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Exploring Aspects of Health and Well-Being in Siblings of Young Homicide Victims

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Abstract

Anecdotal report and a scant literature suggest homicide has lasting effects on the health and well-being of siblings of homicide victims. However, sample and other methodological problems make it difficult to claim these effects. It also makes it difficult to attribute these effects to a sibling's homicide versus other distressing life events. We compared 67 siblings of homicide victims with 80 comparison siblings on aspects of general health and well-being. Similar occupation types and levels of income, education, general health perception and self-worth were found. The Homicide Group reported significantly higher levels of subjective distress and school/work absences in the past 3 months due to feeling unwell, and significantly less social support and life satisfaction. This study contributes to the literature by adding a larger sample on the issue of siblings of homicide victims and including a comparison group. Findings advance understanding of homicide's effects on siblings of homicide victims.

Content Notes:

1. The terms homicide and murder are used interchangeably in this article. For this study, homicide referred strictly to missingness (Clark, Warburton, & Tilse, 2009) as the result of a probable homicide and to confirmed (charges laid or prosecuted) culpable non-vehicular homicide. Culpable homicide is murder (Government of Canada, 2015).
2. Within-text citations for direct quotes from participants in the study use the format: (year of sibling's homicide, age of participant when the homicide occurred/current age of participant). For example, a 52-year-old participant in the study who was 25 years-of-age in 1984 when the homicide occurred, is cited as (1984, 25/ 52 years)

Exploring Aspects of Health and Well-Being in Siblings of Young Homicide Victims

Homicide¹ is a violent and malicious act of human doing. When a sibling is murdered, surviving siblings are thrust largely unsupported into new physical worlds of police investigation, media intrusion and exposure, coroner or medical examiner investigation, and criminal justice systems (CJS); and new personal worlds of horror, secondary victimization, changed parenting, and the dual sets of trauma and grief. As long ago as 1996, Freeman, Shaffer, and Smith pointed to the need for research on the effects of homicide on the well-being of siblings of homicide victims. The picture remains unclear.

While there are no available data on the number of siblings of young homicide victims, previous research has established a figure of between 6 and 10 survivors per homicide victim (Vessier-Batchen & Douglas, 2006). Given the average number of children per family in Canada and the United States (US) is two or less (Statistics Canada [StatCan], 2011; US Bureau of the Census, 2004), homicide victims in Canada and the US are likely survived, on average, by at least one sibling. There is an annual average of 546 homicides in Canada (StatCan, 2015) and 14,562 in the US (Federal Bureau of Investigation [FBI], 2014). Homicide rates per 100,000 population ranged between 1.63 in 2010 and 1.45 in 2014 in Canada (StatCan, 2015), and between 4.8 and 4.5 in the same period in the US (FBI, 2014)—both countries are below the global average of 6.2 homicides per 100,000 population (United Nations, 2014). In other words, this is not just a minor problem, but a worthy topic to talk about. The fact that health and well-being are interrelated both contemporaneously and across time (WHO, 2012), makes it even

more difficult to understand why so little research attention has been given to this neglected area of how homicide affects the health and well-being of siblings of homicide victims over time.

A literature search for studies using samples comprising solely siblings of homicide victims resulted in exactly four articles (Applebaum & Burns, 1991; Freeman et al., 1996; Moss & Raz, 2001; Pretorius, Halstead-Clerk, & Morgan, 2010). Small (ns between 3 and 15) samples over-representative of economically disadvantaged neighbourhoods (Applebaum & Burns, 1991Ed; Freeman et al., 1996) or bereavement groups (Moss & Raz, 2001; Pretorius et al., 2010), and differences in methodologies and research designs make it difficult to compare findings. (Participants in the Moss and Raz sample are also more accurately described as siblings of victims of terror attacks, or multiple homicide.) Four other articles provided overviews of the impact of homicide on individual family members and close relatives, including siblings of homicide victims (Asaro & Clements, 2005; Clements & Burgess, 2002; Clements & Wiesser, 2003; Vigil & Clements, 2003). Findings from a qualitative study conducted by Clark, Warburton, and Tilse (2009) involving 9 adult siblings of brothers and sisters declared missing through probable homicide, was useful in providing understanding of the emotional well-being of siblings of unsolved or cold-case homicide victims in the short and longer term. Other studies involving siblings of homicide victims mix them in with parents, intimate partners, other close relatives, and friends of homicide victims (e.g., Casey, 2011; Mezey, Evans, & Hobdell, 2002; Simmons, Duckworth, & Tyler, 2014), making it difficult to claim specific effects for siblings of homicide victims.

