engaged in informal forms of employment (e.g., babysitting, newspaper delivery) are typically excluded from studies, and thus any injuries that occur in these occupations, which are more likely to be populated by young workers, are systematically unreported. Similarly, some populations of teenaged workers (e.g., early school leavers) are difficult for researchers to contact, and therefore this group is also likely to be excluded from research studies.

Third, errors in participant recall of injuries experienced may contribute to underreporting injuries in survey research especially when respondents are asked about injuries experienced over a relatively long periods of time (for example, within the past 12 months) (Landen & Hendricks, 1995). Andersen and Mikkelsen (2008) compared aggregate daily diary reports of injuries to retrospective survey data over a 28-day period, and found that, on average, surveys captured only 37% of the actual number of injuries.

Last, injuries may deliberately go unreported to employers and government agencies (e.g., Leigh, Marcin, & Miller, 2004). This can occur when employers discourage employees from making injury claims (e.g., Probst & Armando, in press; Probst, Brubaker & Barsotti, 2008), perhaps because they believe it will increase worker safety insurance premiums or the frequency of worksite visits by government safety inspectors. Similarly, employers who pay their employees under the table may discourage claims because they do not want to invite government attention to safety or other aspects of their business operations. In sum, teenaged workers who find themselves in these types of work situations may be less inclined to make official injury claims when they think that doing so may threaten their employment (Castillo, Davis & Wegman, 1999), or when they blame themselves for an injury. This point is well illustrated in the following account.
from a young worker who sustained a minor injury:

I [had] just got my finger cut… I didn’t report it because I didn’t have a [safety] glove on…. Even if I did need stitches, I probably wouldn’t have said it was on the job, because I don’t want them to be, like, you’re going to get suspended, or you’re going to get fired (Tannock, 2001, p. 57).

Taken together, several factors (e.g., definitional variation, recall biases, deliberate suppression) may bias survey and official statistics of work-related injuries among teenaged workers. With these limitations in mind, I now turn to review teenagers’ experiences of safety at work.

3.2 Occupational and Other Risk Factors

Table 3-1 illustrates the distribution of lost time injuries by occupation in the Province of Ontario (data from Manitoba were not available). These statistics show that almost half (47%) of workplace injuries reported by teenagers occur in the service sector (i.e., food service, accommodation, and retail trade), followed by manufacturing, and construction. Unfortunately, due to the lack of similar and publicly accessible data on teenager employment in these industries, weighted measures of injury rates could not be calculated. Given the similarity in the proportions of 15 to 19 year olds working in specific industries (Breslin, Smith, Mustard, & Zhao, 2006), it is not expected that these figure differ in Manitoba. Indeed, a comparison of injury rates among Canadian provinces showed no differences in prevalence between Manitoba and Ontario (Breslin et al., 2006). More generally, research has shown that some industries are more hazardous than others (e.g., construction versus retail trades) (e.g., Holizki, McDonald, Foster, & Guzmicky, 2008; Marshall, 1996; McCall, et al., 2007).
Table 3-1: *Lost Time Injury Claims by Industry in Ontario, 15 to 24 Years (2006)*

<table>
<thead>
<tr>
<th>Occupation by industry</th>
<th>Percentage of total lost time injury claims (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Sales and service</td>
<td>47</td>
</tr>
<tr>
<td>- Transport and equipment operators</td>
<td>19</td>
</tr>
<tr>
<td>- Labourers in processing, manufacturing, and utilities</td>
<td>12</td>
</tr>
<tr>
<td>- Processing and manufacturing machine operators and assemblers</td>
<td>5</td>
</tr>
<tr>
<td>- Contractors, agriculture, horticulture, and aquaculture</td>
<td>4</td>
</tr>
<tr>
<td>- Clerical occupations</td>
<td>3</td>
</tr>
<tr>
<td>- Art, culture, recreation and sport</td>
<td>2</td>
</tr>
<tr>
<td>- Managerial, administrative and related</td>
<td>1</td>
</tr>
<tr>
<td>- Natural and applied sciences</td>
<td>1</td>
</tr>
<tr>
<td>- Health services</td>
<td>1</td>
</tr>
<tr>
<td>- Other</td>
<td>7</td>
</tr>
</tbody>
</table>


Research on young worker safety is multi-disciplinary, with studies being conducted in occupational health psychology, epidemiology, and other areas (Runyan, 2007). Reviews of these literatures have highlighted several individual and situational risk factors of injuries (Breslin et al., 2007; Castillo, 1999; Loughlin & Frone, 2004; Runyan & Zakocs, 2000). Based on these reviews, I synthesized the findings and compiled a list of commonly studied risk factors (Table 3-2) along with references to studies examining the focal relationships. In their recent review, Breslin et al. (2007a) interestingly concluded that many of these relationships do not differ from those found samples of adult workers.
Table 3-2: Selected Risk Factors and Young Worker Injuries

<table>
<thead>
<tr>
<th>Factors</th>
<th>Relationship to injuries (+/-)</th>
<th>Example study</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Situational Factors</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transformational leadership</td>
<td>-</td>
<td>Barling, Loughlin, &amp; Kelloway, 2002</td>
</tr>
<tr>
<td>Lack of supervision</td>
<td>+</td>
<td>Knight, Castillo, &amp; Layne, 1995</td>
</tr>
<tr>
<td>Physical demands</td>
<td>+</td>
<td>Breslin &amp; Smith, 2005</td>
</tr>
<tr>
<td>Work pressure</td>
<td>+</td>
<td>Evensen et al., 2000</td>
</tr>
<tr>
<td>Peer risk-taking</td>
<td>+</td>
<td>Westaby &amp; Lowe, 2005</td>
</tr>
<tr>
<td>Job related safety training</td>
<td>-</td>
<td>Knight, Castillo, &amp; Layne, 1995</td>
</tr>
<tr>
<td>Job hazards</td>
<td>+</td>
<td>Evensen et al., 2000</td>
</tr>
<tr>
<td>Agricultural work</td>
<td>+</td>
<td>Castillo, Landen, &amp; Layne, 1994</td>
</tr>
<tr>
<td><strong>Individual Differences</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative affectivity</td>
<td>+</td>
<td>Frone, 1998</td>
</tr>
<tr>
<td>With-in group age</td>
<td>+</td>
<td>Breslin, Smith, Mustard, &amp; Zhao, 2006</td>
</tr>
<tr>
<td>Sex (male)</td>
<td>+</td>
<td>McCall, Horwitz, &amp; Carr, 2007</td>
</tr>
</tbody>
</table>

While this list of factors associated with young worker injuries does not indicate the relative importance of these factors, Breslin et al. (2007a) addressed this issue in a recent review of nine high quality multivariate studies of young worker injuries. The nine studies statistically controlled variables to reduce confounding effects. Breslin and his colleagues concluded that there is sufficient evidence indicating that visible minority status, work hazards, and work overload/pressure are independently related to occupational injuries among young workers. Conversely, the same review concluded that currently insufficient evidence exists to show that young worker gender, age, personality, substance use, work hours, timing of work hours, job tenure, and supervisor attributes are independently associated with injuries.\(^4\) Taken together, these factors support Breslin et al.’s (2006b) conclusion that “it is the characteristics of the workplace and the job that put

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\(^4\) Breslin et al.’s (2007) finding that supervisor attributes (leadership style) are not related to injuries should be interpreted with caution because it is based on only two manuscripts – one reporting significant positive results across two studies (Barling et al., 2002) and other reporting no relationship (Frone, 1998). In contrast, studies of adult samples have consistently found that high quality leadership is related to fewer injuries (e.g., Hofmann & Morgeson, 2004). Unfortunately, lack of safety training, which is frequently cited as a cause of young worker injuries, was not reviewed in Breslin et al.’s study.
a young worker at high risk, not the young worker’s individual characteristics” (p. 13).

3.3 Summary

In conclusion, this chapter has described how young workers are at greater risk of being injured on the job compared to adult workers. While individual (e.g., personality) and situational (e.g., work pressure) factors have been found to be associated with injuries, samples of young and adult workers reveal that situational variables may be more strongly related to injuries than to individual differences. While progress in identifying correlates of young worker injuries is encouraging, the problem of how they respond to declining safety conditions has received very little theoretical and empirical attention.

To address the aforementioned gaps, the current research applies a modified version of Albert Hirschman’s (1970) theory of exit, voice, and loyalty (EVL) to declining workplace safety conditions. What makes Hirschman’s EVL theory unique and highly relevant to the current topic is that its conceptual domain is organizational decline and behavioural responses organizational members take to bring about recovery from decline. In the next chapter, I review Hirschman’s propositions related to exit, voice, and loyalty and review related occupational safety research.
3.4 References


Castillo, D. N. (1999). “Occupational safety and health in young people,” pp. 159-200, in


Chapter 4

Albert Hirschman’s Theory of Exit, Voice, and Loyalty

Abstract

Chapters 2 and 3 described teenaged workers’ experiences of paid employment (e.g., tenure, work hours) and occupational safety (e.g., injuries). It was noted that little is known about how teenaged workers respond to declining safety conditions. To address this gap, the current research applies Albert Hirschman’s (1970) theory of exit, voice, and loyalty (EVL) to declining workplace safety conditions. This chapter describes Hirschman’s (1970) theorizing about EVL, with particular attention to Hirschman’s loyalty proposition and other factors that influence the use of exit and voice. Finally, this chapter reviews the small body of research that applies the model to workplace safety.
4.1 Introduction

How do workers react when safety conditions around them deteriorate? And what factors cause them to favour some responses over others? I examine these questions using Albert Hirschman’s (1970) theory of exit, voice, and loyalty (EVL). This chapter introduces Hirschman’s theorizing and explores how his ideas have been applied to safety research.

This chapter is structured around two basic questions: First, what is EVL theory? I address this question by summarizing the main propositions contained in Hirschman’s (1970) seminal work entitled Exit, voice, and loyalty: Responses to decline in firms, organizations, and states. Second, I assess the extent to which Hirschman’s ideas have been applied in workplace safety research. Before taking stock of Hirschman’s legacy, it is necessary to revisit his classic work on the subjects of exit, voice and loyalty.

4.2 Exit, Voice, and Loyalty (EVL) Theory: Lost in Translation?

It is interesting to compare original explications of popular social theories to contemporary interpretations. This exercise can reveal surprisingly high levels of variation between both present-day interpretations and the original theory, and even among current interpretations themselves. An infrequently discussed yet common reason for interpretive gaps is inadequate understanding of original theoretical tenets by contemporaries. Appropriately, Sutton and Staw (1995) described this problem by borrowing Mark Twain’s definition of a classic literary work as “A book which people praise and don’t read” (p. 373). This description fits more recent treatments of EVL theory. Unfortunately, many of today’s studies do not reflect the richness and intricacies of Hirschman’s (1970) original theorizing, and for this reason it is imperative to revisit the propositions contained in his book Exit, Voice, and Loyalty. To remain true to
Hirschman’s original meaning, I frequently quote from his text.

Lack of appreciation of Hirschman’s original theorizing is problematic because it has created confusion about the domain and function of EVL theory. In turn, this has made it difficult to accurately gauge the degree of support for Hirschman’s work. In the next section, I attempt to succinctly capture Hirschman’s propositions. This conceptual background is necessary even though the present research does not test all of Hirschman’s propositions.

4.3 Origin and Propositions

Hirschman (1970) theorized about how and why consumers, citizens, and employees react when conditions around them deteriorate. Hirschman, a political economist, stated that he got many of the ideas in his book from his first-hand observation of consumer responses to declining rail service in post-colonial Nigeria. In particular, he was puzzled why a publicly-owned rail company in that country demonstrated a “prolonged incapacity […] to correct some of its more glaring inefficiencies, in spite of active competition” (emphasis in original, p. 44) from cheaper and faster long-haul trucking. More generally, Hirschman mused, “No matter how well a society’s basic institutions are devised, failures of some actors to live up to the behavior which is expected of them are bound to occur” (p. 1). The actors and failures featured in Hirschman’s book are drawn from a range of settings, and prominent are the managers of private organizations.

Hirschman (1970) argued that deterioration in quality, as was experienced by clients of the Nigerian railway, “activates certain counter forces” (p. 15) which can be catalysts for restoring prior (higher) levels of quality. The two primary countervailing forces that he observed were exit and voice. Hirschman defined exit as a “clean,”
“impersonal,” “once-and-for-all break” (Hirschman, 1992, p. 84) from a declining situation, whereas he defined voice “as any attempt at all to change, rather than to escape from, an objectionable state of affairs” (Hirschman, 1970, p. 30). Moreover, Hirschman (1970) asserted that voice could “be graduated, all the way from faint grumbling to violent protest; it implies articulation of one’s critical opinions” (p. 16).

Acting on their own, reasoned Hirschman, exit or voice can have “an attention-focusing effect” (p. 45) because they potentially alert organizational agents and/or external authorities to problems. As signaling devices, exit and voice increase the likelihood that recovery efforts will be undertaken, as opposed to situations where those affected by decline take no action. Hirschman proposed several conditions in which exit and voice would be more or less prevalent and effective, and I examine these factors next.

Drawing on micro-economic theory, Hirschman (1970) stated that when consumers, citizens, or employees\(^5\) are not constrained by social, psychological, or economic forces, they are inclined to leave when they experience deteriorating conditions. However, in reality, the probability of exiting depends on the availability of high quality alternatives and other practical considerations. Thus, in cases where acceptable alternatives do not exist, Hirschman reasoned that employees are more likely to stay and try to change the situation rather than simply leave.

**Proposition 1:** Declining organizational conditions are positively related to organizational members exiting, all else being equal.

**Proposition 2:** Organizational members are more likely to respond to declining conditions with voice when alternatives are scarce, all else being equal.

While Hirschman (1970) acknowledged that having somewhere to go weighs heavily in deciding whether to exit, he argued that “loyalty is a key concept in the battle

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\(^5\) Throughout his book, Hirschman used the term “organizational members” when referring to “employees.”
between exit and voice” (p. 82). More specifically, he theorized that so-called “loyalists” – organizational members who identify with and have “a strong attachment to an organization” (p. 81) – are more likely to “trade off the certainty of exit against the uncertainties of an improvement in the deteriorated [state]” (p. 77). Simply put, in cases where improvement seems possible “loyalty holds exit at bay and activates voice” (p. 78).

The meaning of Hirschman’s (1970) concept of loyalty has been the subject of much controversy in organizational research (Minton, 1992) and, in particular, whether loyalty is a behaviour (e.g., exercising patience) or an affective state (i.e., emotional attachment to an organization). Moreover, there has been confusion about the conceptual role of loyalty, specifically whether it suppresses or activates voice (Graham & Keeley, 1992). Given that the purpose here is to achieve clarity about what EVL theory is, it is necessary to probe deeper into Hirschman’s text to determine what he meant by “loyalist behavior,” a phrase which he used frequently. Taken literally, “loyalist behavior” suggests a distinct behavioural response to decline, however Hirschman’s usage of the term suggests he was describing particular patterns of voice and exit behaviour rather than an independent response category.6

More specifically, Hirschman (1970) focused on two types of affective loyalty – so-called “conscious” and “unconscious” loyalty (pp. 87-89). He described the latter as an unquestioning type of organizational commitment where no thought is given to exit or voice even though an employee may be unhappy with conditions. In contrast, conscious loyalty motivates employees to try to make things better for the organization by using voice.

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The distinction between conscious and unconscious loyalty is important for two reasons. First, Hirschman noted that managers “will be looking for devices for converting, as it were, conscious into unconscious loyalist behaviour” because “their short-run interest is to entrench themselves and to enhance their freedom to act as they wish, unmolested as far as possible by either desertions or complaints of members (pp. 92-93). Second, and of primary interest in Hirschman’s book, is the exit and voice behaviour of conscious loyalists (Keeley & Graham, 1992); that is, those who stay put and try to get things back on track because they care about the well-being of the organization and/or assume that the deplorable situation might worsen even further if they leave.

Hirschman (1970) predicted that among conscious loyalists, voicing would be positively related to the degree of decline, such that voice of the consciously loyal employee would be stronger the sharper the decline. Furthermore, he predicted conscious loyalists are more effective at voicing when they have alternatives. However, he also asserted that the devotion of this kind of loyalist is not blind to protracted decline, insofar as the loyalist’s commitment to the organization merely “delays” or “postpones” exit, which is “the last resort after voice has failed” (emphasis in original, p. 37; see also p. 88).

Proposition 3a: Conscious loyalists are more likely to respond to declining conditions with voice (and less likely to use exit), all else being equal.

Proposition 3b: Unconscious loyalists are less likely to respond to declining conditions with either voice or exit compared to conscious loyalists, all else being equal.

Proposition 4: Valued alternatives increase the effectiveness of the voice of conscious loyalists, all else being equal.

Proposition 5: Conscious loyalists are likely to exit after voice fails to improve a deteriorating situation, all else equal.
Hirschman (1970) outlined conditions in which exit and voice would be more or less effective remediation devices. In terms of exit, he argued that there must be an optimal level of exiting. Too little exit from a firm may not provide managers with enough information about decline, whereas too much exit may cripple an organization, leaving it with insufficient resources to mount a recovery. The same logic applies to voice insofar as overdone or ill-focused protests may hinder recovery efforts, especially in cases where decline ceases to be the focal interest of a protest. Conversely, weak voice may go unnoticed by the intended targets. As to which is more effective – exit or voice – Hirschman reasoned that by its very nature voice was comparatively information rich, and therefore has more potential for providing useful feedback needed to mount a recovery. Simply put: whereas exit signals some sort of trouble, voice cannot only signal trouble, but also pinpoint the cause and propose a remedy.

*Proposition 6:* There is an inverted U-shaped relationship between aggregate levels of exit and the probability of recovery from decline.

*Proposition 7:* There is an inverted U-shaped relationship between the quality of voice and the probability of recovery from decline.

*Proposition 8:* Voice is more likely than exit to focus attention on decline and lead to recovery, all else equal.

Even so, voice may not always be more effective than exit. Hirschman (1970) suggested that optimal levels of exit may be just as effective when organizations have great difficulty acquiring new members or other valued resources. Returning to the example of the Nigerian railway company which experienced declining sales, Hirschman noted that “exit did not have its usual attention-focusing effect because the loss of revenue was not a matter of the utmost gravity for management [of the publicly-owned company], while voice did not work as long as the most aroused and therefore the
potentially most vocal customers were the first ones to abandon the railroads for the trucks” (p. 45).

*Proposition 9:* Exit is more likely to attract attention to decline when firms have difficulty attracting new members or other valued resources, all else equal.

The paradox of voice, noted Hirschman (1970), is that “The willingness to develop and use the voice mechanism is reduced by exit, but the ability to use [voice] with effect is increased by [exit]” (p. 83). Hirschman explained this phenomenon in more detail: “Those customers who care most about the quality of the product and who, therefore, are those who would be the most active, reliable, and creative agents of voice are for that very reason also those who are apparently likely to exit first in case of deterioration” (p. 47). However, Hirschman added two caveats to this situation. First, he noted that “The rapid exit of the highly quality-conscious customers – a situation which paralyzes voice by depriving it of its principal agents – is tied to the availability of better-quality substitutes” (p. 51). Second, he stated that “The scope for, and resort to, the voice option will be greatest in [high-quality ranges and] comparatively slight in the medium- and low-quality ranges” (p. 53). In other words, under conditions of static medium or low quality, voice may be less prevalent. Here also, Hirschman’s theory of loyalty applies (p. 79); that is, high quality conscious loyalists are more likely to voice.

*Proposition 10:* Quality conscious organizational members are the more likely to be persuasive sources of voice than those who are less quality conscious, all else being equal.

*Proposition 11:* Quality conscious organizational members are more likely to exit in response to decline than those who are less quality conscious, all else being equal.

*Proposition 12a:* The probability that quality conscious organizational members will voice instead of exit is higher when a state of high quality existed prior to deterioration.

*Proposition 12b:* The probability that quality conscious organizational members will voice instead of exit is higher when high quality substitutes are not available.
Proposition 12c: The probability that quality conscious organizational members will voice instead of exit is higher when they are also conscious loyalists.

Hirschman (1970) reasoned that other factors may increase the probability of voice. For instance, he asserted that the more vital the interest or need which deteriorates, the more likely employees are to try and change the situation. He also stated that voice is positively related to its perceived instrumentality and the availability of institutions and mechanisms that “communicate complaints cheaply and effectively” (p. 43).

Proposition 13: The more vital the interest that is threatened by decline, the more likely organizational members are to voice, all else equal.

Proposition 14a: Favourable perceptions of the effectiveness of voice are positively related to actual voice activity.

Proposition 14b: Voice is positively related to the presence of voice mechanisms.

Proposition 14c: Positive perceptions of voice mechanisms increase voice activity.

Finally, Hirschman (1970) suggested that group norms can play an important role in shaping individual exit and voice behaviour when he stated that either exit or voice is likely to be “the dominant reaction mode” to situations of decline (emphasis in original, p. 33). Moreover, he predicted that the propensity to voice depends on “the general readiness of a population to complain” (p. 43). These comments suggest that Hirschman believed that the decision to voice or exit is dependent on the actions of others in a group.

Proposition 15: Group norms influence individual decisions to either voice or exit in response to decline, all else being equal.

In sum, Hirschman’s theorizing about exit and voice, when used in response to decline, covered a range of antecedents (e.g., the availability of alternatives), contingencies (e.g., loyalty), and outcomes (e.g., recovery). More specifically, he

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7 Later Hirschman reformulated some aspects of his theorizing (see Hirschman, 1981, 1992, 1995). First, he
predicted how conscious loyalists would be more willing to use voice in response to decline than unconscious loyalists, how an optimal level of voice and exit can lead to recovery, how quality conscious members demonstrate different exit and voice behaviour compared to those who are indifferent about quality, and how situational factors such as group norms and the presence of voice mechanisms may enable voice. As was previously mentioned, not all of these propositions will be tested in this thesis.

Hirschman’s theory of exit, voice, and loyalty has gained considerable popularity across a variety of academic disciplines and fields. A search of Google Scholar at the time this chapter was written revealed that Exit, Voice, and Loyalty has been cited 5,500 times. The wide popularity of Hirschman’s book can be explained by two factors. First, EVL theory logically integrated concepts that were central to politics and economics, disciplines which rarely engaged in interdisciplinary research with each other (Hirschman, 1992). Historically, economics has used the concepts of “entry” and “exit” to describe the operation of markets, whereas political science has traditionally used concepts “voice” and “dissent” to describe protest, free speech, and other activities associated with civic participation. Hirschman’s ideas provided an opportunity for collaboration between these and other disciplines.

Second, EVL theory is somewhat unique among social theories because it is both parsimonious and generalizable to a wide range of phenomena. Indeed, Hirschman’s (1970) prediction that the concepts discussed in his book would be applicable “to a wide variety of noneconomic organizations and situations” (p. 1) has been realized. His ideas suggested that voice would be restricted in organizations that retaliated against employees who spoke out about problems. This concurred with research by Freeman and Medoff (1984), which argued that for voice to be effective, people would need to join together for the purpose of expressing collective voice. Second, Hirschman (1992) agreed with O’Donnell (1986) who proposed that both lateral and vertical influences shaped voice behaviour.
have been applied to romantic relationships, political revolution, international
development, consumer behaviour, and employee behaviour, to name but a few areas (see
reviews by Dowding, Mergoupis, and Van Vugt (2000) and Hirschman (1992)).
Hirschman (1981) takes pleasure, as he put it, in “trespass[ing] from one social science
domain to another and beyond” (p. v).

The EVLN typology is the most widely studied conceptual framework which has
roots in Hirschman’s work. This model was developed by Rusbult and colleagues (1982,
1983) to describe the different responses individuals choose when they are dissatisfied in
romantic relationships. The EVLN model includes neglect as an additional response to
dissatisfaction. Rusbult et al. (1982) reasoned that neglect, which they defined as
“passively allowing a relationship to atrophy” (p. 1231), logically rounded out the domain
of possible responses to relationship dissatisfaction. In the current research, I interpret
behavioural loyalty as patience (Leck & Saunders, 1992). I elaborate on the safety-
specific definitions of the constructs in Chapters 5 and 6. Having described EVL theory, I
now review how Hirschman’s ideas have been applied in occupational safety research.

4.4 Occupational Safety Applications of the EVL Model

Overall, Hirschman’s ideas have been applied sparingly in the field of occupational
safety research. A thorough review of the literature found only 16 studies related to
workplace safety. In this chapter, I sample the nature of these studies and the key
variables examined. Findings from specific studies are discussed in greater detail in
subsequent chapters. A small body of workplace safety research has studied forms of
employee voice. For example, studies have examined how safety experiences affect
workers’ willingness to support unionizing (Robinson, 1988), ability to cope with safety-
related stress when voice mechanisms are available (Baugher & Roberts, 2004), and
perceptions of the instrumentality of formal and informal voice strategies for refusing unsafe work (Gray, 2002). A study by Mullen (2005) investigated how supervisory leadership behaviour and other factors influence employees’ willingness to raise safety issues with management. Hofmann, Morgeson, and Gerras (2003) examined how safety climate and leadership behaviour influenced “safety citizenship behaviour,” elements of which included safety-specific supportive and forms of voice that are critical of management. Finally, Tucker et al. (2008) considered how perceived organizational and co-worker support was associated with speaking out about safety concerns.

The simple exit-voice model has also been applied to workplace safety. Studies have examined the relationships among workplace accidents (decline), exit intentions, and voice (perceived union instrumentality, participation in safety) (Barling, Kelloway, & Iverson, 2003; Cree & Kelloway, 1997). In his book Toil and Toxins, Robinson (1991) discussed opportunities and constraints for safety-related voice and exit for blue-collar workers. To date, Robinson’s work is probably the most comprehensive treatment of Hirschman’s ideas to occupational safety, however Hirschman’s loyalty proposition is not tested.

Given the potential that Hirschman’s constructs and ideas have towards explaining employee safety behaviour under conditions of worsening safety conditions, it is surprising that there have not been more applications. This may simply be a reflection of how workplace safety research in general is underrepresented in the organizational literature (Zacharatos, Barling, & Iverson, 2005), or it may be related to other factors.

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4.5 Summary

Hirschman’s theorizing about exit, voice, and loyalty has attracted sustained interest from organizational researchers, and forms the foundation for several closely related research streams. Based on this review, only a handful of studies have applied Hirschman’s ideas and concepts to workplace safety. However, Hirschman’s concepts, especially those related to decline and loyalty, are particularly useful for understanding teenaged workers responses to workplace hazards. The subsequent chapters in this thesis describe research that investigates Hirschman’s ideas in the context of young worker safety.
4.6 References


Chapter 5
Waiting for Safety: Young Workers’ Responses to Unsafe Work

Abstract

This exploratory study examines young workers’ responses to declining work through the lens of the exit, voice, patience, and neglect model (Hirschman, 1970; Leck & Saunders, 1992; Rusbult et al., 1988). Eight focus groups consisting of a total of 39 teenagers were conducted to understand the relative prevalence and sequencing of these responses as well some of the moderators. In Canada, young worker social marketing campaigns aim to raise awareness about workplace safety, in particular the right to refuse dangerous work. However, these results show that most participants exercise patience (i.e., waiting for improved safety) when they have safety concerns. Their reluctance to raise issues was related to their fear of being fired, status as newcomers, supervisor indifference, and feelings of powerlessness. Speaking out was more likely when participants believed a workplace hazard would seriously injure them. Despite the presence of social marketing campaigns, young workers’ beliefs about the perils of voicing persist. These findings suggest that campaigns should focus on managers who are important targets of voice.
5.1 Introduction and Theoretical Background

This exploratory focus group study examines teenagers’ responses to unsafe work through the lens of the exit, voice, patience, and neglect model (Hirschman, 1970; Leck & Saunders, 1992; Rusbult, Farrell, Rogers & Mainous, 1988). Interviews were conducted with employed or recently employed Canadian teenagers to understand the types, uses and, sequencing of these responses in declining safety conditions.

Teenaged workers and youth occupational safety social marketing

In the past decade, governments in North America have attempted to address the relatively high rate of occupational injuries among teenaged workers by incorporating occupational safety education into high school curricula and developing social marketing campaigns (e.g., Linker, Miller, Freeman & Burbacher, 2005; Loughlin & Frone, 2004). In Canada, such safety social marketing campaigns have multiplied in recent years to a point that they are a fixture in most high schools and in the popular media. These campaigns have several goals. First, they seek to increase awareness about workplace hazards. Second, they attempt to educate young people about occupational safety legislation, in particular the right to ask questions about potentially hazardous work and the right to refuse dangerous work. Third, they encourage young workers to be proactive about hazards and to speak up to a supervisor when they have concerns (see Lavack, Magnuson, Deshpande, Basil, Basil, & Mintz, 2007).

An informal review of materials associated with several current and recent campaigns in Canada revealed the core assumptions that underpin campaign messages related to speaking up about safety concerns. First, it is evident that voicing safety concerns is the ‘right thing to do’ and that it is every worker’s responsibility to do so (Gray, 2009). Second, and related, individual safety voice is portrayed as permissible and
legitimate and, indeed, is legally sanctioned. Third, voice is nearly always portrayed as an individual act. Fourth, managers are cast as rational agents who are open to hearing about concerns and understand the necessity for maintaining a safe workplace. Finally, public pronouncements by high-profile figures associated with some campaigns assume that young workers are rational agents who will quit dangerous jobs if and when voicing is ineffective.8

These assumptions are informed by broader social and economic ideas that have become more prominent in Western countries in recent decades. First, the messages reflect a societal shift from collective to individual action (Putnam, 2001). Ulrich (2000) argues that the individualization of work negatively impacts prospects for collective resistance at work. Related to this, ideas about the “free agent employee” (Pink, 2001) and ease of entry and exit into and out of jobs is assumed to apply to teenagers even though the unemployment rate is high for this cohort. Second, ideas about managerial and employee rational choice pervade (Kelly, 1998). From this perspective, managers are open to acting on employee suggestions about improving safety because there is a business or legal reason for doing so.