There are at least two other reasons for why the existing literature on secondary victims of homicide limits understanding about the effects of homicidal loss on the health and well-being

of siblings of homicide victims. First, claims for the association of homicidal loss with increased likelihood of psychopathology in secondary victims of homicide can only be considered assumptions (van Denderen, de Keijser, Kleen, & Boelen, 2015). Second, because the exploration of subjective well-being is largely missing from the literature on secondary victims of homicide (Simmons et al., 2014), the focus on subjective distress and impairment lends itself toward a limited understanding of the experienced effects of homicide and to inevitable explanations of individual pathology.

In all, the existing research has not (yet) coalesced into a collectively coherent body of work sufficient to (a) support or refute, with confidence, claims for the association between homicidal loss and increased likelihood of psychopathology in siblings of homicide victims, or (b) begin dialogue around a broader understanding of the effects of homicidal loss on their health and well-being. A broader exploration of the experienced effects of homicide that includes subjective well-being, will contribute to greater understanding and discussion of how homicide loss and bereavement play out over the longer term for siblings of homicide victims.

Thus, the purpose of this exploratory study was to add to this neglected area of research by comparing siblings of homicide victims with a comparison group on six measurable and reliable aspects of health and well-being. Our interest was in health and well-being as outcome variables of exposure to the homicide loss of a sibling, not predisposing variables (e.g., self-efficacy, coping, previous exposure to trauma). The research question was: Are siblings of homicide victims distinguishable from a comparison group on measurable aspects of general health and well-being?

METHOD

An exploratory comparative design was used and ethical approval was received from the Human Research Ethics Board at the University of Victoria (Protocol # 09-326 and 14-310).

Participant Recruitment

Non-probability sampling methods were used for recruitment. Listserv broadcasts, e-newsletters, and website-postings by homicide and victim groups in Canada (e.g., Canadian Victim Resource Foundation, Canadian Crime Victim Foundation) and the US (Parents of Murdered Children); support groups, and a press release were used for the Homicide Group. Listserves, social media, and community posters were used for the Comparison Group.

Because siblings of homicide victims younger than 13 years required written consent from a parent, information was provided in these cases to parents to discuss with their child (children). The only inclusion criteria for the Comparison Group were for participants to have at least one sibling and no experience of homicide loss. Sampling for the Comparison Group was restricted to ensure age and gender distributions equivalent to the Homicide Group. For practicality and efficiency, we set current-age inclusion at 13 years or older for the Comparison Group. Participants were not offered incentives. Data were collected between 2010-2013 for the Homicide Group, and 2014-2015 for the Comparison Group.

Measures

The survey packet included self-report instruments assessing demographic and background information, and six measurable and reliable aspects of health and well-being (social economic indices of income, education, and occupation; general health perception; subjective distress; social support; satisfaction with life; and self-worth [e.g., AFMC Primer on Population Health, 2013; WHO, 2012]). Space was provided on all instruments for respondents to explain or

clarify a response selection. Items asking about growing up before and after the homicide-death of a sibling were modified for the Comparison Group, referring simply to “growing up.” Because the average age of participants in the Homicide Group was 20.4 years when the homicide occurred, we operationalized growing up to be between 0-25 years for the Comparison Group.

Demographic and Background Information questionnaire. The questionnaire included 37 check-box or rating scale items assessing traditional biographical (e.g., age, educational achievement) as well as homicide-specific (e.g., relationship of the accused/offender to the victim) variables. Homicide-specific items were removed for the Comparison Group, resulting in 15 items. Responses were sought relative to different time points: prior to and following a sibling’s homicide, and currently (Homicide Group); growing up and currently (Comparison Group). For this study, our interest lay only in variables meaningful to describe and compare the two groups.