Research reveals a striking disconnect between the above-mentioned assumptions and young workers’ frontline experiences of speaking up about safety concerns (e.g., Mayhew & Quinlan, 2002; Tannock, 2001). Recent interviews with Canadian teenaged workers has found that upward voice is not prevalent (Breslin, Day, Tompa, Irvin, Bhattacharyya, Clarke, & Wang, 2007a; Kelloway, Yue & Hessian, 2009). These studies found that teenaged workers hold negative beliefs about the appropriateness of raising

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8 I observed an occupational safety forum attended by hundreds of high school students at which the keynote speaker, a senior business executive, told the young audience members to quit dangerous jobs because an injury “wasn’t worth it”.
safety issues and that when issues are raised they are frequently not taken seriously by supervisors and managers. Further, these authors reported that young females were more likely to voice than young males, but also that such behaviour was likely to be viewed as “complaining” and trivialized.

There are several reasons why teenaged workers may avoid speaking out about dangerous work. First, they may feel powerless to raise concerns (Zakocs, Runyan, Schulman, Dunn & Evensen, 1998) and fear losing their job or having their hours reduced. Second, teenagers believe that demonstrating hard work and loyalty is most likely to impress employers (e.g., Lehmann, 2005). Refusing to perform unsafe work may be perceived as a sign of weakness or costly to their employer. Third, young workers in service sector jobs may be less likely to raise concerns because they perceive it to be detrimental to their performance evaluations. Studies of young female workers in the retail sector where the mantra “the customer is always right” dominates have found that while low-level forms of sexual harassment is commonplace, speaking out against such incidents to a supervisor is rare (e.g., Hughes & Tadic, 1998). If, as previous research shows, teenaged workers are reluctant to voice safety concerns, two related questions emerge: (1) When do young workers voice safety-related concerns? and (2) What do they do when they have safety-related concerns but do not voice?

Beyond Employee Voice

While the focus of research has been on understanding the nature of safety-related voice, little is known about the responses (e.g., start looking for another job) that may come before and after voice. The current study examines teenagers’ responses to declining safety through the lens of a modified version of the exit, voice, loyalty, and neglect framework (Hirschman, 1970; Rusbult et al., 1988). Recall from Chapter 4 that
Hirschman (1970) proposed that exit (i.e., leaving) and voice (i.e., attempting to change “an objectionable state of affairs” [p. 30]) increase the likelihood that change will occur. Additional responses, namely neglect (i.e., letting a situation deteriorate) and loyalty, were later incorporated into an expanded model (Rusbult et al., 1988). I interpreted loyalty as patience (Leck and Saunders, 1992). In comparison to exit and voice, neglect and patience are undesirable because they maintain the status quo.

Withey and Cooper (1989) proposed that employees’ use of these responses is influenced by the cost of leaving, cost of speaking out, presence of alternatives, prior satisfaction, possibility of improvement, and commitment. For example, workers who think they will be disciplined for speaking out and have nowhere to go may be more likely to become neglectful, all else equal. However, theoretical and empirical applications of the model have not addressed the temporal ordering of responses (i.e., when certain responses emerge and fade in relation to others). And as discussed in the previous chapter, the model has been applied to unsafe work but such applications have been limited to voice and exit in cross-sectional designs (e.g., Cree & Kelloway, 1997). In the current research, I conducted focus group interviews with a sample of Canadian teenaged workers to understand their use and sequencing of these responses and, related to this, factors that enable and constrain these strategies. In addition, the focus groups were used to generate items for the EVPN constructs for the purpose of developing validated scales (see Chapter 6).

**Focus group interviews**

Properly executed focus groups can allow researchers to gain deeper insight into behaviour than with one-on-one interviews or survey research. A recent review of focus group research highlighted two primary advantages (Stewart, Shamdasani, & Rook,
2007). First, focus groups allow participants to interact with one another which can create opportunities for snowballing effects. Under this approach, “differences of opinion among group members [help] identify how and why individuals embrace or reject [ideas and behaviours]” (p. 43). Second, focus groups offer efficiency gains because gathering information from multiple participants at one time and place requires less time and financial resources than separate one-on-one interviews.

Focus groups may be particularly useful for understanding the social and behavioural aspects of occupational safety behaviour. Recent studies have used focus groups to explore everyday experiences of workplace safety (e.g., Breslin, Polzer, MacEachen, Morrongiello & Shannon, 2007b; Gillen, Kools, Sum, McCall & Moulden, 2004a; Gillen, Kools, Sum, McCall & Moulden, 2004b). The method proposed in the current study is outlined below.

5.2 Method

Eight focus group interviews were conducted in August 2008 with a total of 39 participants aged 15 to 18 years. The interviews occurred in two Canadian cities: one city was located in the province of Ontario (three focus groups) and the other was located in the province of Manitoba (five focus groups). The number of participants at each interview ranged from four to seven.

Several approaches were used to recruit a diverse sample (with number of participants ultimately recruited by each method in parenthesis). First, a youth job training centre for recent immigrants informed its clients about the study (n =10). Second, the study was advertised to staff at a university. Parents employed at the university who indicated they had a son or daughter aged 15 to 18 years received a flyer about the study (n = 6). Third, I handed out flyers to workers at fast food restaurants (n = 2). Fourth, an
advertisement for the focus group was placed in a newspaper \((n = 5)\). Finally, several participants heard about the study by word of mouth \((n = 17)\). Participants received $50 for participating in a two hour interview as well as free taxi transportation to and from the focus group location. Individuals contacted the lead researcher by phone at which time the purpose of the study was explained. Potential participants were asked a few screening questions (e.g., age, employment history) and asked to provide written parental consent if below 18 years of age.

Twenty participants were male and 19 were female. Across the interviews, the average participant age was 16.56 years \((SD = .94)\) (age range 15 to 18 years) with 93% indicating that they attended school the previous year. On average participants reported working 2.47 jobs \((SD = 1.33)\) (range one to five jobs) since they were 15 years of age. Employed participants worked their current main job seven months and 11 to 20 hours per week (mode). Most participants worked in the restaurant industry (41%), convenience store, grocery store or supermarket (32%), and other (e.g., gas station, retail clothing store). Approximately 10% of participants were currently ‘in between’ jobs.

The focus groups met in a quiet meeting room at an accessible public building (e.g., public library, community centre). I was joined by a research assistant who assisted with logistical issues, took notes during the discussion, and asked follow up questions. My supervisor, Nick Turner, attended some of the interviews where he took notes and asked participants follow-up questions. A digital audio recording was made of each discussion, and was subsequently transcribed and edited for accuracy.

I asked participants to introduce themselves (by first name only) to other members of the group and briefly describe their current job. I emphasized that personal information not related to the study (e.g., names of employers) should be limited. Next, I explained
the purpose of the study, my ethical obligations (e.g., maintaining confidentiality), and participant obligations to maintain confidentiality of the views and opinions expressed by other group members. Participants signed a consent form and then were asked to complete a short survey with questions related to their work history and occupational safety experiences.

I established ground rules for the main discussion, in particular showing respect for the opinions of others and allowing one person to talk at a time. This segment of the interview was divided into four parts, with each part following a semi-structured format. First, I explored common hazards and injuries. Second, participants discussed responses to changes in safety conditions in their current and past jobs. In the third part, participants were asked to generate examples of exit and safety-related voice, patience, and neglect behaviour. Finally, I explored sequences of responses and reasons for these patterns. At the end of the interviews participants had an opportunity to ask questions about the research.

To establish a common language for discussing exit, voice, patience, and neglect responses, I asked each group to provide examples that fit each category. I used these definitions for each construct (the definition and a prototypical example appear in parenthesis): Exit (behaviours that teenaged workers use just before they quit a job. e.g., “Tell parents that you’re thinking about quitting the job”); Voice (behaviours that teenaged workers use when they have growing concerns about safety. e.g., “Get a group to address the safety problem”); Patience (behaviours that teenaged workers use when they wait for safety conditions to improve. e.g., “Adapt to safety conditions until the situation improves”); and Neglect (behaviours that teenaged workers use when they stop caring about safety. e.g., “Ignore warnings about hazards”). The lists generated by each
focus group were written on a flip chart and served as a common reference for discussing patterns of EVPN responses.

I used an inductive approach to identify themes related to the temporal ordering of EVPN responses. This analysis was supported by NVivo 8.0, a software program that enables coding of text for themes and sub-themes. The analysis of sequences of EVPN responses involved several steps. First, I coded sections of the interview transcripts that related to sequences of EVPN behaviour. Second, I reviewed this text to familiarize myself with the content and flow of the discussions. Third, I classified the quotes as relating to “initial response sequences” and “secondary response sequences.” Starting with the first responses, I coded the text for factors that enabled or disabled particular responses. These factors were identified by the participants and were not predetermined by me. Finally, I analyzed the discussions related to each factor to assess how prevalent and salient the factors were in shaping patterns of EVPN responses. Here I also conducted comparisons across the focus groups to assess the reliability of the factors.

To contextualize the research, I began by asking workers to describe safety-related problems. Participant names have been changed for anonymity and the text was edited to improve readability (e.g., by removing words such as “like”).

5.3 Results

5.3.1 Hazards and injuries

Participants reported experiencing a range of physical, chemical, and interpersonal hazards at their current and former jobs. Here are some representative examples:

Farah: [In the] summer the water starts dripping from the [kitchen freezer] ceiling on the ground. Then when you close the door it freezes, and then when you open it back the floor is all slippery. They don’t provide us with anything to remove the ice and they have written in big letters “Please be
careful because the floor is slippery.” Well you have to do something. I mean I don’t know how people survive in there.

David: I work with an electronic pallet jack [...]. I have to drive it around and stuff. It’s like pretty scary sometimes - it goes pretty fast.

Laura: [In] the summer I work in the photolab. Upstairs in our lab it’s not well ventilated, so there have been times when it gets really hot, and the chemical starts evaporating, so you have to wear a gas mask.

Several participants, mostly female, who worked in frontline customer service positions shared stories about incidents of customer-initiated sexual harassment and verbal abuse.

Emilie: People like to get angry about burgers and then people – old guys – hit on you but that’s not really anything new.

Catherine: I’ll have to go check in the suites [in an entertainment complex] and normally, like, especially it's during an event where it's typically mostly only guys in the building they get drunk. And it's like, I don’t know, they’re just all touchy. It’s gross. No one else will go in [the suites], so I’m sent to go in. And I’m the youngest one that works in my section. I have had a guy actually like lose his mind because he ran out of tonic for his gin. He was so furious and I [said] “okay, it’s all right. I’ll bring you some tonic, calm down.”

Nearly everyone reported being injured at a current or former job. The most common injuries were burns to hands and arms, followed by cuts to fingers, slips and falls, and exposure to chemicals. Here are several representative descriptions:

Chelsea: I had to go to the hospital once because I got hit by the slicer. But not the blade, but the part where the meat sat. Someone turned it on when I was cleaning underneath it. They didn’t realize [that] my hand was underneath and they got me on the collarbone and so I had to go to the hospital and wear a sling for a long time.

Sophia: I had a lot of big boxes of futons fall on me and a bunch of fabric rolls, that were pretty massive, tumbled over and kind of trapped me. [But] it wasn’t a big injury at all.

Andrew: Oh, a week ago I sliced part of my thumb off and I also burned myself a couple of times with the oven [...]. I’ve had to take plants off the ceiling and almost fallen off the ladder and stuff like that. And I have like
permanent burns. After two months they’re still there.

Daniel: I was given a job [at the gym] and told to clean, no training, nothing like that. I had regular latex gloves, normal gloves [...] I had to clean a hot tub at one point, very early on, I think it was like the first month or so that I was on the job. My hands started to get really hot. They were just bright red from the bleach and these gloves.

These discussions established that this sample of workers were knowledgeable about occupational safety hazards in their current and former jobs. Further, it was evident that a majority (22 out of 39) at one time have had concerns about work-related hazards. However, many participants viewed injuries as ‘part of the job,’ a finding that is consistent with previous research (Breslin, Polzer, MacEachen, Morrongiello & Shannon, 2007b).

5.3.2 EVPN Sequences and Barriers to Voice

The main part of the content analysis related to identifying sequences of EVPN responses and themes related to these patterns. These discussions were both descriptive (i.e., rooted in participant’s actual work experiences) and hypothetical (i.e., how participants said they would act in a given situation). I asked participants what their initial and secondary responses would be when they have safety concerns and why they preferred these responses.

5.3.2.1 Fear of job loss

A small number of participants, primarily male and those with longer tenures with a particular employer, said they would immediately speak out (voice) about concerns. However, the most common first response for both male and female participants was patience. Three themes emerged from this discussion. First, participants said they feared losing their jobs or hours for speaking up to a supervisor or manager about safety concerns. Here is an excerpt from one group:
Phillip: I guess everyone wants to have a safe workplace but there’s only so much you can do with certain workplaces. So I guess it’s mostly just waiting out and hoping for the better. (inaudible)

Author: Why is that? Why would you say that most people would just wait it out?

Shane: If they speak up they are afraid they will get fired or something.

Phillip: Yeah, stuff like that, they’re afraid to speak up and get fired. They just kind to wait and see if anyone else notices it besides them (inaudible).

Participants in another group believed that calling a government safety inspector would likely jeopardize their employment.

Author: It came up before that you [would] get fired if you [called] the inspector. According to the law [employers] aren’t allowed to fire you.

Andrew: Well they eventually will. They will find out a reason.

Sandy: Yeah, they will stop calling you.

Andrew: No, they will like find a reason…

Raj: They will try and find any reason to fire you.

Andrew: They will find a really small mistake and fire you for it.

Farah: Fake customers, they would have somebody come in and make you mad and then…

Leslie: Make it like you are still technically employed there but you’re never getting shifts.

Catherine: Or they will just make it really bad for you. Like everyone just starts treating you differently so that you want to quit.

5.3.2.2 Powerlessness

The second theme associated with the use of patience related to participant’s perceived powerlessness to raise safety issues with management. It was evident from the discussions that work inexperience and newcomer status reinforced feelings of fear. For instance, a 15 year old female who worked in an entertainment arena and was dissatisfied
with aspects of safety (e.g., burns, customer harassment) practiced patience because she felt she could not change the situation:

Author: [Any thoughts on] where would you start?

Catherine: Wait for someone to do something. I’d wait as long as possible for someone else to say something and if I was asked if I felt the same way I’d agree with it but only if I knew it wasn’t going to cost me my job. I find that people that are older, when they need something to change it seems like it’s not that big of a deal and they will try to come up with a solution. But when it’s our age group it seems like we are just complaining about stuff. If anyone else was to complain about it probably it can get changed.

Author: And by older you mean how old? Like 20? Over 20?

Catherine: Most of the women I work with are servers and in their 30s and 40s. And they are considered like mature adults. Their opinions seem to matter more than ours. Age is a huge factor in whether or not something is done.

Similarly, another female worker recalled her response to poor quality working conditions at a former job in a restaurant kitchen:

Maggie: [It] wasn’t really that safe. The floor was always wet and nobody would wipe it off and there was never a sign telling you the floor was wet. And again there was a lot of the stuff we had to deal with, hot things, like it was a hotel kitchen. […] I guess I just didn’t find it that safe. And the clothes we had to wear […] it would get really hot but it was the uniform so I can’t really change it out.

Author: Would you say you had concerns about safety at that job?

Maggie: Yes, I did. A lot. (laughs)

Author: And so what did you do?

Maggie: Well I couldn’t really do much because I don’t think I could tell anyone what to do then because of the position I was in. I don’t think I would have gone to the manager and say “hey this needs to be improved”. Maybe I would have got fired or something. (laugh) I wasn’t really in a position to ask people to change anything.
This excerpt is from a 17 year old male who had worked at a restaurant job for two months. He claimed to have permanent scars on his arm from lifting hot trays and said that he generally liked his job and work colleagues, but also that he was not willing to raise safety issues:

Andrew: Right now I am pretty much in patience because I haven’t worked there for too long. I’m still getting used to the safety conditions because they keep throwing more and more dangerous stuff to me. (speaker’s emphasis)

When asked to describe why new workers are reluctant to raise safety concerns, this group of participants said they worried about how others would view them and their inexperience on the job:

Author: What would be some of the barriers that would prevent some people your age raising concerns about safety?

Emilie: Just don’t want to rock the boat.

Lisa: And also I guess, especially when you are new, you kind of feel like you don’t have much authority or you don’t really have a right to say something. You haven’t been there for a long time. Maybe you’re scared.

Kelly: Everyone else knows better.

Author: You don’t feel you have a right to say something? Why is that?

Lisa: I don’t know, you might think you’re wrong or something. Or maybe people will look at you like you are just complaining because you’re new.

5.3.2.3 Perceived consequences of hazards

A third theme associated with the use of patience related to the perceived consequences of tolerating hazards. Across the interviews, the seriousness of a hazard was understood in terms of the likelihood that it would result in personal harm. Work tasks that were perceived to result in an injury requiring medical attention or hospitalization were labeled “serious”. These issues marked a shift from patience to low
level voice for many participants. The perceived seriousness of the hazard was an important factor in whether both young males and females switched from patience to voice. Two females who had worked together at a fast food restaurant had this to say about this issue:

Chelsea: It if was a new job, I would probably just not say anything because I would be scared or intimidated. […] That’s why I said patience first. And I think I would probably stick with the patience until, I saw something really bad happen out of it […] or just until I got comfortable.

Author: Anne, any thoughts about it? What do you or even people around you do when they have growing concerns about safety?

Anne: Well, I think like for waiting it also depends on what it is. If it’s something smaller probably you wait probably a little longer because it’s really not going to hurt someone then. (speaker’s emphasis)

Here is an excerpt from another discussion that also illustrates the transition from patience to voice:

David: Well probably everybody starts off with safety patience because until something actually happens nobody really cares, I would say. And then safety voice.

Farouk: And then neglect and then exit.

Author: That’s interesting, so something happens. What would be the threshold for taking action and speaking out?

David: It’s like [got to be] big, for me. I wouldn’t really speak out [otherwise].

Farouk: Yeah unless it’s something– it could be personal, I guess. Yeah it’s important to you because otherwise who cares.

Author: That’s interesting. Ian and Chris, what would you [do]?

Ian: I’ll basically do the same because I will just wait for something to happen to me. If it’s really concerning me, then obviously I will talk about it to my boss. Yeah, if she doesn’t do something about it then I will just let it go. I’ll just be careful about myself (sic). And if something bad happens then maybe I’ll quit or do something drastic.
Interestingly, as the previous quote shows threats to coworkers’ safety were not enough to warrant speaking up. Participants in a different focus group were asked whether a common hazard, in this case a wet or greasy floor in a restaurant kitchen, would motivate action to protect one’s coworkers.

Thomas: I think it could be completely different for each person because if all four of us went down to the kitchen with a wet floor and one of us slips and breaks their skull then it’s a little problem for everyone else but it’s a big problem for the person who is in the hospital.

Kimberly: Yeah, but as soon as someone got seriously hurt then it’s a big problem for everyone because then they would realize that we shouldn’t be walking on the floor if it’s that slippery. It might not be slippery to some people, and some people might not have grip on their shoes and they go flying.

Author: So is the greasy floor a serious problem or not a serious problem?

Kimberly: It depends if someone gets hurt.

Author: But isn’t it too late to speak out after you get hurt?

Kimberly: But then you can prevent other people from getting hurt, after one person gets seriously hurt.

Thomas: Well I think what [the Moderator] is saying is if you notice there is a slippery floor but no one has been hurt yet, would you speak out then before it becomes a big problem?

Kimberly: No. I wouldn’t.

Thomas: I wouldn’t.

Maggie: Most people wouldn’t.

In summary, most participants preferred patience as a short- to medium-term response to safety concerns. This strategy was favoured over voice because participants were fearful of raising safety concerns. Fear seemed to be associated with newcomer status, age, and perceived consequences of speaking out about concerns. Another reason
for exercising patience related to the perceived risk of injury to oneself. In most cases, when a hazard was not a serious threat to one’s personal safety, it was tolerated.

When a matter was considered serious, many said they would or have tried voicing. The process of voicing was strikingly similar across the interviews. First, participants said they complain to coworkers about the safety concern. This served as an informal method for gauging opinion about whether others saw the issue as one that warranted action. Next, in situations in which there was consensus that there was a safety problem, participants said they would try to establish an ad hoc coalition to raise the issue with a supervisor or manager. In other cases, an outspoken worker would take the issue forward. More often, safety voice was described as a collective act. However, trepidation and caution were the hallmarks of the voicing process. A participant who was confident in speaking up in his workplace said:

Thomas: For me personally, I tell people what happened and I [will] try to find support from coworkers. And if I find the support then I go right away to tell someone higher than me. If [I do not have the support of coworkers] I will wait a bit and see if the situation persists. If it does persist, even without coworker support, I would contact the person.

Author: What happens if you don’t have coworker support?

Kimberly: Because you’d be alone and nothing would be done (inaudible)

Thomas: Safety in numbers.

With a couple of exceptions, voice was most commonly described as informal and non-threatening to managerial authority. An exception was a story about a sit down work stoppage that forced management to repair dangerous equipment. Unionization as a form of collective voice was rarely mentioned in the interviews. When it was, the focus quickly shifted back to informal forms of collective action:
Author: How often does collective action occur at a workplace if you’ve got [safety] concerns?

Sandy: It’s called a union.

Catherine: Not ours. It’s called let’s all group together and hopefully we don’t all get fired.

While the majority of participants said they would initially use patience followed by voice, there was mixed opinion about what they would do when informal voice strategies (e.g., speaking to coworkers) were ineffective. Some said they would revert back to patience and hope that safety problems were addressed, while others said they would switch to neglect. Exit was rarely considered as an initial or secondary response. Figure 5-1 illustrates the general sequence of responses over time in relation to the seriousness of the safety issue.

Figure 5-1: *Pattern of EVPN Responses as a Function of Time and Issue Seriousness*

Participants reported that they did not think about quitting a dangerous job without first waiting to see if things improved and, in some situations, attempting informal voice. Some workers said they would leave when they were completely “fed up” with hazards. As one interviewee said, “I either have to change it or quit”. However, the majority expressed that they would be reluctant to leave a job due to safety concerns. Participants
noted benefits associated with their jobs (e.g., pay, hours, and tips), friendly coworkers, and job search costs that made them reluctant to quit an unsafe job. Here is an excerpt from one interview:

Farah: I was surprised to know that all of us are in the same boat, pretty much. All of us have some sort of a common point in our workplace safety. All of us have problems but we can’t help it.

Catherine: Personally we ignore problems, because we get a lot of perks to where we work, like free concerts.

Andrew, Raj: Ya, we get free food.

Catherine: So like sometimes it’s just not worth complaining about the safety hazards because there are a lot of perks.

Raj: Discounts on food.

Farah: I only get free cookies. That’s it.

Participants in other interviews noted perceived job search costs and negative employer reactions to quitting past jobs that deterred them from leaving jobs.

Phillip: You could have ten different jobs on your resume but if they are only a month long then places won’t hire you because of your commitment is very low.

Steven: I’d probably be patient because I don’t want to start all over at another job for the same amount of money.

Previous research has found that supervisors and managers can play a key role in whether younger workers raise safety issues (e.g., Mullen, 2005). Approximately half of participants said their current and former supervisors were genuinely open to listening to their safety concerns and taking action on suggestions. Others described management and owners who were not receptive to hearing about safety concerns. The first quote below relates to a restaurant owner who was open to worker suggestions. The second example
describes managers at a large fast-food restaurant franchise who were not genuinely interested in safety.

Andrew: Everyone is just cool with each other, even the owner, we will just tell him what's wrong. If he doesn’t like it, he doesn’t like it, but if he likes the idea….

Author: There are no repercussions?

Andrew: No, I haven’t seen any really.

Here is the second example:

Paul: I don’t think anyone [listened to concerns at my former job]. They always say that [they cared]. I don’t think anyone […] wants to piss off the manager. Plus I go there and there is some manager that I don’t even know. They have so many different employees. Half the time I go [to work] I don’t know who I work with. I kind of felt like I didn’t really want to go nag at the manager. I kind of just went in there and like did my shift and then left.

Author: In your training the manager said they wanted to hear concerns but Paul was saying that sometimes they don’t really want to hear your concerns. Is that right?

Paul: Yeah, I guess. Like I think maybe they do but I think you know they kind of say stuff like that but they don’t really care…

Joshua: Yeah, it’s too common.

Paul: …because they’re busy. So many times you are going there and they will be like on the phone. They’re always busy or try to seem busy.

Author: What could they have done to make workers speak up more about concerns about safety?

Paul: Actually seem like really open to it. Like they weren’t intimidating or something like that, they genuinely thought that.

Joshua: [Be more] friendly.

5.4 Discussion

Despite facing a range of salient and potentially harmful work-related hazards, most of the teenaged workers that were interviewed said they exercise patience if and when
they have safety concerns. Their reluctance to take action by voicing was related to an underlying fear of being fired, their inexperience and newcomer status, and relatedly, a belief that they were powerlessness to bring about improvements in safety. Patience was also preferred when the likelihood of serious injury to oneself was perceived as low or voice had failed.

These findings show that safety-related voice was episodic and punctuated sometimes by lengthy periods of waiting and thinking about what to do about safety concerns. Consistent with mobilization theory (Kelly, 1998), I found that voice is a social process whereby teenaged workers informally consult work colleagues about safety issues. When coworkers agree that a problem exists the concern is legitimated and collective or individual action can occur. The likelihood of upward voice increased when management was genuinely open to hearing concerns. In contrast to this process, Pollert and Charlwood (2009) found that among a large sample of non-union, low paid, and mostly adult workers in Britain, work concerns were more likely to first be informally raised with a line manager or upper management versus submitting a formal complaint to a government agency, for example.

The voice process may explain why young newcomers to jobs are especially reluctant to speak up about safety concerns. The social relations that appear to support the process require time to develop before action can be taken on a safety concern. Young workers are most vulnerable to injury when they first start at a job (Breslin & Smith, 2006), which I found coincides with the period during which they are most reluctant to speak up about safety concerns and have underdeveloped relationships with their coworkers. Future research is needed in this area and, similarly, could examine the voice experiences of young people who work alone.
Of the four EVPN responses, exit and neglect were the least frequently mentioned. Some participants viewed leaving a dangerous workplace as a last resort and not appropriate before they had tried other strategies (e.g., patience or voice). There was a high level of agreement that other aspects of work such as ample work hours, free products and services, and friendly coworkers were barriers to leaving dangerous jobs. In terms of neglect, some participants said their coworkers do not care about safety and a few participants admitted they would stop caring about safety if voicing was futile.

5.4.1 Practical Implications

These findings have implications for public policy, in particular the targets and content of young worker safety social marketing campaigns. Social marketing in this domain should acknowledge barriers to voice (e.g., fear) and propose practical ways of voicing in the face of fear (e.g., coalition building). Here campaigns should be broadened to target supervisors and managers and inform them about teenaged workers reluctance about speaking up about safety issues. Line and upper management need to understand the impact of their perceived openness to safety concerns. For example, most teenaged workers in the sample were averse to speaking up about minor issues that did not affect their personal safety. Social marketing messages directed towards supervisors and workers should encourage speaking up about seemingly minor issues (i.e., close calls), which research shows are associated with major injuries (e.g., Alamgir, Yu, Gorman, Ngan & Guzman, 2009; Zierold & Anderson, 2006). Further, voice should be portrayed both as an individual and collective act in campaigns. Indeed, in support of this finding, Freeman and Rogers (2006) found that a majority of American workers prefer resolving safety issues with the help of others versus doing so alone.

Unions could play an important role in buttressing state-sponsored social marketing
campaigns by creating complementary or stand-alone campaigns that provide guidance to teenaged workers for handling situations in which the management seems indifferent to concerns about hazards on the shop floor. In short, more ecologically appropriate messages that reflect the reality of frontline work may increase the credibility and effectiveness of social marketing campaigns.

5.4.2 Limitations

This study also has some limitations. First, some participants who were recent immigrants to Canada and whose second language was English had a more limited involvement in the interviews. Second, with the exception of one all-male focus group, groups were comprised of both females and males. Research on the gender composition of focus groups has found differences in the interaction styles of men and women (Breslin et al., 2007b), with male participants tending to dominate conversation more than females. I did not observe this in the interviews; in fact, overall female participants tended to speak more than males. Lastly, this sample was not randomly selected and participants may have had more (or less) concerns about workplace hazards and engaged in more (or less) active responses.

5.4.3 Conclusion

In conclusion, despite the dominance of models of individual employee voice and elevation of the idea of worker free agency, there are important questions that remain about the prevalence of safety-specific voice and exit under this regime. Theoretically, voice and exit are effective responses to dangerous working conditions because they may lead to the prevention or avoidance of injuries. However, teenaged workers seem reluctant to use these strategies when they have concerns and instead wait things out by being what one of the participants described as ‘in patience’.
5.5 References


Chapter 6

Young Worker Safety Behaviours:

Development and Validation of Measures

Abstract

Four studies were conducted to develop and validate measures of workplace safety-related behaviors relevant to young workers. The conceptual basis for this set of measures is a range of behavioral responses to deteriorating conditions (e.g., exit, voice, and loyalty, Hirschman, 1970; exit, voice, patience, and neglect, Leck & Saunders, 1992; Rusbult et al., 1982). In Study 1, items were generated by young workers (n = 39) who participated in focus groups. The representativeness of these items was judged in Study 2 by a separate sample of young workers (n = 79). In Study 3, I found support for 5 factors using exploratory factor analysis with a sample of working-age high school students (n = 272). Confirmatory factor analysis was conducted in Study 4 using a separate sample (n = 283) and this supported the 5-factor model. Self-report data on these participants and other-report (co-worker) data on a sub-sample (n = 26) of the same participants provided additional support for the validity of the scales. Overall, these studies support the validity and reliability of this set of safety-related behaviors: intentions to quit an unsafe job (exit), speaking out about safety concerns (voice), staying at a dangerous job hoping that safety conditions improve (patience), deliberately letting safety conditions worsen (neglect), and following safety policies (compliance). This set is useful for evaluating safety interventions aimed at young workers and studying safety-related behavior in a vulnerable work population.
6.1 Introduction and Theoretical Background

Understanding how young workers respond to unsafe working conditions is vital to injury prevention. Yet, researchers lack ecologically valid measures to assess important safety behaviours for a population of workers who, through young age and limited life experience, may deal with unsafe work differently than older working adults. This chapter describes the development and validation of measures for safety-related voice, safety-related patience, safety-related neglect, safety-related compliance behaviour, and general turnover intentions for younger workers. These age-appropriate measures are warranted for three reasons.

First, despite ongoing efforts to understand and prevent workplace injuries among teenaged workers, stakeholders know little about how this vulnerable group responds to poor quality working conditions. Ecologically valid measures of young worker safety behaviour would be useful for evaluating the efficacy of safety interventions that target this group. Second, existing typologies of safety-related work behaviour measures may not capture the range of safe and unsafe behaviours relevant to this population. For example, a variety of measures classify safety behaviour as broadly compliant or participative (e.g., Burke, Sapry, Tesluk & Smith-Crowe, 2002; Griffin & Neal, 2000). While this distinction is useful and widely adopted, I argue that it may under represent the domains of change-oriented, compliant, self-protective, and unsafe work behaviours.

Finally, some current measures may not be appropriate for young workers given the nature of their frontline jobs. For example, Hofmann, Morgeson and Gerras’ (2003) four-item measure of safety voice includes items (e.g., “expressing opinions on safety matters even if others disagree” and “raising safety concerns during planning sessions”) that younger workers may be reluctant to engage in given their status and their beliefs about
not being taken seriously by coworkers and supervisors (Breslin, Polzer, MacEachen, Morrongiello & Shannon, 2007a) and may not have an opportunity to engage in (e.g., planning sessions) given their young age and lower status in the organization. The current measures are grounded in the types of experiences younger workers are likely to face at work.

6.2 Defining General Exit Intentions, and Safety-Related Voice, Patience, and Neglect in the Domain of Young Worker Safety

In Chapters 4 and 5, I proposed that a useful yet under-used framework for understanding worker safety behaviour is the exit, voice, patience, and neglect (EVPN) model based on the work of Hirschman (1970) and others (Leck & Saunders, 1992; Rusbult, Zembrodt & Gunn, 1982). Despite calls for narrower definitions and facet-specific operationalizations of such constructs (Van Dyne, Ang & Botero, 2003; Withey & Cooper, 1989), the EVPN model has remained generic with regard to the referent organizational problem. While the EVPN model has practical appeal for studying workplace safety behaviour, it has been sparsely applied to the issue and, more generally, to non-adult samples. There are few applications for using parts of the EVPN framework in a safety domain and the constructs have not been consistently defined nor have they been applied to young worker samples. In the next section, I define the EVPN constructs in the domain of occupational safety.

Exit

Hirschman (1992) described exit as an “impersonal” feedback mechanism to decline because, unlike voice, leaving does not involve a “face-to-face confrontation” with the management (p. 16). Rather than make a fuss, workers typically inform the employer they would like to explore new opportunities or say nothing at all. Two
approaches have been used to study exit in the EVLN literature. The first involves operationalizing exit as actual quits. However, given that it can often takes months or years for an unhappy employee to leave an unpleasant situation, researchers have tended to use turnover intentions as a proxy.\footnote{I thank Bill Cooper for an interesting discussion of this idea.}

Exit as a response to declining workplace safety is an act of escaping a dangerous situation. Growing dissatisfaction with one’s surroundings can lead to temporary absences (e.g., leaving work early), increasing intentions to leave, or permanent exit from the organization or department. From a construct validity perspective, the difficulty with temporary exits is that they resemble acts of voice or possibly neglect, concepts which are discussed below. To avoid this problem, I focused on turnover intentions and actual job search behaviour among young workers, rather than attitudes towards leaving work for explicitly safety-based reasons.

Voice

As was noted in Chapter 4, Hirschman (1970) broadly defined voice as any effort to “change, rather than escape from, an objectionable state of affairs” (p. 30). He noted that, compared to exit, voice was a far more “messy” concept because “it can be graduated, all the way from faint grumbling to violent protest; it implies articulation of one’s critical opinions rather than a private, ‘secret’ vote” to leave (p. 16). For these reasons, voice is potentially politically dangerous, which explains why workers are sometimes hesitant to use it (e.g., Chapter 5; Detert & Edmondson, 2007).

Freeman and Rogers’ (2006) survey of a representative sample of American workers found that 55\% said that having a lot of influence in setting safety standards and practices was important to them. Thus, voice in the context of safety would ideally
motivate action to make work-related situations, procedures, and processes safer. Safety voice may include actions such as: raising safety concerns with a manager or union steward (e.g., Mullen, 2005), speaking before a safety committee (e.g., Eaton & Nocerino, 2000), reporting dangerous working conditions to government officials (e.g., Gray, 2009), and participation in safety programs (Cree & Kelloway, 1997).

Safety voice may manifest in different ways and be directed to different targets. A study by Walters and Haines (1988) found that when workers raise safety concerns, they most often raise them with a supervisor (42%), followed by their coworkers (16%), and with a safety representative (7%). Further, Freeman and Rogers (2006) found that 53% preferred to solve health and safety problems with the help of others versus 36% who prefer acting alone.

Based on these patterns, Tucker, Chmiel, Turner, Hershcovis and Stride (2008) conceptualized safety voice as (a) any action motivated towards improving safety, (b) flowing through formal and informal channels, and (c) directed towards internal and external targets (e.g., supervisors/managers, government officials). Further, safety voice may be collective or individual in nature. Safety voice shares similarities with general employee voice (e.g., LePine & Van Dyne, 2001) and safety participation (e.g., Neal, Griffin & Hart, 2000); however, with safety voice, personal and coworker safety is at the fore versus instead of merely complying with prevailing managerial agendas for safety (e.g., attendance at safety training sessions) or obeying externally-imposed safety rules and regulations.

**Patience**

What workers do when they are not voicing, neglecting, or contemplating exit is of practical importance; however, it has mostly escaped conceptual and empirical scrutiny in
the EVLN literature. Hirschman (1970) and Rusbult and Lowery (1985) proposed that employees exercise loyalty. The central problem with loyalty is that it has been difficult to define and measure (Minton, 1992), and thus it may not adequately define what employees do when they ‘wait’ for things to get better.

What workers do under conditions of decline is important especially in a safety context. Leck and Saunders (1992) proposed that employees exercise patience in most situations, which they defined as sticking with an organization through good times and bad. They asserted that patience was distinct from measures of behavioural loyalty, and also found evidence of discriminant validity to support their assertion. I believe that the concept of patience has merit and can represent a somewhat elusive safety-related behavioural response category.

In a safety context, I propose that patience can have both passive and active manifestations. It can be seemingly passive insofar as it can lead to self-protection under hazardous conditions without resorting to voice. In contrast, patience may engender actions that subtly and indirectly support change (e.g., agreeing with a coworker that a hazard needs to be addressed). Safety patience may work with everyday safety compliance behaviours by doing what it takes to get by when the situation demands it.

*Neglect*

Rusbult and colleagues (1982) defined neglect as “passively allowing a relationship to atrophy” (p. 1231). In a work setting, neglect is interpreted as putting in less effort, lateness, and letting things fall apart (e.g., Withey & Cooper, 1989). When neglect is considered in safety research, passive safety leadership (e.g., Kelloway, Mullen &

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10 I thank Bill Cooper, Michael Withey, and the students of Commerce 451 for a thought-provoking discussion of this question. The ideas that are discussed here belong to the class.
Francis, 2006) and unsafe employee behaviour (e.g., Clarke, 2006) have been the focus. Given that most young workers have non-supervisory roles, here I define neglect as unsafe behaviour by frontline employees. Existing measures of unsafe behaviour relate to how often workers ignore safety regulations and procedures, or put others at risk (e.g., Hofmann & Stetzer, 1996; Seo, 2005).

Safety neglect can also be understood as being in opposition to safety compliance, which is broadly defined as “the core safety activities that need to be carried out by individuals to maintain workplace safety” (Griffin & Neal, 2000, p. 349). Drawing on these streams of research – unsafe employee behaviour and safety compliance – the domain of safety-related neglect includes employee behaviours such as: non-compliance with safety rules and procedures (e.g., Hofmann & Stetzer, 1996), putting less effort into safety, not reporting observed hazards or injuries (e.g., Probst & Estrada, in press), and any other behaviour that undermines the upkeep of occupational safety.

6.3 Overview of the Scale Development Studies

I followed established scale development procedures (DeVellis, 2003; Buss & Craik, 1983) to develop short and ecologically valid measures for general exit, safety-related voice, safety-related patience, and safety-related neglect (EVPN). In Study 1, I asked focus group participants (n = 39) to generate items (Chapter 1). In Study 2, participants (n = 79) rated how representative each of the nominated EVPN acts was of the related construct. In Study 3, a larger sample (n = 272) reported how frequently they engaged in the ten most descriptive EVPN acts. I explored the factor structure using exploratory factor analysis and eliminated inadequate items. Finally, in Study 4,
confirmatory factor analysis was conducted using a separate sample \((n = 283)\).\(^{11}\) Support for the validity of the measures was also present, partially analyzing data from a sub-sample of coworkers \((n = 26)\) who provided third-party reports on participants’ exit and safety-related voice, patience, and neglect behaviours.

6.4 Study 1: Item Generation

Sample

Eight focus groups with 39 employed or recently employed participants aged 15 to 18 years \((49\% \text{ female})\) were used to generate examples of EVPN behaviours.\(^{12}\) The average participant age was 16.56 years \((SD = .94)\). Participants \((85\% \text{ employed})\) reported working their main job an average of 6.67 months \((SD = 8.51)\) and 11 to 20 hours per week \((\text{mode})\). Most participants worked in restaurants \((44\%)\) and grocery or convenience stores \((35\%)\).

Procedure

Withey and Cooper (1989, 1992) recommended using an act frequency approach (AFA) (Buss & Craik, 1983) for developing EVLN scales. They noted that existing EVLN scales potentially measure uncommon examples of related behaviours. To illustrate, consider the act of formally refusing dangerous work (i.e., safety voice). Walters and Haines (1988) found that only 1\% of a sample of industrial workers reported refusing unsafe work under occupational safety legislation. The primary advantage of the AFA is that it enables researchers to sample the entire domain of a construct and then identify prototypical actions from that domain.

Consistent with the AFA, I provided focus group participants with a definition for

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\(^{11}\) These are the respondents at Time 1 in Manuscript 4 (see Chapter 8).

\(^{12}\) These are the participants from Manuscript 1 (see Chapter 5).
each EVPN construct and asked them to think about behaviours they or their coworkers have used that fit each definition. The definitions of each construct were informed by definitions from significant works (e.g., Hirschman, 1970; Rusbult et al., 1982; Leck & Saunders, 1992) and adapted in consultation with two researchers who have conducted extensive research in this area. With the exception of exit, I developed safety-specific definitions for the constructs. I defined exit generically because I assumed that exit acts do not differ based on one’s motivation for leaving a job (e.g., abusive supervision vs. deteriorating safety). Specifically, I defined exit as actions that workers use before they quit a job; safety voice as actions that workers take when they try to improve workplace safety; safety patience as actions that workers use when they wait for workplace safety to improve; and safety neglect as actions that workers use when they stop caring about workplace safety.

6.4.1 Study 1: Results

The total number of nominated acts generated by participants was 67, 69, 25, and 51 for exit, voice, patience, and neglect, respectively. The process yielded four findings worth noting. First, the greatest numbers of items were suggested for exit and voice. Second, in terms of voice, young workers directed safety voice both upward to supervisors and owners, as well as horizontally to their coworkers. Consistent with the voice process identified in the focus group interviews (Chapter 5), many participants said they try to address concerns through coworkers and informal channels. Third, formal work refusals were not an everyday form of voice. Fourth, participants had difficulty suggesting safety patience behaviours while acknowledging that the category was meaningful to their everyday work experience and indeed their first response when they have safety concerns (see Chapter 5).
The next step involved eliminating redundant items and revising item wording to improve interpretation. First, I deleted items that were entirely overlapping with other items (e.g., “Get a group to address the problem” overlaps with “Talk to coworkers about taking action together to fix safety problems”). Next, a research group consisting of six graduate students and a senior faculty member evaluated the surviving items and eliminated redundant and vaguely-worded items. Finally, a research assistant assisted me in reviewing the remaining items and, where necessary, we revised grammar and comprehension. Across these steps, the acts were not assessed for relative fit with the focal constructs. The total number of surviving acts was 43, 35, 18, and 27 for exit, voice, patience, and neglect, respectively. These items appear in Tables 6-1 to 6-4.

6.5 Study 2: Identifying Representative Items

The purpose of Study 2 was to identify exemplar EVPN acts from the lists of items generated in Study 1. Consistent with the AFA, I asked a separate sample to rate how descriptive each EVPN item was of the related focal construct. The ten items for each construct with the highest average score (i.e., the most representative) formed preliminary scales.

Sample

Ninety-three teenagers participated in the study. Fourteen respondents aged 14 and 15 years who did not provide parental consent were removed. Participants (M age = 17.12 years, SD = 1.06, 49% female) (age range 16 to 19 years) had paid work experience in agriculture (45%), restaurants (32%), construction (30%), grocery or convenience store (23%), gas station/garage (21%), and other (e.g., retail, babysitting, healthcare).

Procedure

Participants completed an on-line survey. Approximately 40% of participants
completed the survey in a high school class during regular school hours. The remaining participants were recruited in university and college cafeterias. The study incentive was a movie ticket (approximate value $8 CDN).

Participants were asked to read a definition of the focal construct (e.g., voice) and then rate how descriptive each of the related nominated acts was of the corresponding construct on a 5-point Likert scale ranging from 1 (not descriptive) to 5 (very descriptive). This exercise provided support for the content (face) validity of the items.

Two versions of the survey were created to minimize potential effects of participant fatigue. In one version, the sections were ordered as voice, patience, neglect, and exit. In the other version, the categories were ordered neglect, voice, patience, and exit. Further, to rule out item-ordering effects within each section, the items were randomized. Last, and consistent with previous AFA-based studies (e.g., Mahaffey et al., 1991), I included one (non-sensical) dummy item in each section to assess whether participants understood the meaning of the related construct, and predicted that this item would receive a lower score than the others on the extent to which it corresponded with the focal construct.

6.5.1 Phase 1: Descriptiveness of EVPN Acts

Average scores were computed for each of the nominated EVPN acts and ranked from highest to lowest. These results are shown in Tables 6-1 to 6-4.

Table 6-1: Exit Rankings

<table>
<thead>
<tr>
<th>Rank</th>
<th>Exit Acts</th>
<th>Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Give two weeks notice to the supervisor (e)</td>
<td>3.67</td>
</tr>
<tr>
<td>2</td>
<td>Think about how to tell the boss you’re leaving the job (e)</td>
<td>3.57</td>
</tr>
<tr>
<td>3</td>
<td>Apply for other jobs (e)</td>
<td>3.54</td>
</tr>
<tr>
<td>4</td>
<td>Tell parents that you’re thinking about quitting the job (e)</td>
<td>3.41</td>
</tr>
<tr>
<td>5</td>
<td>Tell coworkers that you’re thinking about quitting the job (e)</td>
<td>3.37</td>
</tr>
</tbody>
</table>
6  Give resignation letter to the supervisor (e)  3.36
7  Say good-bye to coworkers (e)  3.35
8  Look for a new job in the newspaper or on a job posting website (e)  3.30
9  Tell girlfriend/boyfriend that you’re going to quit (e)  3.29
10  Ask the boss for a letter of reference  3.28
11  Tell non-work friends that you’re going to quit (e)  3.27
12  Train the coworker who will replace you  3.26
13  Think about quitting the job  3.20
14  Threaten to leave if concerns aren’t addressed  3.20
15  Speed up working to get out faster  3.11
16  Tell the boss what you really think of the job  3.03
17  Call in sick when you’re not ill  3.00
18  Ask a coworker to finish tasks you don’t like doing  3.00
      Look into workers rights and take legal action against the employer  2.99
19  Take time off to avoid hazardous working conditions  2.94
20  Stop caring about the job  2.93
21  Put in less effort on the job  2.90
22  Talk badly about the business to non-work friends  2.84
23  Not show up for shifts after giving notice  2.77
24  Be late for work  2.76
25  Start refusing to do some work tasks  2.76
26  Don’t do the job right  2.75
27  Brag to coworkers about other jobs you’re applying for  2.73
28  Stop going to work  2.71
29  Express a negative attitude towards coworkers  2.67
30  Make a mess at work  2.67
31  Leave work shifts early  2.64
32  Have a party before you leave the job  2.64
33  Swear at the supervisor  2.61
34  Come to work high on drugs  2.61
35  Ask the supervisor to fire you  2.59
36  Yell at people you don’t like at work  2.59
37  Be rude to customers  2.58
38  Walk out during a shift  2.57
39  Stay at the job at all costs  2.55*
40  Come to work drunk  2.53
41  ‘Streaking’ (taking clothes off) at work  2.47
42  Vandalize company property  2.46
43  Steal from the employer  2.40

Notes. * Dummy act. (e) denotes exit items tested in Study 3.
Table 6-2: Safety Voice Rankings

<table>
<thead>
<tr>
<th>Rank</th>
<th>Safety Voice Acts</th>
<th>Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Read instructions before using chemical substances (c)</td>
<td>3.96</td>
</tr>
<tr>
<td>2</td>
<td>Be careful when operating or maintaining potentially dangerous equipment (c)</td>
<td>3.85</td>
</tr>
<tr>
<td>3</td>
<td>Show coworkers how to do tasks safely (c)</td>
<td>3.82</td>
</tr>
<tr>
<td>4</td>
<td>Tell the supervisor about hazardous work (v)</td>
<td>3.76</td>
</tr>
<tr>
<td>5</td>
<td>Keep the work area clean (c)</td>
<td>3.76</td>
</tr>
<tr>
<td>6</td>
<td>Speak to coworkers at risk and encourage them to fix the safety problem (v)</td>
<td>3.73</td>
</tr>
<tr>
<td>7</td>
<td>Ask for assistance when unsure about how to do a task safely (v)</td>
<td>3.72</td>
</tr>
<tr>
<td>8</td>
<td>Wear protective clothing/equipment (c)</td>
<td>3.71</td>
</tr>
<tr>
<td>9</td>
<td>Check that equipment is working properly before using it (c)</td>
<td>3.68</td>
</tr>
<tr>
<td>10</td>
<td>Tell the coworker with the most seniority about the safety problem</td>
<td>3.68</td>
</tr>
<tr>
<td>11</td>
<td>Tell the supervisor about the consequences of dangerous working conditions (v)</td>
<td>3.67</td>
</tr>
<tr>
<td>12</td>
<td>Ask the supervisor for protective wear/equipment (v)</td>
<td>3.66</td>
</tr>
<tr>
<td>13</td>
<td>Remind coworkers to take precautions (v)</td>
<td>3.65</td>
</tr>
<tr>
<td>14</td>
<td>Attend safety training sessions (c)</td>
<td>3.61</td>
</tr>
<tr>
<td>15</td>
<td>Call a government health or safety inspector about safety concerns (v)</td>
<td>3.56</td>
</tr>
<tr>
<td>16</td>
<td>Group together with coworkers and take safety concerns to the supervisor (v)</td>
<td>3.56</td>
</tr>
<tr>
<td>17</td>
<td>Talk to the owner about safety concerns (v)</td>
<td>3.55</td>
</tr>
<tr>
<td>18</td>
<td>Stop working until the safety problems are fixed</td>
<td>3.54</td>
</tr>
<tr>
<td>19</td>
<td>Talk to a union representative (“union steward”) about the safety problem (v)</td>
<td>3.53</td>
</tr>
<tr>
<td>20</td>
<td>Write a letter/email to the supervisor about safety concerns</td>
<td>3.49</td>
</tr>
<tr>
<td>21</td>
<td>Talk to coworkers about taking action together to fix safety problems</td>
<td>3.49</td>
</tr>
<tr>
<td>22</td>
<td>Tell the supervisor that you will not do dangerous tasks</td>
<td>3.43</td>
</tr>
<tr>
<td>23</td>
<td>Remind coworkers about their unsafe behaviours</td>
<td>3.42</td>
</tr>
<tr>
<td>24</td>
<td>Participate in a “sit-in” (a work stoppage) with coworkers until the safety problems are fixed</td>
<td>3.39</td>
</tr>
<tr>
<td>25</td>
<td>Buy your own protective equipment</td>
<td>3.38</td>
</tr>
<tr>
<td>26</td>
<td>Tell a customer about safety concerns</td>
<td>3.37</td>
</tr>
<tr>
<td>27</td>
<td>Improve safety communication with the supervisor</td>
<td>3.37</td>
</tr>
<tr>
<td>28</td>
<td>Ask coworkers how long the safety problem has existed</td>
<td>3.35</td>
</tr>
<tr>
<td>29</td>
<td>Write a letter/email to the owner about safety concerns</td>
<td>3.33</td>
</tr>
<tr>
<td>30</td>
<td>Talk to a parent about safety concerns</td>
<td>3.30</td>
</tr>
<tr>
<td>31</td>
<td>Tell coworkers that you will not do dangerous tasks</td>
<td>3.27</td>
</tr>
<tr>
<td>32</td>
<td>Talk to coworkers about unionizing because of safety problems</td>
<td>3.27</td>
</tr>
</tbody>
</table>
Put a complaint about safety concerns in a suggestion box

Ask a coworker or supervisor to do the task that you feel is dangerous

Ask someone else to take action to fix the safety problem

Stop going to work*

Notes. * Dummy act. (v) denotes voice items tested in Study 3. (c) denotes compliance items tested in Study 3.

Table 6-3: Safety Patience Rankings

<table>
<thead>
<tr>
<th>Rank</th>
<th>Safety Patience Acts</th>
<th>Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Find a way to protect yourself from being hurt at work (p)</td>
<td>3.59</td>
</tr>
<tr>
<td>2</td>
<td>Avoid dangerous tasks (p)</td>
<td>3.45</td>
</tr>
<tr>
<td>3</td>
<td>Find a way to help coworkers protect themselves from being hurt at work (p)</td>
<td>3.32</td>
</tr>
<tr>
<td>4</td>
<td>Make a complaint about safety problems and hope the situation improves (p)</td>
<td>3.18</td>
</tr>
<tr>
<td>5</td>
<td>Wait to see if promised changes are actually made to improve safety (p)</td>
<td>3.16</td>
</tr>
<tr>
<td>6</td>
<td>Become indifferent to the dangerous working conditions (p)</td>
<td>3.12</td>
</tr>
<tr>
<td>7</td>
<td>Adapt to safety conditions until the situation improves (p)</td>
<td>3.11</td>
</tr>
<tr>
<td>8</td>
<td>Discuss the safety problems with coworkers and wait for things to change (p)</td>
<td>3.07</td>
</tr>
<tr>
<td>9</td>
<td>Talk to coworkers about safety problems while not communicating solutions to the supervisor (p)</td>
<td>2.96</td>
</tr>
<tr>
<td>10</td>
<td>Accept safety conditions the way they are</td>
<td>2.94</td>
</tr>
<tr>
<td>11</td>
<td>Wait for someone else to take action to fix safety problems</td>
<td>2.93</td>
</tr>
<tr>
<td>12</td>
<td>Keep comments about safety problems to yourself</td>
<td>2.92</td>
</tr>
<tr>
<td>13</td>
<td>Avoid talking about hazards that don’t affect you</td>
<td>2.90</td>
</tr>
<tr>
<td>14</td>
<td>Get frustrated with safety conditions (p)</td>
<td>2.89</td>
</tr>
<tr>
<td>15</td>
<td>Hope that someone else raises the safety issue</td>
<td>2.86</td>
</tr>
<tr>
<td>16</td>
<td>Wait for someone else to notice safety problems</td>
<td>2.85</td>
</tr>
<tr>
<td>17</td>
<td>Wait to be asked for suggestions for how to fix safety problems</td>
<td>2.84</td>
</tr>
<tr>
<td>18</td>
<td>Fix the safety problems yourself</td>
<td>2.84</td>
</tr>
<tr>
<td>19</td>
<td>Quit the job</td>
<td>2.41*</td>
</tr>
</tbody>
</table>

Notes. * Dummy act. (p) denotes patience items tested in Study 3.
Table 6-4: Safety Neglect Rankings

<table>
<thead>
<tr>
<th>Rank</th>
<th>Safety Neglect Items</th>
<th>Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ignore safety problems altogether (n)</td>
<td>3.60</td>
</tr>
<tr>
<td>2</td>
<td>Don’t keep proper first aid supplies on the job site</td>
<td>3.53</td>
</tr>
<tr>
<td>3</td>
<td>Don’t give new employees proper safety training (n)</td>
<td>3.51</td>
</tr>
<tr>
<td></td>
<td>Show new workers short cuts that could threaten their safety (n)</td>
<td>3.47</td>
</tr>
<tr>
<td>4</td>
<td>Don’t warn coworkers of potential dangers (n)</td>
<td>3.47</td>
</tr>
<tr>
<td>5</td>
<td>Give new employees dangerous tasks (n)</td>
<td>3.45</td>
</tr>
<tr>
<td>6</td>
<td>Take short cuts that threaten personal safety (n)</td>
<td>3.43</td>
</tr>
<tr>
<td>7</td>
<td>Ignore warnings about hazards (n)</td>
<td>3.41</td>
</tr>
<tr>
<td>8</td>
<td>Get in the habit of not working safely (n)</td>
<td>3.41</td>
</tr>
<tr>
<td>9</td>
<td>Don’t tell the supervisor about hazards (n)</td>
<td>3.38</td>
</tr>
<tr>
<td>10</td>
<td>Avoid wearing proper protective clothing/equipment</td>
<td>3.35</td>
</tr>
<tr>
<td>11</td>
<td>Stop following health and safety policies (n)</td>
<td>3.33</td>
</tr>
<tr>
<td>12</td>
<td>Leave unfinished tasks that could lead to injury</td>
<td>3.32</td>
</tr>
<tr>
<td>13</td>
<td>Compromise safety for the sake of production</td>
<td>3.28</td>
</tr>
<tr>
<td>14</td>
<td>Deny breaks to coworkers when they are tired</td>
<td>3.26</td>
</tr>
<tr>
<td>15</td>
<td>Wait for others to do something about safety problems</td>
<td>3.25</td>
</tr>
<tr>
<td>16</td>
<td>Don’t listen to safety messages</td>
<td>3.25</td>
</tr>
<tr>
<td>17</td>
<td>Give working safely a low priority</td>
<td>3.23</td>
</tr>
<tr>
<td>18</td>
<td>Use work tools inappropriately</td>
<td>3.23</td>
</tr>
<tr>
<td>19</td>
<td>Stop adhering to quality control when in a rush</td>
<td>3.22</td>
</tr>
<tr>
<td>20</td>
<td>Avoid taking blame for safety problems</td>
<td>3.22</td>
</tr>
<tr>
<td>21</td>
<td>Get lazy and don’t pick things up</td>
<td>3.19</td>
</tr>
<tr>
<td>22</td>
<td>Do a ‘half-assed’ job</td>
<td>3.18</td>
</tr>
<tr>
<td>23</td>
<td>Don’t report injuries to the supervisor</td>
<td>3.13</td>
</tr>
<tr>
<td>24</td>
<td>Avoid cleaning up the work area</td>
<td>3.12</td>
</tr>
<tr>
<td>25</td>
<td>&quot;Horse around&quot; on the job</td>
<td>3.12</td>
</tr>
<tr>
<td>26</td>
<td>Make fun of safety rules</td>
<td>2.94</td>
</tr>
<tr>
<td>27</td>
<td>Make constructive suggestions to improve safety practices</td>
<td>2.63*</td>
</tr>
</tbody>
</table>

* Dummy act. (n) denotes neglect items tested in Study 3

With the exception of the dummy act among the exit items (ranked 40th out of 44), all of these dummy acts ranked last in their respective categories, as predicted. This suggests that participants were able to differentiate among the various behaviours and nonsensical items.

6.5.2 Phase 2: Reviewing the items

The ten most descriptive items for each category were reviewed for inclusion in a
preliminary scale. I eliminated one neglect item that was not an example of employee safety neglect, but rather organizational safety neglect (“Don’t keep proper first aid supplies on the job site”). I examined the voice items and it appeared that the category was comprised of both extra-role improvement-oriented behaviour (i.e., genuine voice) and safety compliance actions that are usually related to following safety rules. My supervisor, Nick Turner, and I independently coded the voice items as either safety compliance or safety voice (95% agreement between two raters). Any disagreements were resolved by discussion. Seven out of the list of 35 voice behaviours were classified as safety compliance. The high rating compliance items are denoted by “(c)” in Table 6-2.

Overall, these results support the utility of the AFA procedure for assessing content validity. First, dummy items were ranked lowest by participants. Second, in terms of the exit items, young workers judged acts that were directly related to leaving a job (e.g., “Think about how to tell the boss you’re leaving the job” – ranked 2nd) as more descriptive of turnover intentions compared to acts that are more likely related to organizational deviance (“Talk badly about the business to non-work friends” – ranked 23rd). Third, there was evidence that age-specific acts are seen as representative of some EVPN behaviours among young workers. For example, the act “Tell parents that you’re thinking about quitting the job” ranked quite highly at fourth among the exit acts.

In terms of voice, participants ranked informal and less risky forms of voice (e.g., “Remind coworkers to take precautions” – ranked 13th) as more descriptive than acts that may have been interpreted as escalating and therefore riskier action (e.g., “Tell coworkers that you will not do dangerous tasks” – ranked 31st). These results demonstrate the advantages of the AFA insofar as the process identifies behaviours that are understood as prototypical and more ecologically valid.
This study also has limitations. To determine which items to include in the next study (Study 3), I selected the 10 top ranking items within each category based on data provided by all Study 2 participants. However, after the data collection for Study 3 was already in process, I realized that the Study 2 data included several participants for whom parental/guardian consent had not and could not be received post-hoc.\textsuperscript{13} As a result, I removed these cases from the analyses I report here (e.g., Tables 6-1 to 6-4). The removal of these cases resulted in slight variation in the item ratings which led to changes in the item rankings around the cutoff that was used (i.e., top 10 items in each category). As a result, one item for exit, two items for voice, four items for patience, and one item for neglect were among the top 10 in each category in Tables 6-1 to 6-4 but were not included in Study 3 because they ranked just outside of the top 10 in the original analyses.

6.6 Study 3: Scale Refinement

In Study 3, I refined the preliminary scales by conducting exploratory factor analysis. This process empirically assesses the dimensionality of the measures and ensures that each item reflects its intended construct. I also assessed the convergent validity of the safety voice measure, a key measure in Hirschman’s (1970) typology of behaviours.

Sample

A total of 309 people participated, of whom 272 (88\%) indicated working in the previous year and were 16 years of age or older ($M$ age $= 19$ years, $SD = 2$ years, 48\% female). Participants primarily worked in restaurants (19\%), retail (17\%), office or call

\textsuperscript{13} In my instructions to high school teachers, I stated that only 16- to 19-year olds should be surveyed. Some classes had one, two, or three 15-year olds and some teachers were unaware of this. The nature of the high school survey (i.e., anonymous) made it impossible to obtain post-hoc parental consent.
centres (14%), and grocery or convenience stores (11%).

Procedure

The sample was comprised of three groups of participants. First, students from two high school classes were invited to participate in the study \((n = 40)\). Second, the survey was advertised to teenaged students in college and university cafeterias and residences \((n = 130)\). As an incentive, participants in these groups received a movie ticket. The third group was second-year university students who completed the survey for course credit \((n = 139)\).

Participants received an email with a link to an on-line survey. The survey asked how frequently they engaged in the ten most representative EVPN behaviours at work in the previous year. Responses ranged from 1 \((\text{almost never})\) to 5 \((\text{almost always})\). To test the convergent validity of safety voice, I included Hofmann et al.’s (2003) four item measure of safety voice.

6.6.1 Phase 1: Item Selection Process

First, I reviewed item means, item variances, and corrected inter-item total correlations. With the exception of neglect questions items with means below 2.0, variances below 1.5, or item-total correlations below .3 were discarded. Given that low occurrence and social desirability may depress self-reported neglect behaviour, a more liberal rule was used for these items. Neglect items with variances below 1.0 were eliminated. Overall, this process resulted in the elimination of two voice, two patience, three neglect, and three compliance items.

Next, communality was assessed. The average score was .57, meaning that 57% of variance is explained by the extracted factors. Individual communalities were also inspected (range was .23 to .78) and those below .3 were discarded. This resulted in one
exit item being removed. Finally, the KMO statistic was calculated to determine if factor analysis was appropriate. The average score (.90) and range were acceptable (.75 to .95) (Hutcheson & Sofroniou, 1999).

6.6.2 Phase 2: Exploratory Factor Analysis

Principal axis factor analysis was conducted with oblimin rotation using SPSS 16.0. This approach is recommended (over components analysis) when the purpose is to identify theoretically meaningful dimensions and there is an expectation that the rotated factors correlate (Fabrigar, Wegener, MacCallum, & Strahan, 1999). There are no strict conventions regarding factor loading cutoffs in principal axis factor analysis (Child, 2006). Field (2009) and Comrey and Lee (1992) recommend a cutoff over .40. Tabachnick and Fidell (2001) used a cutoff of .45 to provide 20% variance overlap between variable and factor. Consistent with these sources a factor loading of .45 was established as a cut-off. Cross-loading items with a difference of less than .20 were also eliminated to ensure interpretable factors.

The analysis revealed six factors with eigenvalues greater than 1.00. These six factors accounted for approximately 65% of variance in the unrotated solution and nearly 58% in the rotated solution (Table 6-5).
Table 6-5: Principal Axis Factor Analysis (Oblimin Rotation)

<table>
<thead>
<tr>
<th>Item</th>
<th>Voice</th>
<th>Exit</th>
<th>Neglect</th>
<th>Compliance</th>
<th>Patience</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Safety Voice</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speak to coworkers at risk and encourage them to fix safety problems</td>
<td>.85</td>
<td>-.01</td>
<td>.08</td>
<td>-.01</td>
<td>.04</td>
<td>-.06</td>
</tr>
<tr>
<td>Tell the supervisor about hazardous work</td>
<td>.84</td>
<td>.07</td>
<td>-.04</td>
<td>-.01</td>
<td>.02</td>
<td>.01</td>
</tr>
<tr>
<td>Tell the supervisor about the consequences of dangerous working conditions</td>
<td>.79</td>
<td>.02</td>
<td>.04</td>
<td>.02</td>
<td>-.01</td>
<td>-.05</td>
</tr>
<tr>
<td>Group together with coworkers and take safety concerns to the supervisor</td>
<td>.77</td>
<td>.01</td>
<td>.05</td>
<td>.05</td>
<td>.00</td>
<td>-.04</td>
</tr>
<tr>
<td>Tell the owner about safety concerns</td>
<td>.76</td>
<td>-.02</td>
<td>.05</td>
<td>.03</td>
<td>-.09</td>
<td>.05</td>
</tr>
<tr>
<td>Remind coworkers to take precautions</td>
<td>.72</td>
<td>-.04</td>
<td>-.08</td>
<td>.05</td>
<td>.05</td>
<td>.01</td>
</tr>
<tr>
<td>Ask the supervisor for protective wear/equipment</td>
<td>.52</td>
<td>.05</td>
<td>.06</td>
<td>.27</td>
<td>-.03</td>
<td>-.10</td>
</tr>
<tr>
<td>Ask for assistance when I'm unsure about how to do a task safely</td>
<td>.40</td>
<td>.06</td>
<td>-.21</td>
<td>.12</td>
<td>.19</td>
<td>.00</td>
</tr>
<tr>
<td><strong>Exit</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Told my parent(s) that I was thinking about quitting the job</td>
<td>.02</td>
<td>.85</td>
<td>-.02</td>
<td>-.03</td>
<td>-.03</td>
<td>.10</td>
</tr>
<tr>
<td>Thought about how to tell my boss I was leaving the job</td>
<td>.02</td>
<td>.83</td>
<td>.05</td>
<td>.00</td>
<td>.02</td>
<td>.06</td>
</tr>
<tr>
<td>Told non-work friends that I was going to quit</td>
<td>-.03</td>
<td>.82</td>
<td>.06</td>
<td>-.08</td>
<td>.08</td>
<td>.04</td>
</tr>
<tr>
<td>Gave two weeks notice to my supervisor</td>
<td>.03</td>
<td>.81</td>
<td>-.09</td>
<td>.10</td>
<td>-.07</td>
<td>-.18</td>
</tr>
<tr>
<td>Told coworkers that I was thinking about quitting the job</td>
<td>.04</td>
<td>.74</td>
<td>.12</td>
<td>-.06</td>
<td>.06</td>
<td>.15</td>
</tr>
<tr>
<td>Gave a resignation letter to my supervisor</td>
<td>.07</td>
<td>.73</td>
<td>-.06</td>
<td>.03</td>
<td>-.04</td>
<td>-.06</td>
</tr>
<tr>
<td>Told a girlfriend/boyfriend that I was going to quit</td>
<td>-.11</td>
<td>.72</td>
<td>.04</td>
<td>-.02</td>
<td>.12</td>
<td>.12</td>
</tr>
<tr>
<td>Applied for other jobs</td>
<td>-.03</td>
<td>.41</td>
<td>.15</td>
<td>.03</td>
<td>-.11</td>
<td>.41</td>
</tr>
</tbody>
</table>
Looked for a new job in the newspaper or on a job posting website  

<table>
<thead>
<tr>
<th></th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.08</td>
<td>.21</td>
<td>.14</td>
<td>.03</td>
<td>-.07</td>
<td>.65</td>
</tr>
</tbody>
</table>

**Safety Neglect**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Take short cuts that threaten my personal safety</td>
<td>.11</td>
<td>-.01</td>
<td>.86</td>
<td>.01</td>
<td>.00</td>
<td>.01</td>
</tr>
<tr>
<td>Ignore warnings about hazards</td>
<td>.06</td>
<td>.00</td>
<td>.81</td>
<td>.02</td>
<td>.01</td>
<td>.12</td>
</tr>
<tr>
<td>Get in the habit of not working safely</td>
<td>.09</td>
<td>.04</td>
<td>.81</td>
<td>.02</td>
<td>.01</td>
<td>.12</td>
</tr>
<tr>
<td>Stop following health and safety policies</td>
<td>.13</td>
<td>-.01</td>
<td>.76</td>
<td>-.07</td>
<td>.00</td>
<td>-.02</td>
</tr>
<tr>
<td>Ignore safety problems altogether</td>
<td>-.02</td>
<td>.10</td>
<td>.69</td>
<td>-.14</td>
<td>.05</td>
<td>-.01</td>
</tr>
<tr>
<td>Don’t tell the supervisor about hazards</td>
<td>-.08</td>
<td>.01</td>
<td>.63</td>
<td>.12</td>
<td>.02</td>
<td>.13</td>
</tr>
<tr>
<td>Don’t warn coworkers of potential dangers</td>
<td>-.10</td>
<td>.01</td>
<td>.61</td>
<td>-.01</td>
<td>-.03</td>
<td>.03</td>
</tr>
</tbody>
</table>

**Safety Compliance**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wear protective clothing/equipment</td>
<td>-.07</td>
<td>.05</td>
<td>.11</td>
<td>.83</td>
<td>.02</td>
<td>-.12</td>
</tr>
<tr>
<td>Check that equipment is working properly before using it</td>
<td>.03</td>
<td>-.06</td>
<td>-.07</td>
<td>.74</td>
<td>.10</td>
<td>.01</td>
</tr>
<tr>
<td>Read instructions before using chemical substances</td>
<td>.05</td>
<td>-.08</td>
<td>-.07</td>
<td>.66</td>
<td>-.01</td>
<td>.17</td>
</tr>
<tr>
<td>Attend safety training sessions</td>
<td>.13</td>
<td>.06</td>
<td>-.04</td>
<td>.52</td>
<td>-.03</td>
<td>.02</td>
</tr>
</tbody>
</table>

**Safety Patience**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adapt to safety conditions until the situation improves</td>
<td>.01</td>
<td>.09</td>
<td>.05</td>
<td>.12</td>
<td>.63</td>
<td>-.12</td>
</tr>
<tr>
<td>Find a way to protect myself from being hurt at work</td>
<td>.15</td>
<td>.02</td>
<td>-.25</td>
<td>.14</td>
<td>.49</td>
<td>.07</td>
</tr>
<tr>
<td>Discuss safety problems with coworkers and wait for things to change</td>
<td>.38</td>
<td>-.03</td>
<td>.08</td>
<td>-.07</td>
<td>.48</td>
<td>.12</td>
</tr>
<tr>
<td>Wait to see if promised changes are actually made to improve safety</td>
<td>.45</td>
<td>.00</td>
<td>-.04</td>
<td>-.04</td>
<td>.46</td>
<td>.10</td>
</tr>
<tr>
<td>Find a way to help coworkers protect themselves from being hurt at work</td>
<td>.35</td>
<td>-.05</td>
<td>-.04</td>
<td>.11</td>
<td>.44</td>
<td>.01</td>
</tr>
<tr>
<td>Become indifferent to dangerous working conditions</td>
<td>.04</td>
<td>-.05</td>
<td>.47</td>
<td>-.01</td>
<td>.44</td>
<td>-.11</td>
</tr>
<tr>
<td>Make a complaint about safety problems and hope the situation improves</td>
<td>.50</td>
<td>.04</td>
<td>-.06</td>
<td>.02</td>
<td>.32</td>
<td>.14</td>
</tr>
<tr>
<td>Avoid dangerous tasks</td>
<td>.18</td>
<td>-.01</td>
<td>-.34</td>
<td>.04</td>
<td>.28</td>
<td>.14</td>
</tr>
</tbody>
</table>

| Eigenvalue | 8.69 | 6.46 | 3.91 | 1.82 | 1.30 | 1.08 |
| % variance explained (unrotated factors) | 24.15 | 17.95 | 10.85 | 5.06 | 3.60 | 3.01 |
| % variance explained (rotated factors) | 22.97 | 16.94 | 9.76 | 3.84 | 2.33 | 1.77 |

*Note. n = 272. Item loadings in bold correspond to hypothesized factor.*
Most items mapped onto the expected factors. One voice and one exit item were eliminated due to factor loadings below .45. Two items that loaded onto the patience factor had loadings above .45 were eliminated due to high cross-loadings with the voice factor. Two additional patience variables had borderline loadings of .44. These items were eliminated because they were below the cutoff of .45 and they were cross loaded with voice and neglect. The sixth (one item) factor was deleted (“Looked for a new job in the newspaper or on a job posting website”).

6.6.3 Phase 3: Preliminary Evidence of Reliability and Convergent Validity

The reliability of the provisional measures was assessed. Cronbach’s alphas were: .92 (exit), .91 (voice), .52 (patience), .90 (neglect), and .80 (compliance). The score for patience must be treated with caution because scales with fewer items have lower alphas (Cortina, 1993). Safety voice was significantly correlated with Hofmann et al.’s (2003) measure of safety-related voice ($r = .90, p < .01$), thus providing preliminary evidence of convergence validity for this construct.

6.6.4 Discussion

This study provided initial confirmation of the factor structure of exit, voice, patience, neglect, and compliance (EVPNC) scales. Exploratory factor analysis supported five main factors and correlation analysis supported convergent validity of the safety voice scale. Patience was less clear-cut with only two items surviving this step of the scale development process. In Study 4, I assessed the fit of this five-factor model using confirmatory factor analysis.

6.7 Study 4: Confirmatory Factor Analysis and Validity Testing

To further refine the scales and replicate the dimensionality I observed in Study 3,
I performed confirmatory factor analysis using a separate sample of employed teenagers. Participants and coworkers also responded to other theoretically-related measures so that I could further assess the validity of the scales.

Sample

Three hundred and fifteen currently employed young people completed the survey.\(^{14}\) Those who indicated working their main job less than one month (\(n = 20\)) or no hours in the past month (\(n = 12\)) were excluded from the sample. The age range was 14 to 24 years (\(M \text{ age} = 17.60 \text{ years}, SD = 1.32\)), 56% female. Those aged 14 and 15 years provided parental consent. Focal participants (\(n = 283\)) reported working an average of 21 hours (\(SD = 13\)) per week at their main job in the previous month. Average tenure was 16 months (\(SD = 14\)). The most common workplaces were restaurants (35%), grocery store (16%), and retail (12%). Data were also collected from participant’s coworkers (\(n = 26\)).\(^{15}\) Coworker participants (\(M \text{ age} = 18.56 \text{ years}, SD = 2.29, 56\% \text{ female}\)) reported working an average of 24 hours (\(SD = 17\)) per week in the previous month.

Procedure

Participant recruitment targeted 15 to 19 year olds. Three approaches were used. First, participants were recruited at popular gathering places (e.g., movie theatres, university cafeterias). Second, an advertisement was placed in a union magazine and as posters on union bulletin boards in grocery stores where younger union members work. Third, the study was advertised to senior high school students. Teachers distributed a sign-up sheet in classes. Participants received $20 for completing an on-line survey and

\(^{14}\) This is the same sample that responded to the Time 1 survey in Manuscript 4 (see Chapter 8)

\(^{15}\) Thirty-three coworkers completed the survey (41% response rate). Coworkers who reported working no hours with the focal participant (\(n = 2\)) or did not report on a focal participant in the main sample (\(n = 5\)) were removed.
those under 16 years provided parental consent. Participants were asked to provide the name and email address of a coworker with whom they worked closely with. Coworkers were sent an email invitation with a link to a short survey with questions about the focal participant’s safety behaviours and turnover intentions. The coworker incentive was a movie ticket.

**Measures**

*EVPNC scales.* Participants were asked to rate on a 7-point scale ranging from 1 (*almost never*) to 7 (*almost always*) how frequently they had engaged in the EVPNC behaviours at their “main job” (defined as the job they typically work the most hours at in a week). I omitted two of the exit items (“Gave two weeks notice to my supervisor” and “Gave a resignation letter to my supervisor”) that were not congruent with the scale, re-worded all items in the present tense, and clarified the referent (e.g., “…ask my supervisor for protective wear/equipment” instead of “…ask the supervisor for protective wear/equipment”).

Several theoretically-related measures were used to assess the concurrent and discriminant validities of the EVPNC scales. I expected Meyer and Allen’s (1997) five item measure of affective organizational commitment to be negatively related to exit (Meyer, Stanley, Herscovitch & Topolnytsky, 2002). Morrison and Phelps’s (1999) measure of felt responsibility for change was adapted to a workplace safety context. These items were: “I feel a personal sense of responsibility to bring about safety change at work,” “It’s up to me to bring about safety improvement in my workplace,” and “I feel obligated to try to introduce new safety procedures where appropriate.” I anticipated this measure to be positively related to voice (Stamper & Van Dyne, 2001). Consistent with
prior research, I expected supervisor openness would also be positively related to voice (Mullen, 2005). I used Mullen’s (2005) adapted version of House and Rizzo’s (1972) four item measure of management receptiveness to assess supervisor openness to safety suggestions and ideas. Finally, I adapted Burris, Detert and Chiaburu’s (2008) three-item scale of futility. The items are: “Trying to improve things around here by speaking up about safety concerns would be a waste of time,” “It would be useless for me to suggest new ways to improve safety conditions around here,” and “Nothing would change even if I were to speak up about safety concerns.” A central premise of the EVLN framework is that possibility of improvement in a deteriorated state influences constructive and destructive responses (Withey & Cooper, 1989). I predicted that safety-related futility would be negatively related to voice, compliance, and patience, and positively related to neglect and exit.

Finally, I assessed discriminant validity using a two item measure of financial reasons for working (“I desperately need the money from this job” and “I have important financial reasons for working at this job”). I expected none of the EVPNC items would be related to this concept. The response scale for all of the above theoretically-relevant measures ranged from 1 (strongly disagree) to 5 (strongly agree).

Coworker measures. Coworkers reported on all items for each of the EVPNC measures with the exception of exit which was a single item (i.e., “This person tells coworkers that he/she is thinking about quitting the job.”). Coworkers would be unable to report on the other exit items (e.g., “Tell a girlfriend/boyfriend that I’m going to quit”). They also completed a five-item measure to control for knowledge of the focal participant’s work behaviours. Two example items are: “I work closely with this person”
and “I observe this person's interactions with supervisors.” The response scale ranged from 1 (almost never) to 7 (almost always)

6.7.1 Phase 1: Confirmatory Factor Analysis

I used MPlus 5.1 (Muthén & Muthén, 2008) to conduct confirmatory factor analysis. Specifically, I compared the fit of five models to the data. First, I tested the hypothesized five-factor model where exit, voice, patience, neglect, and compliance are separate but correlated factors. Second, I tested a four-factor model (i.e., exit, voice, patience, and neglect) in which compliance behaviours were nested within voice. Third, I tested a different four-factor model (i.e., exit, voice, neglect, and compliance) in which patience behaviours were nested within voice. Fourth, I tested a similar four-factor model (i.e., exit, voice, neglect, and compliance) in which patience behaviours were nested within compliance. Finally, I tested a one-factor model.

I used five measures to compare the fit of different models with the baseline model (Hu & Bentler, 1999). Comparative fit index (CFI) and the Tucker-Lewis Index (TLI) values should be equal to or greater than .95. Standardized root mean square residual (SRMR) measures average correlation residuals and should be less than .06. Root-mean-square error of approximation (RMSEA) values of .05 or less indicate close fit between the model and the sample data. Finally, Akaike's Information Criterion (AIC) values measure the parsimony of the model with relative lower scores indicating a more parsimonious model.

Table 6-6 shows the results of the analysis. The five-factor model (Model 1) provided a good overall fit to the data, $\chi^2 (265) = 471.98, p < .01$, CFI = .94, TLI = .93, RMSEA = .06, and SRMR = .05. The four-factor model with safety compliance collapsed
into voice had a poorer fit, $\chi^2 (269) = 713.71$, $p < .01$, $CFI = .87$, $TLI = .86$, $RMSEA = .08$, and $SRMR = .08$; $\Delta \chi^2 (4) = 241.73$, $p < .01$. The four-factor model with patience collapsed into voice had a slightly better fit, $\chi^2 (269) = 563.91$, $p < .01$, $CFI = .92$, $TLI = .91$, $RMSEA = .07$, and $SRMR = .07$; $\Delta \chi^2 (4) = 91.93$, $p < .01$. The four-factor model with patience and compliance collapsed into one factor had the best fit compared to the hypothesized model, $\chi^2 (269) = 523.70$, $p < .01$, $CFI = .93$, $TLI = .92$, $RMSEA = .06$, and $SRMR = .06$; $\Delta \chi^2 (4) = 51.72$, $p < .01$. Finally, a one-factor model showed a poor fit, $\chi^2 (275) = 2461.71$, $p < .01$, $CFI = .38$, $TLI = .32$, $RMSEA = .17$, and $SRMR = .19$.

Parameters for the hypothesized model were significant ($p < .01$) and accounted for a substantial amount of item variance ($R^2$ ranged from .32 to .80). Overall, the hypothesized model provided the best fit to the data. Table 6-7 shows the factor loadings for the hypothesized model.

Table 6-7: Alternative Models

<table>
<thead>
<tr>
<th>Model</th>
<th>$\chi^2$</th>
<th>$df$</th>
<th>RMSEA</th>
<th>CFI</th>
<th>TFI</th>
<th>SRMR</th>
<th>AIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1*</td>
<td>471.98</td>
<td>265</td>
<td>.06</td>
<td>.94</td>
<td>.93</td>
<td>.05</td>
<td>23864.12</td>
</tr>
<tr>
<td>Model 2</td>
<td>713.71</td>
<td>269</td>
<td>.08</td>
<td>.87</td>
<td>.86</td>
<td>.08</td>
<td>24097.86</td>
</tr>
<tr>
<td>Model 3</td>
<td>563.91</td>
<td>269</td>
<td>.07</td>
<td>.92</td>
<td>.91</td>
<td>.07</td>
<td>23948.05</td>
</tr>
<tr>
<td>Model 4</td>
<td>523.70</td>
<td>269</td>
<td>.06</td>
<td>.93</td>
<td>.92</td>
<td>.06</td>
<td>23907.85</td>
</tr>
<tr>
<td>Model 5</td>
<td>2461.71</td>
<td>275</td>
<td>.17</td>
<td>.38</td>
<td>.32</td>
<td>.19</td>
<td>25833.85</td>
</tr>
</tbody>
</table>

Note. $n = 283$. * Hypothesized model. Model 1 has five factors (exit, voice, patience, neglect, and compliance). Model 2 has four factors (exit, voice (with compliance), patience, and neglect). Model 3 has four factors (exit, voice (with patience), and neglect). Model 4 has four factors (exit, voice, patience (with compliance), and neglect). Model 5 has one factor. RMSEA = root-mean-square error of approximation. CFI = comparative fit index. TLI = Tucker-Lewis Index. SRMR = average correlation residuals. AIC = Akaike's Information Criterion.
Table 6-7: *Standardized Parameter Estimates for Hypothesized Five-Factor Model*

<table>
<thead>
<tr>
<th>Item</th>
<th>Exit</th>
<th>Voice</th>
<th>Patience</th>
<th>Neglect</th>
<th>Compliance</th>
<th>( R^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tell my non-work friends that I'm going to quit</td>
<td>0.89</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.80</td>
</tr>
<tr>
<td>Tell my parent(s) that I'm thinking about quitting the job</td>
<td>0.84</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.71</td>
</tr>
<tr>
<td>Tell a girlfriend/boyfriend that I'm going to quit</td>
<td>0.83</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.69</td>
</tr>
<tr>
<td>Tell my coworkers that I'm thinking about quitting the job</td>
<td>0.78</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.60</td>
</tr>
<tr>
<td>Think about how to tell my boss I'm leaving the job</td>
<td>0.72</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.52</td>
</tr>
<tr>
<td>Speak to coworkers at risk and encourage them to fix safety problems</td>
<td>0.88</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.77</td>
</tr>
<tr>
<td>Tell my supervisor about hazardous work</td>
<td>0.84</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.70</td>
</tr>
<tr>
<td>Tell my supervisor about the consequences of dangerous working</td>
<td>0.80</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.65</td>
</tr>
<tr>
<td>conditions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Talk to the owner about safety concerns</td>
<td>0.78</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.61</td>
</tr>
<tr>
<td>Group together with coworkers and take safety concerns</td>
<td>0.77</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.59</td>
</tr>
<tr>
<td>remind coworkers to take precautions</td>
<td>0.75</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.56</td>
</tr>
<tr>
<td>Ask my supervisor for protective wear/equipment</td>
<td>0.72</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.52</td>
</tr>
<tr>
<td>Find a way to protect myself from being hurt at work</td>
<td>0.78</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.60</td>
</tr>
<tr>
<td>Adapt to safety conditions until the situation improves</td>
<td>0.64</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.41</td>
</tr>
<tr>
<td>Ignore warnings about hazards</td>
<td>0.82</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.68</td>
</tr>
<tr>
<td>Ignore safety problems altogether</td>
<td>0.76</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.57</td>
</tr>
<tr>
<td>Item</td>
<td>Correlation Coefficient</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>---------------------------------------------------------------------</td>
<td>-------------------------</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Don't tell the supervisor about hazards</td>
<td>0.74</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Get in the habit of not working safely</td>
<td>0.73</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stop following health and safety policies</td>
<td>0.73</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Take short cuts that threaten my personal safety</td>
<td>0.72</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Don't warn coworkers of potential dangers</td>
<td>0.69</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Read instructions before using chemical substances</td>
<td>0.74</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check that equipment is working properly before using it</td>
<td>0.73</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wear protective clothing/equipment</td>
<td>0.72</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attend safety training sessions</td>
<td>0.57</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

6.7.2 *Phase 2: Assessing Validity and Reliability*

I tested the relationships among the focal participant’s self-reported EVPNC measures and theoretically-related variables (Table 6-8). As expected, voice was positively related to openness ($r = .19, p < .01$) and felt responsibility for change ($r = .25, p < .01$). Exit was negatively related to organizational commitment ($r = -.29, p < .01$). In contrast, as predicted, futility was positively related to exit and neglect ($r = .30, p < .01$, $r = .36, p < .01$, respectively) and negatively related to voice, patience, and compliance ($r = -.21, p < .01$, $r = -.14, p < .05$, and $r = -.33, p < .01$, respectively).

Further, there was evidence of discriminant validity (Table 6-8). Financial reasons for working were not related to exit, patience, neglect, and compliance ($r = .04, ns$, $r = .09, ns$, and $r = .00, ns$, and $r = .01, ns$ respectively), and it was moderately related to voice ($r = .13, p < .05$).
To assess the correspondence between participant and coworker reports, I assessed the agreement between coworker reports \((n = 26)\) of the focal participant’s EVPNC behaviours with the focal participant’s self-reports of these behaviours, controlling for coworker reported closeness to the focal participant. Exit \((r_p = .51, p < .01)\) and voice \((r_p = .40, p = .05)\) showed moderate to strong agreement, whereas patience \((r_p = .27, p > .10)\), neglect \((r_p = .17, p > .10)\), and compliance \((r_p = -.17, p > .10)\) were not related.

Table 6-8: Means, Standard Deviations, and Zero-Order Correlations \((N= 276-282)\)

<table>
<thead>
<tr>
<th></th>
<th>Mean (M)</th>
<th>SD (SD)</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Exit</td>
<td>2.69</td>
<td>1.76</td>
<td>(.92)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Voice</td>
<td>2.47</td>
<td>1.60</td>
<td>(.93)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Patience</td>
<td>3.97</td>
<td>1.88</td>
<td>-.01</td>
<td>.40</td>
<td>(.69)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Neglect</td>
<td>1.88</td>
<td>1.18</td>
<td>.17</td>
<td>-.02</td>
<td>.11</td>
<td>(.90)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Compliance</td>
<td>4.09</td>
<td>1.83</td>
<td>-.04</td>
<td>.40</td>
<td>.42</td>
<td>-.12</td>
<td>(.79)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Organizational loyalty</td>
<td>2.81</td>
<td>.79</td>
<td>-.29</td>
<td>.15</td>
<td>.12</td>
<td>-.20</td>
<td>.14</td>
<td>(.69)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Supervisor openness</td>
<td>3.70</td>
<td>.85</td>
<td>-.23</td>
<td>.19</td>
<td>.21</td>
<td>-.34</td>
<td>.31</td>
<td>.34</td>
<td>(.94)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Felt responsibility</td>
<td>2.53</td>
<td>1.02</td>
<td>-.02</td>
<td>.25</td>
<td>.13</td>
<td>-.10</td>
<td>.32</td>
<td>.31</td>
<td>.15</td>
<td>(.91)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Futility</td>
<td>2.37</td>
<td>1.01</td>
<td>.30</td>
<td>-.21</td>
<td>-.14</td>
<td>.36</td>
<td>-.33</td>
<td>-.30</td>
<td>-.45</td>
<td>-.13</td>
<td>(.93)</td>
<td></td>
</tr>
<tr>
<td>10. Financial reasons for working</td>
<td>3.28</td>
<td>1.00</td>
<td>.04</td>
<td>.13</td>
<td>.09</td>
<td>.00</td>
<td>.01</td>
<td>-.05</td>
<td>.07</td>
<td>-.04</td>
<td>.09</td>
<td>(.72)</td>
</tr>
</tbody>
</table>

Notes. \(|r| > .16, p < .05, |r| > .17, p < .01. Alphas are listed on the diagonal.

The EVPNC measures in this sample also demonstrated acceptable reliability.

Cronbach’s alphas were: .92 (exit), .93 (voice), .69 (patience), .90 (neglect), and .79 (compliance).

6.8 General Discussion

Across four studies, I developed and provided initial validation for ecologically appropriate measures of safety-related voice, patience, neglect, and general exit intentions for young workers. A fifth factor, namely safety compliance, also emerged from the scale development process. Overall, initial support was marshaled for content validity (Studies 1 and 2), face validity (Study 2), and conceptual and discriminant
validity (Study 4) of the measures. Further, I found support for the convergence validity of the safety voice measure (Study 3) using both self-report and other-report data. Table 6-9 shows the final list of items.

Table 6-9: Final EVPN Scale Items

- **Exit**
  - Tell my parent(s) that I'm thinking about quitting the job
  - Think about how to tell my boss I'm leaving the job
  - Tell my non-work friends that I'm going to quit
  - Tell my coworkers that I'm thinking about quitting the job
  - Tell a girlfriend/boyfriend that I'm going to quit

- **Safety Voice**
  - Speak to coworkers at risk and encourage them to fix safety problems
  - Tell my supervisor about the consequences of dangerous working conditions
  - Group together with coworkers and take safety concerns to the supervisor
  - Tell my supervisor about hazardous work
  - Talk to the owner about safety concerns
  - Remind coworkers to take precautions
  - Ask my supervisor for protective wear/equipment

- **Safety Compliance**
  - Wear protective clothing/equipment
  - Check that equipment is working properly before using it
  - Read instructions before using chemical substances
  - Attend safety training sessions

- **Safety Patience**
  - Adapt to safety conditions until the situation improves
  - Find a way to protect myself from being hurt at work

- **Safety Neglect**
  - Take short cuts that threaten my personal safety
  - Ignore warnings about hazards
  - Get in the habit of not working safely
  - Stop following health and safety policies
  - Ignore safety problems altogether
  - Don’t tell the supervisor about hazards
  - Don’t warn coworkers of potential dangers
Whereas existing typologies of safety behaviour tend to categorize such behaviour as either safety compliance or safety participation (e.g., Giffin & Neal, 2000), the EVP model and act frequency approach (AFA) enabled sampling the breadth of safety-related work behaviours. Further, the current measures were designed for and by young workers. Indeed, some of the items are age-appropriate (e.g., “tell my parents that I am going to quit”), while others reflect strategies that young people may be more likely to use in frontline jobs (e.g., “Group together with coworkers and take safety concerns to the supervisor”).

This set of studies has several strengths. First, I used the AFA to sample representative EVPNC acts and this resulted in reliable measures, especially for voice. Previous measures of general employee voice are plagued by low reliability (Van Dyne et al., 2003). The average alpha for safety voice across Studies 3 and 4 was .92. Second, while safety patience was more challenging to define and had the lowest reliability across the study samples (minimum alpha = .52; maximum alpha = .69), it is an important and conceptual distinct category of safety behaviour. In the next paragraph, I elaborate on the findings related to the patience measure. Finally, I compared coworker and participants reports of EVPNC behaviours. While these results were mixed, there was moderate to strong agreement for exit and voice reports. Van Dyne and LePine (2001) reported an average correlation of $r = .40, p < .01$ ($n = 597$) between coworker and focal participant reported general voice behaviour. In the much smaller sample ($n = 26$), I found a moderate level of agreement between coworker and participant reported safety voice ($r = .40, p = .05$).
The safety patience measure warrants further comment. This construct was initially conceptualized as actions that workers use when they are waiting for safety to improve. As a result of several patience items being eliminated due to high cross-loadings with the voice factor, the domain of the construct was reduced to these two items: “Adapt to safety conditions until the situation improves” and “Find a way to protect myself from being hurt at work.” These items seem to represent adaptive safety behaviour rather than merely patience. Although the patience measure demonstrated the lowest reliability of all of the measures across the studies (mean α = .64) it is conceptually and empirically distinct and, as shown in the focus group study, it captures a popular and meaningful response to safety concerns.

6.8.1 Limitations and Implications

These short measures should be of practical use for managers, researchers, and program evaluators for understanding how younger workers respond to hazardous working conditions. Government-sponsored young worker injury prevention initiatives, which are now widely adopted in North America, seek to increase young worker knowledge of their health and safety rights (Breslin, Day, Tompa, Irvin, Bhattacharyya, Clarke & Wang, 2007b) and promote proactive safety behaviour. Proponents of these interventions claim positive results in reducing injuries (e.g., Linker, Miller, Freeman & Burbacher, 2005), however the programs have yet to be systematically evaluated in terms of lasting behavioural change. These measures could make a contribution by assessing pre- and post-intervention work-related safety behaviour (i.e., voice, patience, compliance, neglect).
In terms of limitations, the EVPNC scales require further validation on different samples, across time, and using a larger sample of coworker reports. In particular, some items from the EVPNC scales may be useful for adult populations or adolescent workers (those aged 8-14 years of age). Future research is needed to compare the variance in prototypical safety behaviours among teenaged and adult workers.

6.8.2 Conclusion

In conclusion, the development of short and ecologically valid measures for young worker safety behaviour should be useful for research and evaluating the efficacy of existing safety interventions and improving such interventions that aim to bring about meaningful and long-lasting change in work-related safety behaviours.
6.9 References


five personality characteristics and cognitive ability. *Journal of Applied Psychology*, 86, 326-336.


Chapter 7

Young Worker Responses to Declining Workplace Safety: A Policy-Capturing Study

Abstract

Drawing on Hirschman’s (1970) theoretical ideas, this policy-capturing study examines the influence of two forms of work-related safety decline (i.e., injuries and unsafe work conditions) on turnover intentions (i.e., exit) and safety-related voice, patience, and neglect (EVPN) behaviour among young workers ($n = 157, M$ age $= 16.50$). I also manipulated financial reasons for working (high importance vs. low importance) and examined the effects of participant gender. Individual ANOVAs showed a main effect for injuries such that participants who were injured in the scenario reported higher intentions to exercise patience than those in the non-injury condition. Participants who read about a job with low quality safety conditions reported they intended to talk more about leaving the job than those in the high quality safety conditions. Compared to males, females also reported higher voice. Implications for young worker safety research and theory are discussed.
7.1 Introduction

The current study contributes to this thesis by examining how declining workplace safety influences exit intentions, and safety-related voice, patience, and neglect (EVPN) behaviour. In this study, I used a policy-capturing approach to test how two forms of deterioration in occupational safety (i.e., injuries and unsafe work conditions), financial reasons for working, and participant gender influence these responses.\(^\text{16}\)

7.2 Young Worker Responses under Conditions of Declining Safety

The current study uses an experimental approach to addressing a key gap in young worker safety research while trying to replicate and extend the findings from the exploratory focus group study (Chapter 5). Most research on young worker safety is cross-sectional and field based (Breslin, Polzer, MacEachen, Morrongiello, & Shannon, 2007). While having relatively high generalizability, cross-sectional field studies cannot answer questions related to causal relationships. And relatedly, with few exceptions (e.g., Probst, 2002; Probst & Brubaker, 2007), workplace safety research has not used experimental approaches for establishing internal validity and strong tests of central theoretical propositions.

Chapter 4 summarized Hirschman’s propositions about exit, voice, and loyalty. One of his main predictions was that dissatisfaction associated with experiencing a declining state of affairs motivates individuals and groups to take action and try to change the undesirable situation. To date, organizational researchers have tested several of Hirschman’s (1970) and Rusbult et al.’s (1982) propositions with the primary focus

\(^{16}\) Safety compliance is not a focal variable in the next two studies for two reasons. First, the current study was undertaken before the scale development process was complete (i.e., before there was strong evidence that compliance was a distinct factor). Second, compliance as a response to decline has not been conceptualized in the tradition of Hirschman’s (1970) ideas, and thus while an important safety behaviour, it is not integral to the theory being tested here.
relating to understanding factors that enable or dissuade people from voicing their concerns. Given the central role of decline in Hirschman-type theorizing, this phenomenon warrants but rarely receives the attention that other core concepts (i.e., voice) in the model receive.

Recall that Hirschman (1970) noted that “organizations are conceived to be permanently and randomly subject to decline and decay, that is, to a gradual loss of rationality, efficiency, and surplus-producing energy, no matter how well the institutional framework within which they function is designed” (p. 15). He defined quality deterioration “in subjective terms: from the member’s viewpoint, it is equivalent to increasing disagreement with the organization’s policies” (p. 87).

The vast majority of organizational research drawing on Hirschman (1970) has investigated generic forms of deterioration (e.g., decreasing job satisfaction or general injustice). Exceptions, for example, are studies that have examined the association between different dimensions of job satisfaction, as measured by the Job Descriptive Index (JDI) (Smith, Kendall, & Hulin, 1969) and EVLN responses (e.g., Abraham, Friedman, & Thomas, 2008; Hagedoorn, Van Yperen, Van de Vliert, & Buunk, 1999). The JDI measures satisfaction with working conditions, supervision, pay, promotions, and co-workers. Some evidence suggests that satisfaction with certain aspects of one’s employment may be salient predictors of general EVLN behaviours. For example, Leck and Saunders (1992) found that satisfaction with working conditions was significantly related to exit, voice, and neglect while controlling for other facets of employment satisfaction. These findings suggest that treating organizational decline in general terms can mask facet-specific factors and obscure causal inference.

A concern for workers that is not directly captured by the JDI and related measures
is satisfaction with job-related safety. I propose that workers can experience decline in occupational safety in two ways. First, organizations may experience an absolute decline in safety conditions. In these situations, workers perceive change in safety conditions at their organization over time. Thus, within-job decline in safety. Second, organizations may experience a relative decline in safety compared to similar firms. In this case, workers perceive a change in the quality of safety when safety conditions at similar firms improve or deteriorate. Perceptions of these forms of decline are informed by individual experiences of safety (i.e., injuries to one’s self or one’s coworkers) and other information about safety (e.g., compliance with safety policies and practices at previous jobs). The current study operationalizes comparative decline in safety.

In the focus group interviews (Chapter 5), I found evidence to support the existence of both forms of safety decline. Specifically, participants reported that safety deterioration manifests itself in terms of increasing rates of injuries and near misses, as well as decreasing safety communication. In the current study, I focus on two forms of safety decline: injuries to one’s self and unsafe working conditions. In the next section, I conceptually link these forms of safety decline to the EVPN typology.

7.3 Hypotheses

7.3.1 Decline

Hirschman (1970) and others (e.g., Rusbult et al., 1988) predicted that growing dissatisfaction motivates employees to exit and voice. In terms job-related safety, applications of the simple exit-voice model show that workplace injuries are positively related to both exit intentions and voice behaviour. Barling, Kelloway, and Iverson (2003)

17 More generally, at the group level, declining safety is a reflection of a worsening safety climate, which is defined as shared perceptions that work is being performed safely (e.g., Zohar, 1980).
found that experiencing an injury was a distal predictor of voice (defined as perceived union instrumentality) and exit (turnover intentions). They also found that the severity of an injury did not change these relationships. A separate study (Cree & Kelloway, 1997) reported a significant association between direct and vicarious experience of a workplace injury and exit intentions.

The findings in the focus group study (Chapter 5) revealed that most participants said they were reluctant to speak up at work about safety concerns for fear of being fired and hesitant to quit due to perceived job search costs. Instead, when they have concerns about safety, they prefer patience as an initial response. However, other participants said that they would voice if and when they perceived that a hazard was a serious threat to their physical safety. This suggests that direct experience of an injury may have a stronger relationship with voice than experiencing general unsafe work conditions (i.e., lack of safety communication, general disregard for safety).

Taken together, these findings and the theoretical propositions discussed earlier suggest that both indicators of decline – injuries and unsafe work conditions – are positively related to exit, voice, and patience, with injuries more strongly related to this repertoire of behaviours than unsafe work conditions. The relationship between these two forms of safety decline and safety-related neglect is unclear, thus I treat this relationship as an exploratory question.

Hypothesis 1a: Experience of an injury is related to higher intentions to exit, voice, and act patiently versus not experiencing an injury.

Hypothesis 1b: Perceptions of unsafe work conditions are related to higher intentions to exit, voice, and act patiently versus safe working conditions.

Hypothesis 1c: Experience of an injury is more strongly related to intentions to exit, voice, and act patiently than perceptions of unsafe work conditions.
In an adult sample, McLain (1995) found that employee satisfaction with physical safety at work was influenced by the degree to which exposure to risk was equally distributed among one’s work colleagues. Equity theory (Adams, 1962) may explain why workers who believe they are exposed to disproportionately more risk than their coworkers are less satisfied with safety conditions. Based on this finding, I predict that:

Hypothesis 2: Quality of safety conditions moderates the relationship between injuries and both exit and voice intentions, such that individuals exposed to an injury in safe work conditions (i.e., in which coworkers are not injured) will report higher exit and voice intentions than individuals who are exposed to an injury in unsafe work conditions.

7.3.2 Gender

Official government injury claim records show that young males are more likely than young females to be injured on the job (e.g., McCall, Horwitz, & Carr, 2007) and that overall males of all ages are at greater risk of experiencing an injury, controlling for occupational differences (Breslin & Smith, 2006). The search for an explanation has led researchers to compare safety behaviours between young male and young female workers. Recently, research by Breslin et al. (2007) and Kelloway et al. (2009) found that young females are more likely to speak up about safety concerns than young males.\(^{18}\) Gender role identity theory (Bem, 1974) may explain these findings. Young male workers may consciously or sub-consciously feel the need to be “tough” and not voice when confronted by unsafe work. Based on existing empirical evidence, I expect that females are more likely to voice than males.

\(^{18}\) More generally, findings related to research on gender and EVLN responses is mixed. For example, Turnley and Feldman (1999) found that female workers were less likely to use exit and neglect in response to psychological contract violations than males. Across non-work settings, Birditt and Fingerman (2006) found no gender differences in EVLN behavior, however they noted that in romantic relationships women are more likely to use voice and exit whereas men are more likely to use neglect.
Hypothesis 3: *Young females report higher intentions for safety-specific voice than young males.*

7.3.3 *Financial Reasons for Working*

A variety of individual and organizational factors can constrain the use of EVPN responses (e.g., Withey & Cooper, 1989). In the current study, the importance of financial reasons for working may be one such factor. While most adults rely on employment to purchase basic needs (e.g., food, shelter), young workers participate in the formal economy for somewhat different reasons. These may include earning spending money, gaining experience in the workforce, saving for the costs of attending university or college, purchasing basic needs, and, more generally, gaining financial independence from parents (Ruscoe, 1996). A study of young British workers found that “financial need,” “personal need,” and “financial independence” were the top three reasons for working (Lucas & Ralston, 1997). I propose that when young people have important financial reasons for working, they curtail the use of active responses to safety concerns (i.e., exit and voice). For young workers, who generally have little power in the employment relationship, important financial reasons may be a compelling reason to avoid ‘rocking the boat’. Several studies (e.g., Gephart, Detert, Trevino, & Edmondson, 2009) show that workers of all ages are reluctant to raise issues such as safety concerns for fear of losing their job. I expect that young workers who experience unsafe work conditions and have important financial reasons for working will be less likely to exit or voice.

Hypothesis 4a: *Financial reasons for working moderates the relationship between the quality of workplace safety conditions and intentions to exit and voice such that exit and voice will be lower when workers experience low quality safety conditions and have important financial reasons for working compared to workers who have less important financial reasons for working.*
In addition, I expect that employees who experience a workplace injury and have important financial reasons for working will be more likely to neglect safety. From this perspective, job-related injuries are a form of mistreatment for which the affected worker holds his or her supervisor, coworkers, and/or organization responsible. Injured workers who have important financial reasons for working may feel trapped in their jobs and try to retaliate. There is some support for this outside the domain of workplace safety. Dupré, Inness, Connelly, Barling, and Hoption (2006) found that teenaged workers who experienced interpersonal injustice and had important financial reasons for working reported higher workplace aggression. In the context of workplace safety, I expect:

Hypothesis 4b: Financial reasons for working moderates the relationship between experiencing an injury and safety-related neglect such that neglect will be higher when a worker is injured and has important financial reasons for working compared to injured workers who have less important reasons for working.

To test these hypotheses, I experimentally manipulated injuries, quality of safety conditions, and financial reasons for working in a scenario study. Scenario (or policy capturing) studies are designed to place participants at the centre of a realistic situation and elicit feedback about their attitudes, emotions, and/or behavioural intentions based on the information contained in the script (Karren & Barringer, 2002). The hypothetical scenario I used was set in a restaurant kitchen, a common workplace for young male and female workers (Usalcas, 2005).

7.4 Method

Participants. One hundred and ninety-nine individuals aged 14 to 18 years participated in an on-line scenario study. Participants resided within or near Winnipeg, Manitoba, Canada. The vast majority of participants were high school students who completed the survey in a computer classroom during regular school hours. School
principals and teachers assisted in advertising the study to students and parents. Parents received a letter explaining the purpose of the study and informing them of their right to withdraw their child’s participation. Student participants also provided on-line consent. In addition, approximately ten percent of the sample completed the study outside a school classroom. These individuals were recruited at a movie theatre, bus depots, and youth employment centers. All participants received a movie ticket for completing the study (approximate value $8 CDN).

*Design.* I used a between-subjects 2 X 2 X 2 factorial design with random assignment. Safety conditions (high quality versus low quality), financial reasons for working (high importance versus low importance), and injury to self (injury versus no injury) were experimentally manipulated. I also assessed whether male and female participants responded differently to the manipulations. The scenario was set in a restaurant kitchen and was based on descriptions provided by teenaged restaurant workers who participated in the focus group study (Chapter 5). Interviewees were asked to describe differences in the quality of safety conditions, common injuries in this work environment, and important versus less important financial reasons for working. In terms of levels of safety, I asked participants to think about a time when safety conditions at their current or previous job changed. Further, in the case of declining safety conditions, I asked participants to provide a numerical rating of safety conditions before, during, and after an incident of declining safety. The scores ranged between 0 and 100, where 0 represented very unsafe conditions and 100 represented very safe working conditions. This information was used to set the levels of the high and low safety quality
manipulation. The scenario and various manipulations were extensively pilot tested using several graduate students, teenaged research assistants who were employed by the research project, and a convenience sample of 81 first year university students (please see description of pilot study below).

Appendix A shows the eight vignettes. Participants were asked to assume that they were one month into a new job in the restaurant kitchen and that they were satisfied with their work hours and wage. Breslin and Smith (2006) found that workers are at greatest risk of being injured in the first month of a job. In the high quality safety condition, the kitchen was described as an injury-free environment with high levels of safety communication and compliance with safety procedures. The low quality safety condition described injuries to coworkers, little safety communication, and lack of compliance with safety procedures.

The high financial reasons for working experimental condition stated:

You need the money from this job to pay off a $2,000 debt that you owe to a family member. You are also saving money for an important purpose (e.g., car insurance, tuition).

In contrast, the low financial reasons for working condition stated:

You do not owe money to anyone and are not saving money for any purpose. You use the money from this job for recreation and leisure (e.g., going out with friends, shopping).

The injury to self condition stated:

In the past month, you slipped and fell on a greasy spot on the kitchen floor. In a separate incident you cut your finger on a knife that had been left in a sink of dirty pots. The cut required first aid attention.

Focus group participants recalled and rated 24 incidents of declining workplace safety. The average rating of safety conditions before decline occurred was 70/100 ($SD = 22$) (range 30 to 100). Participants described minor, moderate, and extreme examples of declining safety that resulted in an average decline of 24/100 ($SD = 21$) (range of decline 5 to 80).
The no injury to self condition stated:

*In the past month, you have not experienced any accidents, close calls, or injuries at work.*

Two approaches were used to randomly assign the scenarios. First, in the classroom setting, teachers distributed a slip of paper to each student on which a website for one of the eight experimental conditions was printed. The experimental conditions were distributed in sequence (i.e., condition 1, condition 2, … condition 8, condition 1, etc.). Second, participants who completed the survey outside of school hours received an email containing a web link to one of the eight experimental conditions. These links were also distributed in sequence. This variant on random assignment is known as trickle process randomization (Shadish, Cook & Campbell, 2002). The method differs from simple random assignment because participants do not have an equal chance of being assigned to a condition.

**Measures**

*Safety-related Exit, Voice, Patience, and Neglect.* I used the validated measures for safety-related EVPN developed in Chapter 6. After reading the scenario participants were asked “At this time how likely are you to do each of the following at this job?” Then they were asked to indicate the likelihood of engaging in exit (7 items, e.g., “Tell my parent(s) that I am thinking about quitting this job”), voice (7 items, e.g., “Tell my supervisor about the consequences of dangerous working conditions”), patience (2 items, e.g., “Adapt to safety conditions until the situation improves”), and neglect (7 items, e.g., “Ignore warnings about hazards”) responses in the situation. The response scale ranged from 1 (very unlikely) to 5 (very likely).

**Manipulation checks.** Several manipulation checks were used to ensure the validity
of the scenarios and to assess decline and the realism of the scenarios. Two approaches were used to assess the saliency of the high and low quality safety conditions. First, participants were asked how safe they thought the kitchen was using a 10-point scale from 1 (not safe) to 10 (safe). Second, two items were used to measure fear of being injured on the job (i.e., “I fear that I could have an accident at this job” and “I fear that I could get hurt at this job”) using a 5-point scale from 1 (strongly disagree) to 5 (strongly agree). Participants were also asked if they had been injured (yes or no).

Two items were used to measure the importance of financial reasons for working (i.e., “I desperately need the money from this job” and “I have important financial reasons for working at this job”) using a 5-point scale from 1 (strongly disagree) to 5 (strongly agree). I also asked participants about two conceptually unrelated variables; specifically, how satisfied they were with their pay and hours at the hypothetical job (i.e., “I am satisfied with the hourly wage I receive at this job” and “I would like to change the number of hours I work at this job.”) using a 5-point scale from 1 (strongly disagree) to 5 (strongly agree). I expect to find no differences across the conditions.

Participants were also asked to judge the realism of the scenario by responding to this question: “Overall, how realistic do you think this situation was?” The scale ranged from 1 (not realistic) to 10 (very realistic).

To assess the extent to which injuries and general safety conditions resulted in changes in satisfaction with workplace safety, I asked participants in the main study to respond to a pre- and post-scenario measure of general workplace safety satisfaction (“I feel satisfied with the safety conditions at my work/this job” and “I feel the safety conditions at my work/this job are very good”). Specifically, at the beginning of the study, participants were asked to respond to the items in reference to their “current or
previous main job (that is the job you work(ed) the most hours).” After reading the scenario, participants were asked to respond to the same measure in reference to the hypothetical job. Responses were collected on a 5-point scale from 1 (strongly disagree) to 5 (strongly agree).

7.5 Results: Pilot Study

To assess the realism of the scenarios and the saliency of the experimental conditions, I conducted a pilot study using a convenience sample. Eighty-one first-year undergraduate business students (M age = 18.10 years, SD = .82, 52% female) participated in the study for course credit. The majority (84%) reported working in the last year and 37% indicated that they had worked in a restaurant or food services organization at one time. The mean score for realism was 6.77 (SD = 1.85). For the pilot study, I used shortened versions of the EVPN measures.

Support for the manipulation checks for financial reasons for working (M = 4.11 versus 2.23, F(1, 77) = 111.85, p < .01), quality of safety conditions (M = 7.76 versus 2.15, F(1, 79) = 221.17, p < .01), and fear of injury (M = 4.49 versus 2.73, F(1, 77) = 74.95, p < .01) was demonstrated, with high scores corresponding to the high financial reasons for working, high safety conditions and injury experienced condition, respectively. Further, participants assigned to the injury condition were more likely to report being injured (i.e., 97% of participants assigned to the injury condition indicated they had sustained an injury, whereas 9% of participants assigned to the non-injury condition indicated they had sustained an injury). Unexpectedly, I found that those assigned to the important financial reasons condition also reported higher satisfaction with their wage (high = 4.00 versus low = 3.54, F(1, 79) = 5.90, p < .05). Thus, in the pilot study, there was insufficient evidence that financial reasons for working was
I conducted separate ANOVAs and used a conservative p-value ($p < .04$) to explore main effects. Levene’s test for equality of error variances was not significant for any of the dependent measures. There was a main effect for quality of safety conditions on exit, $F(1, 80) = 26.41$, $p < .01$, voice, $F(1, 80) = 19.24$, $p < .01$, and patience, $F(1, 80) = 13.83$, $p < .01$, such that exit, voice, and patience were significantly higher in the low quality safety condition. There were no differences among any of the experimental conditions and neglect. These results should be interpreted cautiously given the small sample size overall, small cell size, use of unbalanced cells, and use of shortened EVPN measures.

7.6 Results: Main Study

Two hundred and twenty people started the survey for which 199 provided useable data. The average participant age was 16.37 years (SD = 1.20) and 50% were female. The majority (70%) reported working in the last year and 44% indicated that they had worked in a restaurant or food services organization at one time.

Given that the hypotheses relate to four theoretically-related but separate dependent variables and a desire on my part to save degrees of freedom, I conducted four ANOVAs instead of MANOVA. I first screened the data before conducting the main analysis. The cell sizes ranged between eight and fifteen cases (median = 12, mode = 11). I elected not to randomly delete cases to obtain equal sample sizes to preserve statistical power. In the main analysis, I used the default approach in SPSS (i.e., “method one”) which gives equal weight to each condition regardless of sample size (Tabachnick & Fidell, 2001). I was unable to assess normality in each cell due to the small sample sizes, however I expected

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20 In the pilot study, satisfaction with pay was measured using a single item (i.e., “I feel I am being paid a fair amount for the work I do at this job”). In the main study, this item was revised to read “I am satisfied with the hourly wage I receive at this job.”
exit, voice, and patience to be normally distributed, and neglect was negatively skewed. Histograms of the distributions from across all the conditions confirmed this pattern. I attempted to improve the normality of the neglect variable using log and square root transformations but these failed. I also examined each cell for outliers using a cut-off z-score of 3.28 (i.e., three standard deviations from the mean). No outliers were detected. Finally, I examined the data for multivariate outliers using a critical value for Mahalanobis distance of 15. No multivariate outliers were found.

**Manipulation checks.** Analysis of the manipulation checks revealed that most participants understood their assigned conditions. Participants assigned to the high quality safety condition rated safety conditions higher on the ten point scale (high safety condition = 7.48 versus low safety condition = 3.57, \( F(1, 193) = 107.89, p < .01 \)) and reported lower fear of being injured (high quality safety condition = 2.83 versus low quality safety condition = 3.93, \( F(1, 192) = 58.29, p < .01 \)).

Participants assigned to the injury condition were more likely to report being injured than participants in the non-injury condition \( \chi^2 = 8.13, p < .01 \) (i.e., 66% of participants assigned to the injury condition indicated they had sustained an injury, whereas 12% of participants assigned to the non-injury condition indicated they had sustained an injury). Those assigned to the important financial reasons for working condition reported higher financial motivations for working (important financial reasons = 3.87 versus not important financial reasons = 2.78, \( F(1, 192) = 65.46, p < .01 \)). Finally, there was no difference in satisfaction with pay or work hours among any of the experimental conditions. This demonstrates that there was no spillover effect from the experimental conditions to these salient yet conceptually unrelated variables. Overall, participants rated the realism of the scenario \( M = 6.19 \) (SD = 2.37) out of ten; there were
no differences in realism across the conditions.

To verify comparable decline in safety, I compared scores for a sub-sample of employed participants on the pre- and post-scenario measure of general safety satisfaction. Specifically, this analysis compared satisfaction with working conditions at an actual job with the satisfaction at the job in the hypothetical experimental situation. If participants found the manipulations for injuries and low quality safety salient, then one would expect larger negative results when subtracting safety satisfaction scores related to these scenarios from safety satisfaction at a participant’s actual job. Thus, negative scores represented the degree of the decline in safety satisfaction between an actual job and the hypothetical one. Table 7-1 shows the mean differences for this analysis. As expected, participants assigned to the low safety condition had lower scores (i.e., larger negative scores), $F(1, 119) = 61.18, p < .01$. However, there was no difference for those in the injury condition, $F(1, 119) = .51, ns$ and no interaction between injury and safety conditions $F(1, 119) = .00, ns$). These results show that the quality of safety conditions produced the greatest comparative decline in satisfaction with safety among employed participants.

Table 7-1: Means and Standard Deviations for Change in Safety Satisfaction as a Function of Injury and Safety Conditions ($N = 92$)

<table>
<thead>
<tr>
<th>Injury</th>
<th>Injured</th>
<th>Not Injured</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety conditions</td>
<td>High</td>
<td>-.14 (.87)</td>
</tr>
<tr>
<td></td>
<td>Low</td>
<td>-2.02** (1.55)</td>
</tr>
</tbody>
</table>

*Note. Means are based on the difference between safety satisfaction with job scenario and safety satisfaction with actual job. Lower values indicate lower satisfaction with conditions related to the job depicted in the scenario.  * $p < .05$  ** $p < .01$.*
Table 7-2 shows the descriptive statistics and correlations among the dependent variables. The mean correlation among exit, voice, patience and neglect was .27, which is lower than the recommended cut off of .6 for the use of MANOVA (Tabachnick & Fidell, 2001). Therefore, I proceeded with separate ANOVAs.

### Table 7-2: Means, Standard Deviations, and Zero-Order Correlations (N= 196-199)

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Gender</td>
<td>.50</td>
<td>.50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Safety in kitchen</td>
<td>5.56</td>
<td>3.27</td>
<td>.01</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Fear of being injured</td>
<td>3.37</td>
<td>1.15</td>
<td>.05</td>
<td>-.59</td>
<td>(.94)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Importance of financial reasons for working</td>
<td>3.34</td>
<td>1.08</td>
<td>-.12</td>
<td>.11</td>
<td>.10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Satisfaction with pay</td>
<td>3.64</td>
<td>.97</td>
<td>.06</td>
<td>.05</td>
<td>.07</td>
<td>.13</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Satisfaction with hours</td>
<td>2.77</td>
<td>1.05</td>
<td>.11</td>
<td>.22</td>
<td>-.19</td>
<td>.12</td>
<td>-.30</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Satisfaction with safety at current job</td>
<td>3.69</td>
<td>1.00</td>
<td>-.16</td>
<td>.12</td>
<td>-.09</td>
<td>-.20</td>
<td>.15</td>
<td>.06</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Satisfaction with safety at hypothetical job</td>
<td>3.00</td>
<td>1.31</td>
<td>-.04</td>
<td>.79</td>
<td>-.60</td>
<td>.12</td>
<td>.05</td>
<td>.21</td>
<td>.04</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Exit</td>
<td>2.98</td>
<td>.98</td>
<td>.07</td>
<td>-.21</td>
<td>.36</td>
<td>.11</td>
<td>-.04</td>
<td>.18</td>
<td>-.06</td>
<td>-.27</td>
<td>(.87)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Voice</td>
<td>3.32</td>
<td>.94</td>
<td>.19</td>
<td>.05</td>
<td>.18</td>
<td>-.16</td>
<td>.18</td>
<td>-.06</td>
<td>.09</td>
<td>-.10</td>
<td>.31</td>
<td>(.92)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Patience</td>
<td>3.52</td>
<td>.89</td>
<td>.14</td>
<td>.04</td>
<td>.17</td>
<td>.16</td>
<td>.14</td>
<td>.10</td>
<td>.04</td>
<td>-.04</td>
<td>.36</td>
<td>.45</td>
<td>(.60)</td>
<td></td>
</tr>
<tr>
<td>12. Neglect</td>
<td>2.09</td>
<td>.98</td>
<td>-.22</td>
<td>-.10</td>
<td>-.06</td>
<td>.10</td>
<td>-.17</td>
<td>.19</td>
<td>-.10</td>
<td>.00</td>
<td>.11</td>
<td>-.31</td>
<td>-.07</td>
<td>(.95)</td>
</tr>
</tbody>
</table>

Notes. .15 > |r| > .18, p < .05; |r| > .18, p < .01. Alphas are listed on the diagonal.

The assumption of homogeneity of variances was supported for exit, $F(7, 188) = 1.33, p > .05$, voice, $F(15, 181) = 1.42, p > .05$ and patience, $F(15, 173) = 1.09, p > .05$, but not for neglect, $F(7, 189) = .68, p > .05$. Next, I conducted separate ANOVAs to determine which dependent variables were statistically significant. Tables 7-3 to 7-6 show the results for the models. Consistent with tests of directional hypotheses, one-tailed tests are reported.
Table 7-3: ANOVA Summary for Exit (N = 195)

<table>
<thead>
<tr>
<th>Dependent variables</th>
<th>$F$</th>
<th>df</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>1877.73</td>
<td>1, 195</td>
<td>.00</td>
</tr>
<tr>
<td>Injury</td>
<td>3.42</td>
<td>1, 195</td>
<td>.07</td>
</tr>
<tr>
<td>Safety conditions</td>
<td>6.61</td>
<td>1, 195</td>
<td>.01</td>
</tr>
<tr>
<td>Financial * safety condition</td>
<td>.44</td>
<td>2, 194</td>
<td>.64</td>
</tr>
<tr>
<td>Injury * safety condition</td>
<td>.99</td>
<td>2, 194</td>
<td>.32</td>
</tr>
<tr>
<td>Adjusted R-Squared</td>
<td></td>
<td></td>
<td>.04</td>
</tr>
</tbody>
</table>

Table 7-4: ANOVA Results for Voice (N = 195)

<table>
<thead>
<tr>
<th>Dependent variables</th>
<th>$F$</th>
<th>df</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>2485.36</td>
<td>1, 196</td>
<td>.00</td>
</tr>
<tr>
<td>Injury</td>
<td>2.17</td>
<td>1, 196</td>
<td>.14</td>
</tr>
<tr>
<td>Safety conditions</td>
<td>1.66</td>
<td>1, 196</td>
<td>.20</td>
</tr>
<tr>
<td>Gender</td>
<td>6.25</td>
<td>1, 196</td>
<td>.01</td>
</tr>
<tr>
<td>Financial * safety condition</td>
<td>.14</td>
<td>2, 195</td>
<td>.87</td>
</tr>
<tr>
<td>Injury * safety condition</td>
<td>.05</td>
<td>2, 195</td>
<td>.82</td>
</tr>
<tr>
<td>Adjusted R-Squared</td>
<td></td>
<td></td>
<td>.03</td>
</tr>
</tbody>
</table>

Table 7-5: ANOVA Results for Patience (N = 193)

<table>
<thead>
<tr>
<th>Dependent variables</th>
<th>$F$</th>
<th>df</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>3082.15</td>
<td>1, 193</td>
<td>.00</td>
</tr>
<tr>
<td>Injury</td>
<td>4.58</td>
<td>1, 192</td>
<td>.03</td>
</tr>
<tr>
<td>Safety conditions</td>
<td>1.94</td>
<td>1, 192</td>
<td>.17</td>
</tr>
<tr>
<td>Adjusted R-Squared</td>
<td></td>
<td></td>
<td>.02</td>
</tr>
</tbody>
</table>

Table 7-6: ANOVA Results for Neglect (N = 196)

<table>
<thead>
<tr>
<th>Dependent variables</th>
<th>$F$</th>
<th>df</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>899.01</td>
<td>1, 196</td>
<td>.00</td>
</tr>
<tr>
<td>Injury</td>
<td>3.69</td>
<td>1, 196</td>
<td>.06</td>
</tr>
<tr>
<td>Safety conditions</td>
<td>.00</td>
<td>1, 196</td>
<td>.97</td>
</tr>
<tr>
<td>Financial * injury</td>
<td>.36</td>
<td>2, 196</td>
<td>.70</td>
</tr>
<tr>
<td>Adjusted R-Squared</td>
<td></td>
<td></td>
<td>.00</td>
</tr>
</tbody>
</table>

Overall, the results provide scant support for the hypotheses. The univariate results showed a main effect for injury on patience (injury = 3.66 and no injury = 3.39, $F(1, 189) = 4.62, p < .05$). This finding partially supports Hypothesis 1a with respect to patience,
however neither the relationship between injuries and exit nor voice was supported. Hypothesis 1b was partially supported in that low quality safety conditions were related to higher intentions to exit (high quality safety conditions = 2.79 and low quality safety conditions = 3.16, $F(1, 195) = 6.94, p < .01$), but not voice or patience. The results also revealed a main effect for participant gender such that females reported higher voice (female = 3.50 and male = 3.14, $F(1, 189) = 6.98, p < .01$, supporting Hypothesis 3. Finally, there was no support for the hypotheses related to financial reasons for working (Hypotheses 4a and 4b).

7.7 Discussion

In this study, I operationalized two forms of decline in occupational safety – a general decline in the quality of workplace safety and injury experience – to explore teenagers’ intentions to exit and use safety-related voice, patience, and neglect. Financial reasons for working (high importance versus low importance) were also manipulated. As well, I examined differences in the response intentions of male and female participants in terms of voice. The results showed that participants in the injury condition reported higher intentions to exercise patience than those in the non-injury condition. Those in the low safety conditions had higher intentions to talk about quitting compared to participants in the high quality safety conditions. Further, females reported higher intentions to voice than males did. Below I elaborate on these findings and discuss some of the non-significant results in terms of Hirschman’s (1970) theory and implications for practice and policy.

Consistent with the findings in the focus group interviews (Chapter 5), participants were more likely to report intentions of elevated patience after experiencing a workplace injury. They were also more likely to report wanting to talk about leaving the job when
exposed to low quality safety conditions. Together, these results suggest that while both forms of safety-related decline may be relevant predictors of different EVPN responses, experiencing an injury may be most salient for adaptive safety behaviour. Overall, the results from the current study do not support Hirschman’s propositions about decline acting as a catalyst for voice.

Consistent with recent studies showing young female workers being more likely to speak up about safety issues than young male workers (e.g., Breslin et al., 2007), the current results reveal that female participants reported higher voice intentions in response to the restaurant scenario. These findings are examined further in the longitudinal study (Chapter 8).

A surprising result was the low percentage of variance explained by the models (range in adjusted R-squared 0% to 4%). I propose two reasons for these low scores. First, participants were asked to report on their behavioural intentions after reading a short scenario. However, vignettes may be less appropriate for assessing behavioural intentions compared to psychological reactions. I conducted supplementary analysis to investigate this possibility. Specifically, I tested two models with satisfaction with safety conditions and fear of being injured as dependent variables. The resulting adjusted R-squared percentages were 42% and 22%, respectively. Thus, the models that included psychological outcomes explained considerably more variance than the models predicting

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21 Exploratory analysis showed that females also reported higher patience and lower neglect than males. To my knowledge, no other research has found gender differences of this nature across exit, voice, and patience.

22 I thank Jana Raver for raising this issue during my dissertation proposal defense.

23 Predictor variables included safety conditions, injury, gender, financial reasons for working, and safety conditions X injury. These results did not change when the predictors were limited to safety conditions, injury, and financial reasons for working.

24 The result for safety satisfaction (adjusted R-square = .42) should be interpreted with caution as the Levene test of equality of error variances was significant, $F(15, 174) = 1.85, p < .05$. 
behavioural intentions. Another possible explanation for the low variance explained by the models may be that young workers consider factors other than the ones manipulated in study when deciding behavioural responses. However, it is unlikely that this influenced the results given that participants were randomly assigned to the scenarios.

7.7.1 Strengths and Limitations

A key strength of scenario study designs with random assignment is that they allow researchers to explore systematically questions related to causality among conceptually relevant variables. The scenarios used in the current study were grounded in the actual experiences of young workers and set in a work environment in which both males and females are represented. This approach helps to mitigate limited ecological validity and allowed the concurrent study of the impact of two forms of safety decline, gender, and financial reasons on EVPN behavioural intentions.

While this study has several strengths, it also has some limitations. First, vignette studies ask respondents to report on their behavioural intentions in a given situation, not their actual behaviour. Hence, it is possible that participants may have found it costless to indicate that they would, for example, neglect when in real life workplace they would choose patience when confronted with a similar situation. In essence, the nature of this design may overestimate the probability of active responses and underestimate passive responses to safety hazards. This might be a possible threat to validity had there been significant results for voice. Second, it is possible that males and females assumed different roles in the restaurant kitchen (e.g., server versus dishwasher) that may have influenced their responses, perhaps because they held different perceptions of the risk of future injury. I do not think this affected the results because the injuries described in the scenarios were the same for male and female participants and were related to jobs
performed in a restaurant kitchen (e.g., cook, dishwasher). Third, while the manipulation for financial reasons for working was based on information provided by teenaged focus group participants, these descriptions (e.g., paying for car insurance) may not have been realistic for 14 and 15 year old participants. Finally, these findings may only be valid for younger newcomers to jobs in restaurants. Relatedly, approximately 50% of the sample reported not having worked in the past year. Thus, the study may have lacked ecological validity for these participants.

While the operationalizations of decline in terms of injuries (injury versus no injury) and quality of safety conditions (high quality versus low quality) may have been theoretically justified, the actual treatment may have been non-equivalent and weak. First, differences in the perceived severity of the two forms of decline may have created an unfair comparison (Cooper & Richardson, 1986). Participants may have perceived the description of the hypothetical general low quality safety conditions (in which a coworker requiring stitches because of a fall at the workplace) as more threatening to their personal safety than the description of the hypothetical injury (in which they received first aid attention for a cut finger). I do not think this is a serious threat to the findings because care was taken in accurately describing injuries and differences in the quality of safety conditions using actual accounts provided by the separate sample of young restaurant workers who participated in the focus group study.

Another possible limitation relates to how the manipulations of safety decline were interpreted by participants. Specifically, participants may have felt that the experimental conditions represented a steady state of dismal safety and not actual deterioration in safety. While the manipulation check showed that participants who were currently employed reported comparably lower satisfaction with safety when exposed to the
hypothetical low quality safety condition, it is unclear if the non-employed participants understood the manipulations in terms of decline or a steady state.

7.7.2 Implications

These findings have implications for public policy and theory. First, the results show that in the context of starting a new job, a time when it is important for young workers to engage in safe work practices, young workers who are injured seem to take a wait-and-see approach. Recall that in the focus group study, one male who had been burned and cut at his restaurant job noted that he was “in patience.”

In the current study, females reported higher voice intentions than males. These results should be viewed cautiously as a larger sample size may lead to additional main effects and interactions for gender and contextual factors. However, they suggest that young worker occupational safety social marketing campaigns should consider targeting teenaged males about the potential benefits of voice and problems with neglecting safety.

In terms of theory, these results provide no support for Hirschman’s premise that a declining state leads people to resort to voice. It may be that in the context of occupational safety voice is reserved for more serious signs of safety-related decline (e.g., an injury requiring time off work) or such actions are delayed after a period of adaptation. It may take employees, especially those who are young and new a workplace, an extended period before they feel confident that they can safely raise concerns. This explanation would be consistent with previous research that has found a high threshold for speaking up about work-related concerns (Detert & Edmonson, 2006). Finally, this study did not test theoretically relevant moderators such as organizational commitment.

7.7.3 Conclusion

In conclusion, this study makes a contribution to research on young worker safety
by testing systematically factors that are more and less important in predicting important safety behaviours. These preliminary findings suggest that gender, injury experience, and quality of safety conditions influence some of these behaviours.
7.8 References


Chapter 8

A Short-term Longitudinal Field Study of Young Worker Safety Behaviour

Abstract

Building on the focus group study (Chapter 5), measurement study (Chapter 6), and scenario study (Chapter 7), this longitudinal field study tests key propositions related to the exit, voice, and loyalty model (Hirschman, 1970) – specifically, related to decline and so-called active and passive loyalist behaviour – in the context of young worker safety. Neglect and patience are also included in the model (Leck & Saunders, 1992; Rusbult et al., 1988). Two hundred and twenty-two employed teenagers (M age = 17.54 years, 60% female) completed two surveys with a one month lag between each survey. Lagged regression analysis was used to test hypotheses related to two forms of safety-related decline (i.e., physical injuries and exposure to dangerous work) and other conceptually relevant predictors (i.e., organizational loyalty and felt responsibility for improving safety). The predictors were measured at Time 1 while the outcomes (i.e., exit, voice, patience, and neglect) were measured at Time 2. Exit was predicted by decline in terms of changes in injuries (+) and exposure to dangerous work (+). Voice was associated with neither injuries nor exposure to dangerous work. There was support for Hirschman’s loyalty proposition such that felt responsibility for improving safety moderated the relationship between organizational loyalty and both exit and voice. Experiencing injuries (+) was associated with patience while exposure to dangerous work was not. Finally, neglect was associated with neither injuries nor exposure to dangerous work. Implications of these results are discussed.
8.1 Introduction

Recall that the focus group interviews (Chapter 5) served an exploratory purpose in that they focused on factors that influence sequences of EVPN responses and measures of EVPN were developed in Chapter 6. Using these measures, the vignette study (Chapter 7) investigated four predictors of EVPN (i.e., gender, financial reasons for working, low quality safety conditions, and injuries). This field study builds on the previous studies by testing hypotheses related to declining workplace safety and Hirschman’s loyalty proposition while controlling for several other theoretically-related predictors of EVPN behaviours. A longitudinal design enabled systematic testing of the several predictors and addresses methodological limitations associated with the focus group study (Chapter 5) and scenario study (Chapter 7) concerning generalizability, and statistical conclusion validity.

The approach taken in the current study is to develop and test hypotheses that stem from Hirschman’s core ideas (e.g., declining states and his loyalty proposition) and findings from the focus group study (Chapter 5) and scenario study (Chapter 7). These hypotheses are tested controlling for common background, demographic variables, and plausible rival explanations that are unique to each outcome (e.g., in terms of voice controlling for supervisor openness), and baseline levels of the dependent variables.

8.2 Hypotheses

8.2.1 Predicting Exit

One of Hirschman’s (1970) primary predictions was that the more dissatisfied people become with how things are going in an organization, the more likely they are to want to leave. Safety deterioration may manifest itself in several ways such as increasing
rates of near misses and injuries, and decreasing safety communication. The results from the scenario study showed that poor quality safety conditions in a hypothetical restaurant kitchen was related to turnover intentions. Other studies have examined how injury rates and hazard exposure – facet-specific proxies for deterioration in workplace conditions – are positively related to turnover intentions and actual quit rates (Cree & Kelloway, 1997; Gucer, Oliver, & McDiarmid, 2003; Harrell, 1999; Meeuwsen & Pool, 1996; Viscus, 1979). A shortcoming in these studies is that the data are mostly cross-sectional and some studies do not control for rival explanations. I predict that injuries and exposure to dangerous work, two forms of decline, are related to increased turnover intentions.

Hypothesis 1a: Exposure to dangerous work is positively related to exit.  
Hypothesis 1b: Physical injuries are positively related to exit.  

8.2.2 Predicting Voice  

Decline in terms of experience of injuries and exposure to dangerous work in the scenario study was not associated with higher voicing. However, consistent with Hirschman’s idea of increasing disagreement with how things are going, I expect that exposure to dangerous working conditions and experience of physical injuries is positively related to voice. Barling, Kelloway, and Iverson (2003) operationalized decline in terms of exposure to accidents and found accidents were related to job dissatisfaction and voice (in terms of intentions to unionize). Thus, I anticipate that exposure to dangerous work tasks and experience of physical injuries are positively related to voice, controlling for the previously mentioned predictors.

More generally, declining safety is reflection of a worsening safety climate, which is defined as shared perceptions that work is being performed safely (e.g., Zohar, 1980).
Hypothesis 2a: Exposure to dangerous working conditions is positively related to voice.

Hypothesis 2b: Experience of physical injuries is positively related to voice.

8.2.3 Exit and Voice Behaviour of Active and Passive Loyalists

The Role of Loyalty

As was noted in Chapter 4, a central proposition in Hirschman’s theorizing is that loyalty “holds exit at bay and activates voice” (p. 78). This seemingly straightforward prediction about the role of employee attachment to an organization has been the source of much confusion and controversy in the organizational behaviour literature (e.g., Minton, 1992). As a consequence, multiple models have been tested and findings have been inconsistent (Dowding, Mergoupis & Van Vugt, 2000). A recent review noted:

A fundamental question that remains unresolved in the voice literature pertains to whether employees loyal to their organization – that is, those who are affectively attached to and identified with their organizations – are more likely to speak up than to remain silent when dissatisfied with the status quo in their organizations (Tangirala & Ramanujam, 2009, p. 203).

Most organizational research that draws on Hirschman’s (1970) ideas has operationalized loyalty as a behavioural response to decline (e.g., Rusbult, Farrell, Rogers & Mainous, 1988), while a minority of studies interpret it as commitment to an organization and, functionally, as a determinant of exit and voice (e.g., Burris, Detert & Chiaburu, 2008; Hammer, Landau & Stern, 1981; Olson-Buchanan & Boswell, 2002). Based on Hirschman’s original theorizing (Graham & Keeley, 1992), I adopted the latter definition and use affective commitment as a measure of loyalty.²⁶

²⁶ Graham and Keeley (1992) noted that, in their personal communication with Hirschman, he agreed with interpreting loyalty as affective commitment.
While Hirschman (1970) acknowledged that having somewhere to go weighs heavily in deciding whether to exit or voice, he argued that “loyalty is a key concept in the battle between exit and voice” (1970, p. 82). More specifically, he theorized that so-called “loyalists” – organizational members who identify with and have “a strong attachment to an organization” (1970, p. 81) – are more likely to “trade off the certainty of exit against the uncertainties of an improvement in the deteriorated [state]” (1970, p. 77). While employees with alternative employment opportunities may delay voicing concerns, those who are committed to their organization may be more likely to take immediate action on problems.

Studies have examined how loyalty influences voice responses under conditions of job stress (Mayes & Ganster, 1988), and, for example, varying levels of general (Withey & Cooper, 1989) and facet-specific job satisfaction (Leck & Saunders, 1992). On balance, there has been mixed support for loyalty relating to voice (e.g., Lewin & Boroff, 1996; Tangirala & Ramanujam, 2009). However, there is considerable evidence of a relationship between loyalty and exit. Meta-analytic evidence shows that employees are less likely to leave a job the more emotionally attached they are to an organization (e.g., Griffeth et al., 2000).

**Hypothesis 3a:** Affective organizational commitment is negatively related to exit.

**Hypothesis 3b:** Affective organizational commitment is positively related to voice.

**Active and Passive Loyalty as Level of Felt Responsibility for Change**

Hirschman (1970) focused on two types of affective loyalty – so-called “conscious” and “unconscious” loyalty (pp. 87-89). He defined “unconscious” loyalty (hereafter passive loyalty) as an unquestioning type of emotional commitment where the employee gives no thought to exit or voice even though he or she may be aware that things are
going poorly. The unconscious loyalist is highly committed to the organization but does not feel an obligation to take action to try to change anything. In effect, the passive loyalist is blindly loyal and accepts working conditions, perhaps hoping that things will improve on their own or because someone else will address problems.

In contrast, Hirschman (1970) predicted that “conscious” loyalists (hereafter active loyalty) would be likely to engage in voice and less likely to exit. Of primary interest to Hirschman, was the exit and voice behaviour of conscious loyalists (Keeley & Graham, 1992); that is, those who stay put and actively try to get things back on track because they care about the well-being of the organization and may assume that the deplorable situation might worsen if they leave.

Despite his attempts to differentiate the two groups, Hirschman (1970) noted that it is sometimes “hard to tell the two [loyalties] apart” (p. 93). Re-evaluating Hirschman’s writings about active and passive loyalists, it would seem that one’s emotional affiliation to an organization may sometimes be insufficient to trigger the pattern of voice and exit that he anticipated.

I propose that what distinguishes active and passive loyalists is their level of felt responsibility for change. Felt responsibility for change can be defined as the feeling that one is responsible for taking charge to fix problems (Morrison & Phelps, 1999; Parker, Wall & Jackson, 1997). Recent work by Fuller, Marler, and Hester (2006) found that felt responsibility for change was positively related to general voice behaviour. In addition, Hoffman (2006) found that loyal workers who felt a responsibility for change revealed they “had a duty to say something” (p. 2321) when things went wrong despite having exit options.
A sense of responsibility for change is especially relevant to occupational safety where, as Gray (2009) notes, “In health and safety governance, internal responsibility frameworks strongly encourage, and sometimes demand, that workers take personal responsibility for their own safety while at work” (p. 3).27 I also expect that workers who feel responsible for improving safety will delay exit because they will be more likely to stay and try to fix problems. Thus, I expect:

_Hypothesis 4a:_ Felt responsibility for improving safety is negatively related to exit.

_Hypothesis 4b:_ Felt responsibility for improving safety is positively related to voice.

Revisiting Hirschman’s (1970) prediction that “loyalty holds exit at bay and activates voice,” and in light of his special interest in the exit and voice behaviour of active loyalists, I predict that felt responsibility for improving safety moderates the relationship between commitment and exit, and commitment and voice. In terms of occupational safety, I anticipate that active loyalists are highly committed to their organization and feel that it is their responsibility to speak up and instigate change. In contrast, passive loyalists are individuals who are emotionally attached to their organization but do not feel that they are responsible for bringing change. Thus, while controlling for the aforementioned covariates of exit and voice I predict:

_Hypothesis 5a:_ Felt responsibility for improving safety moderates the relationship between organizational loyalty and exit such that exit is lowest when organizational loyalty and felt responsibility for improving safety are high.

_Hypothesis 5b:_ Felt responsibility for improving safety moderates the relationship between organizational loyalty and voice such that voice is highest when organizational loyalty and felt responsibility for improving safety are high.

I treated the effects of active loyalty on patience and neglect as exploratory.

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27 Felt responsibility for change may relate to one’s safety role definition, a concept which can be defined as the degree to which employees feel that it is part of their role to improve safety (Hofmann et al., 2003; Turner, Chmiel & Walls, 2005).
questions.

8.2.4 Predicting Patience

Initially safety-related patience was defined as actions that workers use when they are waiting for safety to improve. Through the scale development process several of the patience items that were generated by focus group participants were eliminated due to either low factor loadings or moderate-to-high cross loadings with other factors such as voice. This process resulted in a two item measure of patience (i.e., “Adapt to safety conditions until the situation improves” and “Find a way to protect myself from being hurt at work”). Given the content of these items the domain of the remaining construct seems to represent both an awareness of – and adaptation to – work-related safety conditions rather than simply waiting for improvement in safety. As one focus group participant said: “As I see it […] patience [means] you’re actually thinking about [a safety concern].”

Drawing on data from the focus group study, I expect that adaptation to workplace safety conditions will be heightened by exposure to dangerous work and experiencing physical injuries. Stave and Törner’s (2007) study of food service work found that “operators became resigned to the fact that the only possibility to improve safety was to be more careful and try harder” (p. 360). Thus, I predict:

*Hypothesis 6a*: Exposure dangerous work is positively related to patience.

*Hypothesis 6b*: Physical injuries are positively related to patience.

8.2.5 Predicting Neglect

Predicting safety related neglect is also challenging given limited prior research on unsafe work behaviour, sparse theoretical guidance from Hirschman (1970) and Rusbult et al. (1988), and little insight into the causes of neglect from the focus group interviews.
No predictions are made for the influence of exposure to dangerous work and physical injuries on neglect. Thus, this was treated as an exploratory question and thus no hypotheses are proposed.

**Research design.** Longitudinal designs have clear advantages over correlation studies (e.g., Shadish, Cook & Campbell, 2002) and given the predictive nature of the hypotheses being tested in this study (i.e., X precedes Y) a longitudinal design is appropriate. A key question is determining an appropriate time interval between measurements that takes into account theoretical and practical constraints. On one hand, a short interval is desirable to minimize participant drop out due to either job changes or unemployment (both of which occur at relatively high rates among the focal cohort) and other non-random participant dropout. A relatively short time lag is also preferred for minimizing the potential impact of third factor variables that may influence the relationships between the independent variables and dependent variables. Generally, the longer the lag, the more salient plausible rival explanations become. However, a time interval may also be too short. For instance, a time lag is too short when there is insufficient time for processes between X and Y to unfold. In the current study, several predictors were tested and some likely may take more or less time to affect the dependent variable.

Previous longitudinal studies predicting EVLN responses have used six month or longer lags (e.g., Withey & Cooper, 1989). Hirschman (1970) provided little discussion of temporal effects when he introduced his propositions, but several empirical investigations, including the earlier focus group study, suggest that instantaneous change may be uncommon. For example, research on employee turnover has found that it can take months and even years for people to actually leave an unpleasant job or organization.
(e.g., Dyck & Starke, 1999). Recall that the focus group participants said they delayed voice in favour of patience when they have concerns about safety until a serious event occurred or they are personally affected. Unfortunately, the prevalence of safety events that may trigger EVPN responses over a one, two, or three month period is unknown.

The current study was conducted during the summer months when most teenagers work in the formal economy. Practical (i.e., participant attrition) and theoretical considerations were weighed when considering the appropriate time between surveys. Conceptually there needed to be sufficient time for decline to set in. To minimize the threats of attrition due to the high job turnover rate among teenaged workers and to provide a period for processes to unfold, I decided to use a relatively short time lag of one month was used between surveys. In doing so, I assume that EVPN processes may be shorter for this population than adult workers. Short-term longitudinal designs are also recommended for overcoming potential problems with common method bias when only self reports are available (Podsakoff, MacKenzie, Lee & Podsakoff, 2003), which is the case in the current study.

8.3 Method

Participants and Procedure

Participants were employed teenagers residing within and near the city of Winnipeg, Manitoba. They completed surveys at two points in time (hereafter Time 1 = T1, Time 2 = T2) between April 2009 and June 2009, with one month between each survey. Spring is a time when many teenagers either begin a new job or increase their work hours at their existing job(s).

A variety of approaches were used to advertise the study to an occupationally diverse group. First, the study was advertised at popular gathering places for teenagers
(e.g., a movie theatre lobby, university and college cafeterias, a city bus exchange).

Approximately 50% of sample was recruited this way. Second, an advertisement was placed in a union magazine and posters on union bulletin boards in workplaces where younger union members work (approximately 25% of sample). Third, the study was advertised to senior students at two high schools. Teachers provided students with a letter of information about the study and distributed a sign-up sheet in class (approximately 10% of sample). Fourth, the study was advertised to staff at the University of Manitoba. Employees who indicated they had an eligible child who might be interested in participating received a letter of information (5% of the sample).

Interested participants contacted the researchers by email or phone at which point their eligibility for the study was confirmed (i.e., 15 to 19 years of age and currently employed). Alternatively, people who were recruited in person (e.g., at the movie theatre lobby) were asked about their age and work status. Those who qualified were asked to provide their name and email address, and received a copy of the letter of information. Participants aged 14 and 15 years were asked to provide parental consent. A financial incentive of $35 was also offered to retain participants over the course of the study ($20 for completing the T1 survey and $15 for completing the T2 survey). The incentives were sent in the mail.

The surveys were administered through Surveymonkey.com. Participants had 14 days to respond to each survey. For each time period participants received an email invitation, a phone call, and up to two reminder email messages. At T1, 593 people received an email message inviting them to participate in the study and a unique link to the T1 survey. Approximately 9% of these messages were returned because the receiver’s

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28 The study also attracted interest from a small number of 14 year old workers.
email account was invalid. Less than 1% opted out of the study. Approximately 62% \((n = 333)\) of recipients who received an invitation started the T1 survey. Of these 302 completed the survey, were in the target age range, currently employed, and had worked in the previous month. Exactly one month later participants who completed the T1 survey were emailed a unique link to the T2 survey. Two hundred and fifty-one responded to the T2 survey (response rate 86%) of which 27 reported changing jobs and two reported being unemployed. The average time between completion of the T1 and T2 survey was 32.57 days \((SD = 4.04)\).

The final sample consisted of 222 participants who had worked at the same main job over the two surveys, were not self-employed, and provided useable data. Participants were aged 14 to 19 years \((M = 17.56 \text{ years}, SD = 1.20)\) and 60% female. The median tenure at T1 was 11 months \((M = 16.81 \text{ months}, SD = 16.98)\). The average number of hours per week worked at their main job at T1 was 20.35 hours \((SD = 13.31)\) and 24.30 hours \((SD = 15.60)\) at T2. The most common workplaces were restaurants and food service operations (38%), grocery store (21%), retail (13%), entertainment venues (e.g., movie theatre) (7%), office or call centre (5%), gas station or garage (4%), and other (12%). The most common job titles were cashier, server, sales associate, cook, and cleaner. Thirty-two percent indicated their job was unionized, which is approximately four times the rate among this age cohort.

**Measures**

Before beginning the survey, participants were asked to read a letter of information and provided informed consent on-line. The surveys included 27 individual questions, 23 scales with multiple items, and two open textbox questions. The surveys were extensively pilot tested to enhance readability. All questions were worded in reference to the
participant’s main job (explicitly defined as the job at which they worked the most hours in the past month). Participants took an average of 20 minutes to complete the surveys. The participant’s email address was used to match multiple surveys. Due to the length of the surveys, I limit reporting to those measures used in the main analysis. Unless noted otherwise the response scale ranged from 1 (*strongly disagree*) to 5 (*strongly agree*).

*Common control variables.* In each model, I controlled for gender, T2 tenure (in months), T2 average work hours (per week), conscientiousness, and safety compliance. Gender was controlled for three reasons. First, the results from the scenario study (Chapter 7) indicated that sex may exert influence on some outcomes (e.g., voice, patience, and neglect). Second, and more generally, males are more likely to be injured on the job than young females. While differences in job-related risk exposure are a plausible explanation for this pattern, differences regarding how young males and females respond to safety issues may also be a contributing factor. Indeed, Breslin, Polzer, MacEachen, Morrongiello and Shannon (2007) found evidence that young female workers were more likely to speak up about safety concerns. Tenure was included because those who work longer for an organization may demonstrate different EVPN behaviour than those who are relatively new to their jobs. Finally, average weekly work hours was included in all models because those who work more or less hours may engage in EVPN responses with different intensity based on length of exposure to work. Of the Big Five personality dimensions, conscientiousness has been found to be the most closely related to safety behaviours and occupational injuries (e.g., Clarke & Robertson, 2005; Wallace & Vodanovich, 2003). Finally, I controlled for safety compliance (i.e., following safety rules and policies) because it is an important and prevalent safety behaviour. I expected participants who adopt patience and voice strategies would score higher in compliance. In
contrast, those who intend to exit or engage in neglectful safety behaviours are likely to be lower in compliance.

**Control variables for exit.** *Having employment opportunities and job insecurity* were controlled in the exit model. First, when workers perceive jobs of equal or better quality are available they are more likely to want to leave their jobs (e.g., Griffeth et al., 2000). Second, a meta-analysis by Sverke, Hellgren, and Näswall (2002) found that workers are more likely to want to leave their job when they think they could lose their job such as during a period of employee layoffs. This relationship was found to be stronger among shorter tenure employees (Cheng & Chan, 2008), and thus job insecurity maybe especially relevant for young workers who have relatively short employment tenures (see Chapter 2).

**Control variables for voice.** I controlled for having *safety ideas, having employment alternatives*, and *supervisor openness* in the voice model. Recent multivariate models show that employee self-reports about having ideas about general improvements in the workplace are positively related to manager reports of employee voice (e.g., Burris, Detert & Chiaburu, 2008; Detert & Burris, 2007). Research on general voice has consistently found that employees are more likely to speak out about problems when they think their supervisors and managers are receptive to suggestions and willing to take action on problems (Hofmann, Morgeson & Gerras, 2003; Saunders, Sheppard, Knight & Roth, 1992). Finally, Hirschman predicted that the presence of other opportunities outside the organization tends “to *atrophy the development of the art of voice*” (emphasis in original, 1970, p. 43). Given the nature of teenager employment and relatively high rate of unemployment experienced by this cohort, teenagers may be more sensitive to their job prospects when deciding whether to speak out about safety concerns.
Control variables for patience. Safety ideas and felt responsibility for improving safety were controlled in the model for patience. Evidence from the focus group interviews revealed that tolerating conditions did not preclude participants from having ideas about how practices could be improved.\(^{29}\) I also anticipate that a feeling of responsibility for improving safety will motivate voice but not patience. Rather, those who feel responsible for bringing change may be less likely to adopt patience as a strategy because they may feel it is a form of apathy and thus inconsistent with taking charge.

Control variables for neglect. Safety-related futility and resistance to safety voice were controlled in the neglect model. I propose that retaliation for voicing can be a gateway to neglect. When reactions to voice take the forms of explicit threats and insidious forms of resistance (e.g., ignoring, discounting suggestions) it can have a chilling effect. In the short term targets of retaliation may escalate voice (e.g., work refusals), let concerns go, or engage in unsafe work behaviours. Cortina and Magley (2003) reported that experiencing retaliation for voicing about interpersonal mistreatment was positively related to withdrawal behaviours. In support of this, research has found a strong positive relationship between poor quality safety climates and unsafe work behaviour (e.g., Choudhry & Fang, 2008; Hofmann & Stetzer, 1996; Seo, 2005).\(^{30}\)

\(^{29}\) As one male participated noted, “[In my occupational health and safety class] we were lectured on how to do things, the safety equipment and stuff, but when I got to work, most of these things that we learned about weren’t actually being applied in our workplace. So my expectations weren't met. So that’s basically it. But good thing I am not hurt. I just need to be positive and care for myself. [Soon after I started I thought to myself] ‘So this is how things work here.’ Some of the safety equipment wasn’t being supplied to us or some safety things or practices weren't being done. So that’s when I knew that it’s not going to happen. Those things that I have learned [in class], they’re not going to be implemented in here.”

\(^{30}\) This quote from a focus group participant further illustrates the reframing process by which young workers may first object to and then come to accept conditions that they initially found dangerous and undesirable, and finally, engage in neglect. “I would complain about it and then think “hey, if we did it this way it would be better” but then I would be like, “Yeah, but it has never bothered me before [and] probably won't bother me again. Why would I change it?””
I also propose that resistance to voice may contribute to a belief that it is futile to attempt to improve safety conditions. Walters and Hains (1988a) found nearly 50% of workers they surveyed who reported raising safety issues said that nothing happened after they spoke up about problems. Evidence from the focus group interviews provides some support for a process of increasing futility leading to neglect. An 18 year old female worker who had worked several years at a fast food restaurant described how coworkers may vicariously learn that confronting safety issues is futile when they observe her voicing: “maybe they see us complaining and nothing happened. […] I am not afraid to complain about the situations. I do it all the time and then nothing changes.” A sense that it is futile to improve safety may be especially salient among young workers who lack job control in temporary, front-line jobs. In these situations, young workers may believe that attempts to improve safety are risky and it is advantageous to conform.

*Description of the Measures*

*Exit, and Safety-Specific Voice, Patience, Neglect, and Compliance.* The validated measures of general turnover intentions and safety-related VPNC were used. Participants were asked to rate how frequently at their main job they engage in these behaviours. Two exit items that were not relevant to the context were eliminated (“Gave two weeks notice to my supervisor” and “Gave a resignation letter to my supervisor”). The response scale ranged from 1 (*almost never*) to 7 (*almost always*).

*Alternative employment.* Two items from Burris et al. (2008) were used to tap the perceived availability of other employment opportunities (“I could easily get as good a job as this one in this city or area” and “If we quit this job I could quickly find another job just like this one”).

*Job insecurity.* Four items were created to measure facets of job insecurity. These
items include: “I worry that I may be laid off from this job,” “I worry my work hours may be reduced at this job,” “I worry that my shifts may be reduced at this job,” and “I worry that I could lose this job.”

Organizational commitment. Five items from Meyer and Allen’s (1997) measure of affective organizational commitment were used to measure emotional attachment to an organization.

Safety ideas. Detert and Burris’s (2007) two-item measure of having ideas about how to improve the workplace were adapted to a workplace safety context (“I have ideas about how to improve safety at my workplace” and “I have ideas about how my job could be made safer”).

Supervisor openness to safety-voice. Participants were asked to rate the degree to which their main supervisor was receptive to listening to safety concerns. Mullen’s (2005) four-item measure was used (the original version comes from House and Rizzo’s (1972) measure of top management receptiveness). These items are: “My supervisor cares about my safety opinions,” “My supervisor is interested in ideas and suggestions regarding safety,” “Good safety ideas get serious consideration from my supervisor,” and “When suggestions are made to my supervisor, they receive fair evaluation.”

Conscientiousness. The personality characteristic conscientiousness was measured using a validated two-item measure developed by Gosling, Rentfrow, and Swann (2003).

Felt responsibility for safety. Three items from Morrison and Phelps’s (1999) related measure were adapted to a workplace safety context. These items included “I feel a personal sense of responsibility to bring about safety change at work,” “It's up to me to bring about safety improvement in my workplace,” and “I feel obligated to try to introduce new safety procedures where appropriate.”
Resistance to safety voice. Six items were created to measure the number of times participants experienced retaliation for raising safety concerns (e.g., “I have been yelled at for raising a safety concern”). The items appear in Appendix B. These were measured using this response index: 0 (never), 1 (once), 2 (twice), 3 (three times), 4 (four times), and 5 (five or more times).

Futility. Burris, Detert, and Chiaburu's (2008) three-item scale of futility was adapted to a workplace safety context. The items are: “Trying to improve things around here by speaking up about safety concerns would be a waste of time,” “It would be useless for me to suggest new ways to improve safety conditions around here,” and “Nothing would change even if I were to speak up about safety concerns.”

Declining safety. Two measures were used as proxies for declining safety. First, at T1 and T2 participants were asked about the number of work-related injuries they experience in the previous month. These injuries included a strain or sprain; scratch or abrasion (superficial wound); cut, laceration, or puncture (open wound); work-related burn or scald; bruise or contusion; fractured bone; a dislocated joint; work-related concussion; hernia or rupture; and other. The response scale was 0 (never), 1 (once), 2 (two to three times), 3 (four to five times), and 4 (more than five times). Second, one item was used to measure exposure to dangerous work at T1 and T2. Specifically, participants were asked “In the past month were you asked to do a task at your main job that you thought was dangerous?” The response scale was 0 (no) and 1 (one or more times).

Participant Attrition and Job Changers

Fifty-two participants (17%) who completed the T1 survey did not respond to the T2 survey. In addition, some who completed the T2 survey indicated that they had recently changed jobs (n = 27) or were unemployed (n = 2). I compared the T1 responses
of T2 non-responders ($n = 52$) and those who were included in the final dataset ($n = 222$) by conducting several independent t-tests. The results revealed no differences among the study variables. A second comparison between T1 responses of those who left their job between T1 and T2 ($n = 29$) and those who stayed ($n = 222$) showed that those who left their job reported higher T1 futility, $F(1, 249) = 4.16, p < .05$ (job changers/unemployed = 2.74 versus stayers = 2.32), marginally lower T1 supervisor openness, $F(1, 248) = 3.38, p = .07$ (job changers/unemployed = 3.39 versus stayers = 3.72) and marginally lower T1 safety compliance, $F(1, 250) = 3.30, p = .07$ (job changers/unemployed = 3.51 versus stayers = 4.19).

In addition, participants who left their main job between T1 and T2 were asked to rate the importance of nine factors that related to their leaving the job using a five point scale from 1 (not important) to 5 (very important). Table 8-1 shows that wages and work schedule ranked as the most important reasons. Concerns about injuries and unsafe working conditions ranked last and second last, respectively. Overall, these results suggest that non-random attrition likely did not influence the results.

Table 8-1: Reasons for Leaving Job (N = 26-27)

<table>
<thead>
<tr>
<th>Reason for leaving job</th>
<th>Mean score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wage</td>
<td>3.68</td>
</tr>
<tr>
<td>Work schedule</td>
<td>3.58</td>
</tr>
<tr>
<td>Work hours</td>
<td>3.54</td>
</tr>
<tr>
<td>Work location</td>
<td>2.77</td>
</tr>
<tr>
<td>Coworkers</td>
<td>2.65</td>
</tr>
<tr>
<td>Supervisor</td>
<td>2.58</td>
</tr>
<tr>
<td>Unsafe working conditions</td>
<td>2.38</td>
</tr>
<tr>
<td>Work-related injuries</td>
<td>1.68</td>
</tr>
</tbody>
</table>
Analytical approach

Two wave longitudinal data can be analyzed in different ways depending on the research questions and available data. The most common approach in occupational health psychology is to regress T2 dependent variable on T1 predictors (e.g., Taris & Kompier, 2003). Significant relationships provide support for a lag effect, that is, the independent variable precedes the dependent variable. However, this approach does not account for the impact of stable causes (e.g., personality) that may also influence the dependent variable nor does it address questions related to change. A more rigorous approach involves regressing a T2 dependent variable on T1 independent variables while controlling for the dependent variable at T1. An even more rigorous but yet less commonly used method for analyzing two wave longitudinal data when the research question concerns change involves repeating the second approach and also including the scores for the T2 independent variables (e.g., Parker, Axtell & Turner, 2001). This analysis provides more support for a causal relationship because stable common causes (Kessler & Greenberg, 1981) and auto regressive effects (Gollob & Reichardt, 1987) can be ruled out. Finally, a full panel cross-lagged analysis can be undertaken to test whether the relationship between a dependent variable and independent variable is reciprocal or involves reverse causation (see de Lange et al. (2003) for a discussion of two panel longitudinal studies).

In selecting among of these approaches, I considered several features of the research design, the nature of the hypotheses, and the kinds of variables being studied. Some of the hypotheses relate to safety-related decline predicting EVPN. Therefore, it is necessary to measure change in injuries and exposure to dangerous work between T1 and T2. Thus, T1 and T2 levels of these two forms of decline were included in the statistical
models. Further, to strengthen the tests, I controlled for the dependent variables at T1. In the discussion section, I elaborate on the strengths and limitations associated with controlling for baseline levels of the dependent variables in a short term longitudinal design.

8.4 Results

Table 8-2 shows the means, standard deviations, and correlations among the variables collected at T1 and T2. Table 8-3 shows the alphas for the measures. Several hierarchical regression analyses were conducted to test the hypotheses.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Time 1</th>
<th>Time 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Gender</td>
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<td>.49</td>
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<tr>
<td>Tenure</td>
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<tr>
<td>Hours</td>
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<td>13.31</td>
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<tr>
<td>Conscientiousness</td>
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<td>.76</td>
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<tr>
<td>Compliance</td>
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<tr>
<td>Alternative employment</td>
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<td>.97</td>
</tr>
<tr>
<td>Job insecurity</td>
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<td>.88</td>
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<tr>
<td>Organizational commitment</td>
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<tr>
<td>Safety ideas</td>
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<td>Supervisor openness</td>
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<td>FRIS</td>
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<td>1.03</td>
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<td>Resistance to voice</td>
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<tr>
<td>Futility</td>
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<td>Physical injuries</td>
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<td>Exit intentions</td>
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<td>Voice</td>
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<td>Patience</td>
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<tr>
<td>Neglect</td>
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<td>1.21</td>
</tr>
</tbody>
</table>

Notes: FRIS = Felt responsibility for improving safety. Gender, 1 = Female, 0 = Male. $\cdot14 > |r| > .16, p < .05; |r| > .16, p < .01$
Table 8-3: Reliability of Measures at Time 1 and Time 2

<table>
<thead>
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<th>Time 2</th>
</tr>
</thead>
<tbody>
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<td>1. Gender</td>
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<tr>
<td>2. Tenure</td>
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<td>-</td>
</tr>
<tr>
<td>3. Hours</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>4. Conscientiousness</td>
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<td>-</td>
</tr>
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<td>5. Compliance</td>
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<td>.78</td>
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<td>.86</td>
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<td>8. Organizational commitment</td>
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<td>.73</td>
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<td>9. Safety ideas</td>
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<td>.97</td>
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<td>10. Supervisor openness</td>
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<td>.96</td>
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<td>11. FRIS</td>
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<td>.93</td>
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<td>12. Resistance to voice</td>
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<td>-</td>
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<td>13. Futility</td>
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<td>.95</td>
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<td>-</td>
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<tr>
<td>15. Physical injuries</td>
<td>-</td>
<td>-</td>
</tr>
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<td>.94</td>
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<td>18. Patience</td>
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<td>19. Neglect</td>
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<td>.92</td>
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</table>

Note: FRIS = Felt responsibility for improving safety.

The regression results shown in Table 8-4 test the hypotheses related to turnover intentions. Change in both forms of safety decline (i.e., exposure to dangerous work and injuries) between T1 and T2 was positively related to a change in exit intentions (see Steps 4 & 5. $\beta = .19, p < .01$; $\beta = .16, p < .01$, respectively). Thus, Hypotheses 1a and 1b were supported. As expected organizational commitment was negatively related to exit (see Step 6. $\beta = -.13, p < .05$), however felt responsibility for improving safety was not related to exit (see Step 6. $\beta = .03, ns$). Therefore, Hypothesis 3a was supported while Hypothesis 4a was not. Finally, the results show that felt responsibility for improving safety moderated the relationship between organizational commitment and turnover intentions (Hypotheses 5a) (see Step 7. $\beta = -.14, p < .01$). Figure 8-1 shows that the interaction was in the predicted direction in that active loyalists (i.e., participants high in
both commitment and responsibility) were more likely to delay exit than passive loyalists.

Table 8-4: Hierarchical Regression Results ($β$) for Predicting Time 2 Exit Intentions ($N = 212$)

<table>
<thead>
<tr>
<th>Step and Predictor</th>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
<th>Step 4</th>
<th>Step 5</th>
<th>Step 6</th>
<th>Step 7</th>
</tr>
</thead>
<tbody>
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<td>-.05</td>
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<tr>
<td>Injuries T1</td>
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<tr>
<td>Injuries T2</td>
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<td>Step 7:</td>
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<tr>
<td>Change in Adjusted R-Squared</td>
<td>.02</td>
<td>.48**</td>
<td>.00</td>
<td>.03**</td>
<td>.03**</td>
<td>.01</td>
<td>.02**</td>
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<td>.50</td>
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</tbody>
</table>

Note. T1 = Time 1, T2 = Time 2. * $p < .05$. ** $p < .01$. 
Figure 8-1: *Felt Responsibility for Improving Safety Time 1 Moderating the Relationship Between Time 1 Organizational Commitment and Time 2 Exit Intentions*

Table 8-5 shows the regression results for the hypotheses related to voice. Neither a change between T1 and T2 exposure to dangerous work nor injuries was related to voice (see Steps 4 and 5. $\beta = .14, p < .05$, but $ns$ change in $R$-squared and $\beta = .01, ns$, respectively). Thus, Hypotheses 2a and 2b were not supported. Further, contrary to expectations, participants who were more emotionally committed to their organization (Hypothesis 3b) were no more likely to voice at T2. Felt responsibility for improving safety was also not related to voice (Hypothesis 4b) (see Step 6. $\beta = .10, ns$ and $\beta = -.01, ns$, respectively). Finally, the results at Step 7 reveal support for Hypothesis 5b such that the interaction between felt responsibility for improving safety and organizational commitment was significant ($\beta = .11, p < .05$). Figure 8-2 shows the interaction is consistent with Hirschman’s prediction about active loyalty and voice.
Table 8-5: Hierarchical Regression Results (β) for Predicting Time 2 Voice (N = 212)

<table>
<thead>
<tr>
<th>Step and Predictor</th>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
<th>Step 4</th>
<th>Step 5</th>
<th>Step 6</th>
<th>Step 7</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
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<td>.00</td>
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<td>-.01</td>
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<td>Organizational commitment T1 x</td>
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<td>.20**</td>
<td>.02*</td>
<td>.01</td>
<td>.00</td>
<td>.00</td>
<td>.01*</td>
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<td>Responsibility T1</td>
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<td></td>
</tr>
</tbody>
</table>

Change in Adjusted R Squared        | .24**  | .20**  | .02*   | .01    | .00    | .00    | .01*   |

Adjusted R Squared                  | .24    | .44    | .46    | .47    | .47    | .47    | .48    |

Note. T1 = Time 1, T2 = Time 2. * p < .05. ** p < .01.

Figure 8-2: Felt Responsibility for Improving Safety Time 1 Moderating the Relationship Between Time 1 Organizational Commitment and Time 2 Voice
Table 8-6 shows the regression results for the hypotheses related to patience. In terms of safety decline, Hypothesis 6a (exposure to dangerous work) was not supported while Hypothesis 6b (injuries) was (see Steps 4 and 5. β = .00, ns and β = .16, p < .05). Specifically, a change in injuries between T1 and T2 was associated with higher T2 patience. Step 7 shows no interaction between felt responsibility for improving safety and organizational commitment (β = .11, ns). Figure 8-3 illustrates the interaction.

### Table 8-6: Hierarchical Regression Results (β) for Predicting Time 2 Patience (N = 212)

<table>
<thead>
<tr>
<th>Step and Predictor</th>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
<th>Step 4</th>
<th>Step 5</th>
<th>Step 6</th>
</tr>
</thead>
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<td>-.10</td>
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<td>.30**</td>
<td>.29**</td>
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</tbody>
</table>

*Note.* T1 = Time 1, T2 = Time 2. * p < .05. ** p < .01.
Table 8-7 shows the regression results related to safety neglect. As predicted both resistance to T1 voice (Hypothesis 7a) and T1 futility (Hypothesis 7b) were positively related to T2 neglect (see Step 3. $\beta = .20, p < .01, \beta = .20, p < .01$, respectively). However, neither a change between T1 and T2 in exposure to dangerous tasks nor injuries was related to neglect (see Steps 4 and 5. $\beta = .01, ns$, $\beta = .05, ns$, respectively). There was also no interaction between felt responsibility for improving safety and organizational commitment ($\beta = -.08, ns$) (see also Figure 8-4).
Table 8-7: Hierarchical Regression Results ($\beta$) for Predicting Time 2 Neglect ($N = 212$)

<table>
<thead>
<tr>
<th>Step and Predictor</th>
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<th>Step 2</th>
<th>Step 3</th>
<th>Step 4</th>
<th>Step 5</th>
<th>Step 6</th>
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<tbody>
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<tr>
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<td>.01</td>
<td>- .03</td>
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<td>.07**</td>
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<td>.00</td>
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</tbody>
</table>

Note. T1 = Time 1, T2 = Time 2. * $p < .05$, ** $p < .01$.

Figure 8-4: Felt Responsibility for Improving Safety Time 1 Moderating the Relationship Between Time 1 Organizational Commitment and Time 2 Neglect
8.5 Discussion

This short term longitudinal study tested several theoretically-related predictors of general turnover intentions and safety-specific voice, patience, and neglect using a sample of employed teenaged workers. Overall, 6 of 12 hypotheses were supported (see Table 8-8). Below I discuss the findings for each outcome, the significance or lack of significance of the background variables (e.g., gender), and strengths and limitations of the study more generally. In Chapter 9, I elaborate on these results in light of the findings from the previous studies and in terms of boundary conditions on Hirschman’s ideas and implications for practice.

Table 8-8: Hypotheses Tests: Summary of Results

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Dependent variable</th>
<th>Predictor</th>
<th>Moderator</th>
<th>Hypothesis Supported</th>
</tr>
</thead>
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<td>1a</td>
<td>Exit</td>
<td>Dangerous work</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>1b</td>
<td>Exit</td>
<td>Injuries</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>3a</td>
<td>Exit</td>
<td>Organizational commitment</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>4a</td>
<td>Exit</td>
<td>Responsibility</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>5a</td>
<td>Exit</td>
<td>Organizational commitment</td>
<td>Responsibility</td>
<td>Yes</td>
</tr>
<tr>
<td>2a</td>
<td>Voice</td>
<td>Dangerous work</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>2b</td>
<td>Voice</td>
<td>Injuries</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>3b</td>
<td>Voice</td>
<td>Organizational commitment</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>4b</td>
<td>Voice</td>
<td>Responsibility</td>
<td>-</td>
<td>No</td>
</tr>
<tr>
<td>5b</td>
<td>Voice</td>
<td>Organizational commitment</td>
<td>Responsibility</td>
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</tr>
<tr>
<td>6a</td>
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<td>Dangerous work</td>
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<td>No</td>
</tr>
<tr>
<td>6b</td>
<td>Patience</td>
<td>Injuries</td>
<td>-</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Exit. Consistent with the prediction that decline in safety leads to increased intentions to leave changes in both experience of injuries and exposure to dangerous work was positively related to T2 exit. There was also support for the prediction that active loyalists have lower turnover intentions compared to passive loyalists. Surprisingly, active non-loyalists (i.e., those reporting low commitment and high responsibility for
improving safety) reported the highest exit intentions.

*Voice.* In the voice model neither form of safety decline predicted T2 voice but there was support for Hirschman’s loyalty proposition. Controlling for voice at T1 may be an unfair test for Hirschman’s prediction because one month may be insufficient time for decline in safety to trigger voice, particularly considering that participants in the study worked an average of 24 hours per week between T1 and T2.

To examine the impact of controlling for T1 voice, I removed it and re-tested the model. The results showed that a change in exposure to dangerous work was positively related to voice at T2. Interestingly, there was also a lagged effect for T1 injuries on T2 voice. Finally, stronger statistical support was marshaled for Hirschman’s loyalty proposition ($p < .01$). Participants highest in felt responsibility for improving safety and high in loyalty reported elevated levels of voice. These results are discussed in the limitations section below.

The results for the model predicting T2 voice also showed that both having ideas about improving safety and safety compliance were related but not availability of alternative employment or supervisor openness. The non-significant result for supervisor openness is surprising given that previous studies show a strong positive relationship (e.g., Detert & Burris, 2007). It may be that supervisor behaviour is a distal predictor of voice. One possibility being that supervisors indirectly influence voice behaviour by influencing safety compliance behaviours.

*Patience.* In terms of safety decline a change in experiencing injuries was positively related to patience, whereas a change in exposure to dangerous work was not. As anticipated having ideas about how to improve workplace safety was related to increased patience. Felt responsibility for improving safety was associated with lower levels of

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patience but the result was not significant. Future research is need to determine if those who desire to make changes in safety at their workplaces are less likely to engage in adaptive behaviour.

*Neglect.* Interestingly, and unlike the pattern for the previous outcomes, neither injuries nor exposure to dangerous work were related to neglect at T2. Actions associated with neglecting workplace safety at T2 were predicted by T1 feelings of futility regarding prospects for improved safety and T1 resistance to voice.

*Background variables.* It is worth noting the influence of the background variables. Across the models safety compliance demonstrated the most influence on the outcomes, in particular on voice and patience. The personality characteristic conscientiousness, tenure, and work hours had almost no influence and gender was not related to any of the outcomes. It is interesting that gender even had no influence in terms of the zero-order corrections. Findings from the scenario study (Chapter 7) and other recent research suggested that young females are more likely to speak out about concerns (Breslin et al., 2007).

8.5.1 *Strengths and Limitations*

The statistical tests conducted in this study represent strong tests of Hirschman’s predictions about decline and active loyalty. These models include relevant background variables and covariates, in particular, gender, safety compliance, and other outcome-specific control variables (e.g., having ideas for improving safety) while controlling for levels of the dependent variables at T1. Further, safety-related decline was operationalized by including T1 and T2 levels of both exposure to dangerous work and injuries. This approach is useful as it determines whether a change in safety-related
decline is linked to a corresponding change in the dependent variable.\footnote{As a validity check for safety decline, I analyzed change in satisfaction with workplace safety. At T1 and T2 participants were asked to respond to a two item measure (“I feel satisfied with the safety conditions at my work” and “I feel the safety conditions at my work are very good”) on a five point scale between 1 (strongly disagree) and 5 (strongly agree). Partial correlation analysis showed that T2 injuries and T2 exposure to dangerous work were negatively related to T2 safety satisfaction controlling for T1 safety satisfaction ($r_p = -.19, p < .05$, $r_p = -.16, p < .05$, respectively). This provides further evidence of Hirschman’s notion of decline.}

While the data are self reported, the independent variables and dependent variables were measured at two points in time. This design mitigates possible effects of common method bias (Podsakoff et al., 2003). Further, the short-term longitudinal design addressed methodological shortcomings associated with cross sectional designs.

The data were collected from a sample of employed teenagers who had jobs that are representative for this group. Thus, the study has external validity. The generalizability of the findings to teenaged workers is also high given the occupationally diversity of the sample. The short time interval between the surveys, participant incentives, and reminder communications minimized participant attrition and possible selection and restriction of range bias. Non-respondent analysis revealed no differences between T2 respondents and non-respondents on study variables at T1.

Finally, the conceptualization and test of active loyalty as high responsibility and high commitment addresses a long standing conceptual gap in the literature on exit and voice.

Several limitations also warrant discussion. First, controlling for the dependent variable at T1, with only one month lag between surveys, may not allow for a fair test of all of the predictions given that the theoretical processes may not emerge in one month. Indeed, with such a diverse range of variables included in the analysis it is possible that some variables may affect the dependent variable in one month while it may take longer,
perhaps several months, to detect affects of others, when T1 levels of the dependent variables are controlled. This may explain the non-significant findings related to voice and the proxy measures for safety decline. As was previously mentioned, when T1 levels of voice are not controlled there is strong support for Hirschman’s proposition related to decline.

To strengthen causal inference and directly address questions about change, future studies should collect data at three or more time points. In addition, the time interval should be varied as different lags can have different effects (Gollob & Reichardt, 1986).

Another possible limitation is the assumption that the relationships between the predictors and independent variables are linear. Taris and Kompier (2003) note that even over a short period of time there may be back-and-forth movement between two variables and non-linear relationship may exist. Third, despite having advantages a relatively short lag between surveys may introduce testing effects (Shadish, Cook & Campbell, 2002). It is possible that participants became more aware of safety and may have changed their job-related behaviour by virtue of their participation in the study.

Fourth, the sample was disproportionately unionized which may have influenced voice behaviour given that union members have access to formal voice mechanisms (e.g., a grievance process). However, I found no difference across union and non-unionized workers on any of the outcome variables. A representative of the union told me that most of their young members are difficult to service (i.e., have no contact with the union) because they frequently change employers.

8.4.2 Implications

The findings have important implications for both public policy and safety management. In terms of voice, they suggest that responsibility for safety alone may be
insufficient for promoting voice among young workers; commitment to the organization is also important. What is troubling about these findings is that workers who felt a responsibility for safety but did not feel attached to their organization reported the highest intention to exit and lowest level of voice. This is surprising given the emphasis in occupational safety law and safety management placed on shared responsibility for safety (WSIB, 2003; Gray, 2009). As Gray (2009) puts it, “In health and safety governance, internal responsibility frameworks strongly encourage, and sometimes demand, that workers take personal responsibility for their own safety while at work” (p. 4). An implicit assumption of this thinking is that employees who have a disposition towards taking responsibility for safety are more likely to engage in proactive safety behaviour. However, the results of the current study emphasize the importance of organizations taking steps to cultivate both responsibility for safety and organizational commitment among young workers if they wish to promote conditions for voice.

Finally, an interesting area for future research would be to explore whether patience has a similar effect as conscious loyalty on exit and voice behaviour. And relatedly, if neglect produces a similar pattern in exit and voice behaviour compared to the behaviour of unconscious loyalists. Conceptually, patience and neglect may moderate the relationships between loyalty and both exit and voice.

8.4.3 Conclusion

In conclusion, these results provide mixed support for Hirschman’s propositions about active loyalty and decline. Future research is needed to apply this model to general voice behaviour and across all age groups of workers.
8.6 References


Gosling, S. D., Rentfrow, P. J. & Swann, W. B. (2003). A very brief measure of the Big-


relationship between leader-member exchange and content specific citizenship:


9.1 Introduction

This concluding chapter provides a general discussion and synthesis of the findings from the four preceding manuscripts. I begin by reviewing the reliability of the EVPNC measures. Next, I discuss the relationship between forms of declining safety on EVPNC behaviour. Finally, implications for EVL theory, future research, safety management, and public policy are discussed.

9.2 Performance of EVPNC Measures

With two exceptions (i.e., safety patience and safety compliance) the scale development process yielded the anticipated measures. The exit items measure general turnover intention behaviour; safety voice represented prototypical actions workers use to try to improve safety conditions; and safety neglect measures actions workers use when they stop caring about safety. In general, the scales demonstrated excellent reliability across the studies (Table 9-1).

Table 9-1 Summary of Reliability of EVPNC Measures

<table>
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<th>Study</th>
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<th>Patience</th>
<th>Neglect</th>
<th>Compliance</th>
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</thead>
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<td>.52</td>
<td>.90</td>
<td>.80</td>
</tr>
<tr>
<td>Scenario study (Chapter 7)</td>
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<td>.92</td>
<td>.60</td>
<td>.95</td>
<td>- *</td>
</tr>
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<td>.93</td>
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<tr>
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<td>.95</td>
<td>.75</td>
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<td>.64</td>
<td>.92</td>
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</tbody>
</table>

* Not included in survey.

The least studied of the constructs, safety patience, was initially conceptualized as actions that workers use when they are waiting for safety to improve. In the later stages of the scale development process several patience items were eliminated due to high cross-
loadings with the voice construct. As a result the domain of the construct shrunk to these two items: “Adapt to safety conditions until the situation improves” and “Find a way to protect myself from being hurt at work.” These items seem to represent adaptive or self-protective safety behaviour rather than merely patience. Although this measure demonstrated the lowest reliability of all of the measures across the studies (mean \( \alpha = .64 \)) it remained conceptually distinct and, as shown in the studies, it captures a popular and meaningful response to safety concerns.

Patience was cited as the most common response in the focus group interviews and, in terms of prevalence, participants consistently rated patience high across the studies (see Table 9-2). Whereas the prevalence of turnover intention behaviour and voice were roughly equal. In the longitudinal study just over 10% of the sample changed jobs in one month. This indicates relatively low barriers to exit; thus, conceptually one would expect lower prevalence of voice.

**Table 9-2: Summary of Mean Scores and Standard Deviations for EVPNC Behaviours**

<table>
<thead>
<tr>
<th>Manuscript</th>
<th>Exit</th>
<th>Voice</th>
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<th>Neglect</th>
<th>Compliance</th>
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</thead>
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<td>3.52</td>
<td>2.09</td>
<td>***</td>
</tr>
<tr>
<td></td>
<td>(.98)</td>
<td>(.94)</td>
<td>(.89)</td>
<td>(.98)</td>
<td></td>
</tr>
<tr>
<td>Longitudinal study (T1) (Chapter 8)</td>
<td>2.61</td>
<td>2.41</td>
<td>3.97</td>
<td>1.89</td>
<td>4.02</td>
</tr>
<tr>
<td></td>
<td>(1.70)</td>
<td>(1.53)</td>
<td>(1.87)</td>
<td>(1.21)</td>
<td>(1.91)</td>
</tr>
<tr>
<td>Longitudinal study (T2) (Chapter 8)</td>
<td>2.96</td>
<td>3.07</td>
<td>4.40</td>
<td>2.12</td>
<td>4.12</td>
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<tr>
<td></td>
<td>(1.83)</td>
<td>(1.73)</td>
<td>(1.79)</td>
<td>(1.20)</td>
<td>(1.84)</td>
</tr>
<tr>
<td>Average score</td>
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<td>2.80</td>
<td>3.78</td>
<td>1.98</td>
<td>3.84</td>
</tr>
</tbody>
</table>

*Note. Scale response range from 1 (almost never) to 7 (almost always) * Data collected in third study of the scale development manuscript (\( N = 268-272 \)). ** Scale response range from 1 (very unlikely) to 5 (very likely). *** Not in survey.

Another unexpected result of the scale development process was the emergence of a fifth response category, namely safety compliance. The items for this scale originated
from the initial pool of safety voice items, in which safety voice was defined as “as actions that workers take when they try to improve workplace safety.” In terms of face validity, the compliance items are generally consistent with this definition. Through a three step process involving 1) independently rating the voice items as either voice or compliance; 2) verifying the factor structure using exploratory factor analysis; and 3) confirmatory factor analysis the safety compliance measure emerged as distinct from the other responses. Overall, the EVPNC measures capture the breadth of safety behaviours used by young workers. While an important safety behaviour, the predictors of safety compliance were not examined in this research.

9.3 Summary of Results Related to Safety Decline

Returning to a fundamental question in this research: how do teenaged workers respond to declining safety? While the findings varied across the studies, there was evidence of a general pattern of response, that being experience of physical injuries relating to elevated safety patience or adaptation. Table 9-3 summarizes significant relationships between immediate experience of different forms of safety decline and EVPN behaviours.

Table 9-3: Summary of Results for Safety Decline and EVPN

<table>
<thead>
<tr>
<th>Form of Decline (Manuscript)</th>
<th>Exit</th>
<th>Voice</th>
<th>Patience</th>
<th>Neglect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Injuries (M1, M3, M4)</td>
<td>M4</td>
<td>-</td>
<td>M1, M3, M4</td>
<td>-</td>
</tr>
<tr>
<td>Low quality conditions (M1, M3)</td>
<td>M3</td>
<td>-</td>
<td>M1</td>
<td>-</td>
</tr>
<tr>
<td>Exposure to dangerous work (M1, M4)</td>
<td>M4</td>
<td>M1*</td>
<td>M1</td>
<td>-</td>
</tr>
</tbody>
</table>

* Tentative or conditional support

Focus group participants reported that they most often take a wait-and-see stance (i.e., patience) if and when they have concerns about safety. For some of these participants concerns of a more serious nature (i.e., hazards that are likely to result in
significant physical harm) were grounds for exercising voice. On the other hand, according to focus group participants, quitting a dangerous job was an infrequent response that was entertained only after other strategies had been exhausted.

Results from the scenario study (Chapter 5) showed that participants who were assigned to the injury condition reported higher patience than those in the non-injury condition. With the exception of exit intentions there were no differences among EVPN behaviour for those assigned to the low versus high quality safety conditions. Participants assigned to low quality safety condition reported they were more likely to tell others that they wanted to quit the job compared to those assigned to the high quality safety condition.

Finally, in the longitudinal field study (Chapter 8) a change in injuries was related to a positive change in exit intentions and patience one month later while controlling for other conceptually related factors. A change in exposure to dangerous work was related to a positive change in exit intentions.

Three conclusions can be drawn from the findings related to safety decline. First, the most salient form of safety decline in terms of motivating EVPN responses was physical injuries, followed by exposure to dangerous work, and low quality safety conditions. Thus, the results from the scenario study (Chapter 7) and the longitudinal study (Chapter 8) are consistent with the finding from focus group study (Chapter 5) in that the likelihood of action increased the more safety events directly affected participants (e.g., in terms of injuries). Second, and related, the findings reveal that an increase in injuries, whether real or hypothetical, as in the scenario study, was consistently related to increased patience behaviour. However, the results are mixed regarding the relationship between injuries and voice with the focus group study, but not the scenario study or
longitudinal study, providing support. Finally, across the studies neglect behaviour was not influenced by the different forms of safety decline.

Two factors may explain the moderate variance in the findings related to safety decline. First, each of the studies relied on a different methodology that has unique strengths in terms of optimizing a particular type of validity (Shadish, Cook & Campbell, 2002). For instance, the experimental scenario study strengthened conclusions related to internal validity in that the hypothetical workplace injuries occurred before participants were asked about EVPN behavioural intentions. In contrast, the results reported in longitudinal study lend greater support for generalizability because participants in this study worked in a variety of jobs. Given the exploratory and qualitative nature of the focus group study data direct comparisons with the findings from the quantitative studies are not easily made.

Second, the different forms of safety decline were neither operationalized in all the studies nor were they strictly equivalent when they were operationalized. For example, direct exposure to dangerous work was measured in the focus group study and longitudinal study but was not included as a condition in the scenario study. Injuries in the scenario study were described as a fall on a kitchen floor and cutting a finger whereas in the longitudinal study a variety of injuries were measured by a common index (e.g., number of scatches, cuts, burns, etc. over a month period). Thus, methodological and measurement variance is a plausible reason for the differences in findings.

9.4 Summary of Results Related to Active and Passive Loyalty

Hirschman’s loyalty proposition, which has been the source of confusion and controversy, was supported in the longitudinal study. Felt responsibility for improving safety moderated the relationship between organizational commitment and exit. The
model was also supported for voice. Active loyalists (i.e., those high in both commitment and responsibility) reported lower exit intentions than passive loyalists (i.e., those high in commitment and low in felt responsibility). In terms of voice, active loyalists demonstrated higher voice than their passive counterparts. Active loyalists did not behave differently in terms of patience and neglect.

9.5 Summary of Results Related to Other EVPN Predictors

Several other conceptually related predictor variables were examined in the scenario and longitudinal studies. Financial reasons for working had no effect on EVPN responses in the scenario study. In the longitudinal study, organizational commitment predicted exit; safety compliance and having safety ideas predicted voice; safety compliance and having safety ideas predicted patience; and futility and resistance to voice predicted neglect. With the exception of the result related to gender and voice in the scenario study, none of the background variables (e.g., gender, work hours) were significantly related to the outcomes. In the scenario study, female participants reported higher intentions to voice. However, this result was not replicated in the other studies.

9.6 Implications for Exit, Voice, and Loyalty Theory

The methods used in this research represent strong tests of Hirschman’s propositions related to decline in workplace safety and responses by young active loyalists. Questions about the fairness of the tests will be discussed later in this section. First, I elaborate on the strength of the tests with respect to decline.

Given the central role of decline in Hirschman’s theorizing, this phenomenon warrants, but rarely receives, the attention that core concepts (e.g., voice) receive. Recall that Hirschman (1970) defined deterioration in a marketplace as “an absolute or comparative deterioration of the quality of the product or service provided” (emphasis in
original, p. 4). Later in his book, Hirschman redefined quality deterioration “in subjective terms: from the member’s viewpoint, it is equivalent to increasing disagreement with the organization’s policies” (p. 87). The current research measured decline in key aspects of workplace safety.

In the longitudinal study, safety decline was operationalized as change in both injuries and exposure to unsafe work over a one month period. Consistent with EVL theory turnover intentions increased with a change in each form of decline. However, inconsistent with the theory, changes in these forms of decline were not associated with a change in voice behaviour. A validity check showed that exposure to dangerous work and injuries were each negatively related to a change in safety satisfaction, thus supporting Hirschman’s notion of decline as an absolute deterioration in a state of affairs.

In the scenario study, decline was operationalized as injuries and experience of low quality safety conditions. The results showed that hypothetical injuries and experience of low quality safety conditions were unrelated to voice. Turnover intentions were higher in the low quality safety condition. A validity check using a sub-sample of employed participants showed that employed participants who were assigned to the low quality safety conditions reported lower satisfaction with safety in the hypothetical job compared to their actual job. This supports Hirschman’s idea of comparative deterioration between situations.

Although Hirschman did not theorize about patience or the effect that decline would have on it, the results from the longitudinal study showed that a change in injuries (but not exposure to dangerous work) was related to a positive change in patience. A similar pattern of results was found in the scenario study. This raises the possibility of a boundary condition on EVL theory as it applies to occupational safety. Namely, there may be lags
between the experience of decline in safety and voice. Patience and talking about leaving may be more immediate and prevalent before voice. In fairness, Hirschman did not speculate about intervening behaviours (e.g., patience) between the onset of decline and the decision to fight or take flight. These results highlight the importance of refining EVL theorizing so as to more precisely understand of the temporal ordering of responses to decline.

Finally, one of Hirschman’s fundamental predictions was that “loyalty holds exit at bay and activates voice” (1970, p. 78). Findings from the longitudinal study show that active loyalists are less likely to talk about quitting and more likely to voice (compared to passive loyalists).

While the tests meet the criterion for a strong test (i.e., they are empirically sound, control for rival explanations, and fairly operationalize concepts), the tests may be unfair for two reasons. Specifically, it may be unfair to control for Time 1 levels of the dependent variable when the gap between surveys is one month and the average number of hours that participants spent working at their main job in the month was about 100 hours. As was reported in the previous chapter, support was marshaled for voicing under conditions of declining safety when Time 1 levels of voice are not controlled. On the other hand, if controlling for voice at Time 1 is considered a fair test (and the result holds), it identifies an interesting temporal boundary condition on Hirschman’s proposition about deteriorating states. It suggests that when safety changes levels of voice do not change much over a one month period but turnover intentions do. Future research should use different time intervals between data collection to explore this idea. For instance, the findings from the focus group study suggest that forms of safety decline can trigger voice when decline is likely to result in serious harm and is protracted. Thus,
future research might compare data related to the nature and severity of decline over periods of one, three and six months. These comparisons could shed light on the temporal emergence of voice. Further, studies should apply this conceptualization of Hirschman’s loyalist proposition to general voice behaviour.

A surprising finding was the exit and voice behaviour of active non-loyalists; i.e., those who felt a high sense of responsibility for improving safety and a low commitment to their employer. Compared to the group who were low in both commitment and responsibility (passive non-loyalists) these individuals were the least likely to voice and most likely to talk about leaving their job. These results point to the importance of loyalty in motivating exit and voice behaviours among those who feel a responsibility to change safety conditions.

The results related to patience and neglect also have implications for Hirschman’s ideas and related theory (e.g., Rusbult et al., 1988). Neglect proved to be the most elusive of the concepts to predict. While there was no support for active loyalists using more (or less) neglect or patience, the latter not only increased with decline (in terms of injuries) but also it was highly correlated with voice. The relationship between patience and voice is puzzling and begs two questions: 1) why are the two concepts so closely related and 2) do they have different predictors? I suspect that patience reflects both waiting for improvement and an awareness that there are safety problems. On the other hand, voice may be episodic and from time-to-time punctuates high levels patience. Further, I propose that the variables that differentiate voicers and adapters are feeling responsible for change and fear of losing one’s job for voicing. It was widely reported in the focus group study that one of the reasons young workers wait for things to improve relates to fear of being fired for raising concerns. Thus, patience may be positively related to fear of voicing.
Second, young workers who feel compelled to take action to improve safety are more likely to voice and less likely to tolerate unsafe work. One possibility is that the relationship between patience and voice is moderated by responsibility for improvement. Future research is needed to examine these relationships.

Finally, word of caution with respect to statistical conclusion validity. I did not undertake statistical power and sample size calculations before conducting the scenario and longitudinal studies. Identifying a priori the expected effect sizes between predictors and outcome variables informs these calculations; however due to the lack of prior research on safety-related EVPN, I was unable to conduct such calculations. Thus, in the scenario study it is possible that effects were not found due to a lack of statistical power. Conversely, the significant results found in the longitudinal study may have little practical meaning due to there being too much statistical power, although this is unlikely given the modest sample size. Statisticians recommend against conducting retrospective power calculations (e.g., Lenth, 2001; Hoenig & Heisey, 2001). Future research in this area should conduct power analysis as a part of sample-size planning.

In sum, this research imposed strong tests on two propositions that are central to Hirschman’s theorizing. The results showed mixed support for the propositions but enough support for generalizing the theory to young worker occupational safety. Overall, the findings do not put EVL theory in jeopardy. Rather, these results open up the possibility for further research in occupational safety and in other contexts, in particular regarding temporal aspects of active loyalty and general and safety-specific voice.
9.7 Implications for Safety Management, Public Policy, and Young Worker Safety Research

The storyline that emerges from this research is that teenaged workers initially try to adapt to work conditions when they encounter injuries or have concerns about safety. As a secondary strategy they may talk about quitting an unsafe job, but as was shown in longitudinal field study, those who changed jobs did not leave because of injuries or exposure to dangerous work. There is also evidence that voice punctuates periods of patience, especially when safety concerns are of a serious nature.

These findings have important implications for both public policy and safety management. For example, they suggest that young worker social marketing that promotes voice and active participation in safety may not reflect the actual experience of occupational safety for this cohort. The current findings suggest that future messages should recognize the potential consequences of adaption of unsafe working conditions. More importantly, given that safety is a shared responsibility and that employee voice targets managers and supervisors (as well as coworkers), it is vital that these campaigns address frontline supervisors. Further, the findings from the longitudinal study suggest teenaged workers resort to neglect when voice is resisted. Finally, there was some evidence that young male workers are less likely to voice and more likely to neglect than young female workers. In sum, messages in young worker occupational safety social marketing campaigns should be tailored to all actors, but especially young males, supervisors, and employers.

Evaluative research is also needed to examine the effects of these and other interventions aimed at improving young worker safety behaviours and preventing workplace injuries. Such studies should use a rigorous methodology (e.g., random
assignment to intervention and control groups with measures completed multiple times before and after the intervention) and measure safety behaviours, behavioural intentions, knowledge, and other important safety outcomes (e.g., injuries) (Mustard, 2007). The results from high quality studies carry the most weight in terms of supporting recommendations for changing occupational safety policy and practice.

The results from the longitudinal study suggest that the current focus on young workers taking responsibility for safety for improving safety may be insufficient for increasing voice activity. Commitment to an employer also matters. What is perhaps troubling about these findings is that workers who felt a responsibility for safety but did not feel an attachment to their organization reported the lowest level of voicing and talked most about leaving. Arguably, while these are the most motivated voicers they may also be the first to leave an unsafe workplace. Taken together the results emphasize the importance of organizations taking steps to cultivate both responsibility for safety and organizational commitment among young workers.

In terms of young worker safety research these results suggest four areas warrant attention. First, while understanding the causes and consequences of physical injuries is important, consideration should also be given to responses to unsafe work. Second, future research should consider constraints on socially desirable proactive responses (i.e., voice and exit). Third, additional research is needed to assess whether the findings generalize to even younger workers (e.g., 12-year-old baby sitters). Finally, more longitudinal research is needed on young worker safety in general.

In conclusion, the results of these studies advance knowledge of young worker safety behaviours and Hirschman’s ideas.
9.8 References


Appendix A

Experimental Vignettes

Vignette 1

*High quality safety conditions, injuries, and high financial reasons for working*

Please try to imagine yourself in this situation...

You’re one month into a new job at a restaurant. You work in the restaurant’s kitchen. In the kitchen, your coworkers and shift managers keep things clean and follow proper work practices even during the busy lunch and dinner hours. Like all new employees, you received mandatory training during your first month on the job. With this training you know how to do your job and about hazards in the kitchen.

In the past month, you’ve noticed that spills of oil and other liquids are quickly mopped up, that protective equipment (e.g., gloves, oven mittens, eye protection) is available when you need it, and that boxes and crates are never left out where people walk. Further, cleaning chemicals are properly labeled.

Your coworkers and shift managers always communicate concerns about hazards in the kitchen. For example, they let you know whenever liquid or food is spilled on the floor, or when they’re walking behind you with a hot tray.

In the past month, you slipped and fell on a greasy spot on the kitchen floor. In a separate incident you cut your finger on a knife that had been left in a sink of dirty pots. The cut required first aid attention.

Aside from occasional minor burns to fingers, no one else has been injured since you started working at the restaurant. Further, no one else has slipped or fallen in the past month.

With this job you’re getting the hours you want – not too many and not too few hours. And you’re satisfied with your hourly wage and the discount that you get on restaurant food.

You need the money from this job to pay off a $2,000 debt that you owe to a family member. You are also saving money for an important purpose (e.g., car insurance, tuition).

Vignette 2

*High quality safety conditions, no injuries, and high financial reasons for working*

Please try to imagine yourself in this situation...

You’re one month into a new job at a restaurant. You work in the restaurant’s kitchen. In the kitchen, your coworkers and shift managers keep things clean and follow proper work practices even during the busy lunch and dinner hours. Like all new employees, you
received mandatory training during your first month on the job. With this training you know how to do your job and about hazards in the kitchen. In the past month, you’ve noticed that spills of oil and other liquids are quickly mopped up, that protective equipment (e.g., gloves, oven mittens, eye protection) is available when you need it, and that boxes and crates are never left out where people walk. Further, cleaning chemicals are properly labeled.

Your coworkers and shift managers always communicate concerns about hazards in the kitchen. For example, they let you know whenever liquid or food is spilled on the floor, or when they’re walking behind you with a hot tray.

In the past month, you have not had any accidents, close calls, or injuries at this job. Aside from occasional minor burns to fingers, no one has been injured since you started working at the restaurant. Further, no one has slipped or fallen in the past month.

With this job you’re getting the hours you want – not too many and not too few hours. And you’re satisfied with your hourly wage and the discount that you get on restaurant food.

You need the money from this job to pay off a $2,000 debt that you owe to a family member. You are also saving money for an important purpose (e.g., car insurance, tuition).

Vignette 3

High quality safety conditions, injuries, and low financial reasons for working

Please try to imagine yourself in this situation...

You’re one month into a new job at a restaurant. You work in the restaurant’s kitchen. In the kitchen, your coworkers and shift managers keep things clean and follow proper work practices even during the busy lunch and dinner hours. Like all new employees, you received mandatory training during your first month on the job. With this training you know how to do your job and about hazards in the kitchen.

In the past month, you’ve noticed that spills of oil and other liquids are quickly mopped up, that protective equipment (e.g., gloves, oven mittens, eye protection) is available when you need it, and that boxes and crates are never left out where people walk. Further, cleaning chemicals are properly labeled.

Your coworkers and shift managers always communicate concerns about hazards in the kitchen. For example, they let you know whenever liquid or food is spilled on the floor, or when they’re walking behind you with a hot tray.

In the past month, you slipped and fell on a greasy spot on the kitchen floor. In a separate incident you cut your finger on a knife that had been left in a sink of dirty pots. The cut required first aid attention.
Aside from occasional minor burns to fingers, no one else has been injured since you started working at the restaurant. Further, no one else has slipped or fallen in the past month.

With this job you’re getting the hours you want – not too many and not too few hours. And you’re satisfied with your hourly wage and the discount that you get on restaurant food.

You do not owe money to anyone and are not saving money for any purpose. You use the money from this job for recreation and leisure (e.g., going out with friends, shopping).

Vignette 4

*High quality safety conditions, no injuries, and low financial reasons for working*

Please try to imagine yourself in this situation...

You’re one month into a new job at a restaurant. You work in the restaurant’s kitchen. In the kitchen, your coworkers and shift managers keep things clean and follow proper work practices even during the busy lunch and dinner hours. Like all new employees, you received mandatory training during your first month on the job. With this training you know how to do your job and about hazards in the kitchen. In the past month, you’ve noticed that spills of oil and other liquids are quickly mopped up, that protective equipment (e.g., gloves, oven mittens, eye protection) is available when you need it, and that boxes and crates are never left out where people walk. Further, cleaning chemicals are properly labeled.

Your coworkers and shift managers always communicate concerns about hazards in the kitchen. For example, they let you know whenever liquid or food is spilled on the floor, or when they’re walking behind you with a hot tray.

In the past month, you have not had any accidents, close calls, or injuries at this job. Aside from occasional minor burns to fingers, no one has been injured since you started working at the restaurant. Further, no one has slipped or fallen in the past month.

With this job you’re getting the hours you want – not too many and not too few hours. And you’re satisfied with your hourly wage and the discount that you get on restaurant food.

You do not owe money to anyone and are not saving money for any purpose. You use the money from this job for recreation and leisure (e.g., going out with friends, shopping).

Vignette 5

*Low quality safety conditions, injuries, and high financial reasons for working*

Please try to imagine yourself in this situation...

You’re one month into a new job at a restaurant. You work in the restaurant’s kitchen. In the past month, you’ve noticed that your coworkers and shift managers do not put
much effort into keeping the kitchen clean. Much of the time they do not follow safe work practices. Employees who were hired in the past month received no training about how to do their jobs or about hazards in the kitchen.

In the last month you’ve noticed that spills of oil and other liquids are frequently not mopped up, protective equipment (e.g., gloves, oven mittens, eye protection) is not available when you need it, and boxes and crates are often left out where people walk. Further, all cleaning chemicals are improperly labeled.

Your coworkers and shift managers rarely communicate about potential hazards in the kitchen. For example, they usually do not let you know when liquid or food is spilled on the floor, or when they’re walking behind you carrying a hot tray.

In the past month, you slipped and fell on a greasy spot on the kitchen floor. In a separate incident you cut your finger on a knife that had been left in a sink of dirty pots. The cut required first aid attention.

Several people have been hurt in the last month. Recently, someone slipped on grease on the floor, fell backwards and hit their head on a fryer. This person needed stitches at the hospital. The most common injuries, which occur often, are burns and cuts to fingers and arms, and bruises from contact with equipment. Most of these injuries required first aid attention. People sometimes slip on wet floors and someone fell while trying to get around crates at the back of the kitchen.

With this job you’re getting the hours you want – not too many and not too few hours. And you’re satisfied with your hourly wage and the discount that you get on restaurant food.

You need the money from this job to pay off a $2,000 debt that you owe to a family member. You are also saving money for an important purpose (e.g., car insurance, tuition).

Vignette 6

*Low quality safety conditions, no injuries, and high financial reasons for working*

Please try to imagine yourself in this situation...

You’re one month into a new job at a restaurant. You work in the restaurant’s kitchen. In the past month, you’ve noticed that your coworkers and shift managers do not put much effort into keeping the kitchen clean. Much of the time they do not follow safe work practices. Employees who were hired in the past month received no training about how to do their jobs or about hazards in the kitchen.

In the last month you’ve noticed that spills of oil and other liquids are frequently not mopped up, protective equipment (e.g., gloves, oven mittens, eye protection) is not available when you need it, and boxes and crates are often left out where people walk. Further, all cleaning chemicals are improperly labeled.
Your coworkers and shift managers rarely communicate about potential hazards in the kitchen. For example, they usually do not let you know when liquid or food is spilled on the floor, or when they’re walking behind you carrying a hot tray.

Several people have been hurt in the last month. Recently, someone slipped on grease on the floor, fell backwards and hit their head on a fryer. This person needed stitches at the hospital. The most common injuries, which occur often, are burns and cuts to fingers and arms, and bruises from contact with equipment. Most of these injuries required first aid attention. People sometimes slip on wet floors and someone fell while trying to get around crates at the back of the kitchen.

In the past month, you have not had any accidents, close calls, or injuries at this job.

With this job you’re getting the hours you want – not too many and not too few hours. And you’re satisfied with your hourly wage and the discount that you get on restaurant food.

You need the money from this job to pay off a $2,000 debt that you owe to a family member. You are also saving money for an important purpose (e.g., car insurance, tuition).

Vignette 7

Low quality safety conditions, injuries, and low financial reasons for working

Please try to imagine yourself in this situation...

You’re one month into a new job at a restaurant. You work in the restaurant’s kitchen. In the past month, you’ve noticed that your coworkers and shift managers do not put much effort into keeping the kitchen clean. Much of the time they do not follow safe work practices. Employees who were hired in the past month received no training about how to do their jobs or about hazards in the kitchen.

In the last month you’ve noticed that spills of oil and other liquids are frequently not mopped up, protective equipment (e.g., gloves, oven mittens, eye protection) is not available when you need it, and boxes and crates are often left out where people walk. Further, all cleaning chemicals are improperly labeled.

Your coworkers and shift managers rarely communicate about potential hazards in the kitchen. For example, they usually do not let you know when liquid or food is spilled on the floor, or when they’re walking behind you carrying a hot tray.

In the past month, you slipped and fell on a greasy spot on the kitchen floor. In a separate incident you cut your finger on a knife that had been left in a sink of dirty pots. The cut required first aid attention.

Several people have been hurt in the last month. Recently, someone slipped on grease on the floor, fell backwards and hit their head on a fryer. This person needed stitches at the
hospital. The most common injuries, which occur often, are burns and cuts to fingers and arms, and bruises from contact with equipment. Most of these injuries required first aid attention. People sometimes slip on wet floors and someone fell while trying to get around crates at the back of the kitchen.

With this job you’re getting the hours you want – not too many and not too few hours. And you’re satisfied with your hourly wage and the discount that you get on restaurant food.

You do not owe money to anyone and are not saving money for any purpose. You use the money from this job for recreation and leisure (e.g., going out with friends, shopping).

Vignette 8

Low quality safety conditions, no injuries, and low financial reasons for working

Please try to imagine yourself in this situation...

You’re one month into a new job at a restaurant. You work in the restaurant’s kitchen. In the past month, you’ve noticed that your coworkers and shift managers do not put much effort into keeping the kitchen clean. Much of the time they do not follow safe work practices. Employees who were hired in the past month received no training about how to do their jobs or about hazards in the kitchen.

In the last month you’ve noticed that spills of oil and other liquids are frequently not mopped up, protective equipment (e.g., gloves, oven mittens, eye protection) is not available when you need it, and boxes and crates are often left out where people walk. Further, all cleaning chemicals are improperly labeled.

Your coworkers and shift managers rarely communicate about potential hazards in the kitchen. For example, they usually do not let you know when liquid or food is spilled on the floor, or when they’re walking behind you carrying a hot tray.

Several people have been hurt in the last month. Recently, someone slipped on grease on the floor, fell backwards and hit their head on a fryer. This person needed stitches at the hospital. The most common injuries, which occur often, are burns and cuts to fingers and arms, and bruises from contact with equipment. Most of these injuries required first aid attention. People sometimes slip on wet floors and someone fell while trying to get around crates at the back of the kitchen.

In the past month, you have not had any accidents, close calls, or injuries at this job.

With this job you’re getting the hours you want – not too many and not too few hours. And you’re satisfied with your hourly wage and the discount that you get on restaurant food.

You do not owe money to anyone and are not saving money for any purpose. You use the money from this job for recreation and leisure (e.g., going out with friends, shopping).
Appendix B

Items Measuring Resistance to Safety Voice

1. I have been made to feel that I inconvenienced someone by raising a safety concern.
2. I have been treated unfairly for raising a safety concern.
3. I have been made to feel embarrassed for raising a safety concern.
4. I have been yelled at for raising a safety concern.
5. I have been threatened for raising a safety concern.
6. I have been fired for raising a safety concern.