Looking Back Across my Childhood. This 11-item questionnaire was designed to gather biographical and contextual information about growing up. Only the first two items are relevant for the present study. Level of agreement with the statements, “I was a happy kid overall growing up” and “I remember feeling different from my friends or classmates and other people” was assessed using a 7-point rating scale (hereafter referred to as the 7-point agreement scale; 1 = *strongly disagree*, 2 = *disagree*, 3 = *slightly disagree*, 4 = *neither disagree nor agree*, 5 = *slightly agree*, 6 = *agree*, 7 = *strongly agree*). For the Homicide Group, both items were asked twice, referring to growing up prior to and after the homicide.

General Health. A 4-item self-report questionnaire was used to assess current general health perception. General health perception is an indicator of overall health status (StatCan,

2013); reflecting and communicating information about physical, psychological, social, and mental components of health (Eisen, Ware, Donald, & Brook, 1979; StatCan, 2013). Item 1 was a global assessment of perceived general health adapted from Eisen et al. (1979), using 4 check-box options (1 = *excellent*, 2 = *good*, 3 = *fair*, 4 = *poor*). Items 2 to 4 assessed functional health by asking about school/work attendance in the past 3 months.

Impact of Event Scale—Revised (IES-R). The IES-R assesses current subjective distress in response to 22 difficulties sometimes experienced after a potentially traumatic event (Weiss & Marmar, 1997); 8 on avoidance and intrusion, and 6 on hyperarousal. Respondents rate how much each difficulty bothered them in the past 7 days (0 = *Not at all*, 1 = *A little bit*, 2 = *Moderately*, 3 = *Quite a bit*, 4 = *Extremely*). Mean scores for each subscale range from 0 (i.e., no symptoms) to 4 (i.e., highest level of symptoms), and total scores from 0 to 88. Total scores of 33 (Creamer, Bell, & Failla, 2003) or greater (Simmons et al., 2014) possess the “highest overall diagnostic power” (Creamer et al., 2003, p. 1494) for a PTSD diagnosis.

The IES-R was completed twice by the Homicide Group: once using the referent, “the fact that your sister or brother was murdered” as the specific event (IES-R-Homicide), and once “the loss of your sister or brother” (IES-R-Loss). The Comparison Group were asked to list up to 5 stressful, challenging, and/or upsetting life-event experiences growing up, then respond to the 22 items using the major stress event as the referent event. In our sample of siblings of secondary victims of homicide, Cronbach’s alpha was .94 for the total score on both IES-R iterations, and between .86 and .89 (IES-R-Homicide) and .87 and .93 (IES-R-Loss) for the 3 subscales. The IES-R has been used in other studies investigating the effects of homicide loss on secondary victims (e.g., Mezey et al., 2002; Simmons et al., 2014).

Social Support. A single-item measure was used to assess level of perceived social support. Social support is derived through friendships, good social relations, and social or community support networks (Canadian Institute of Health Information [CIHI], 2012) sharing and providing a person with positive interactions, emotional support, and access to practical and informational resources. The 7-point agreement scale was used to assess level of agreement with the statement, “Currently, I have a lot of social support in my life.” Higher scores reflect greater perceived social support.

Satisfaction with Life Scale (SWLS). The SWLS is a well-established and psychometrically validated 5-item measure of satisfaction with life (Diener, Emmons, Larsen & Griffin, 1985; Pavot & Diener, 2008). Satisfaction with life (SWL) amounts to a person’s reflective evaluation of, and satisfaction with, their lived life, current life experience, and future circumstances relative to a personal (Diener et al., 1985) and, therefore, subjective (Simmons et al., 2014), standard based on their own values. Items are rated on the 7-point agreement scale, yielding a total score ranging from 5-35. Higher scores reflect greater SWL. Diener (2006) suggested total scores be interpreted as: 5-9 = *Extremely dissatisfied and unhappy*, 10-14 = *Dissatisfied*, 15-19 = *Slightly below average in life satisfaction*, 20-24 = *Average*, 25-29 = *High satisfaction*, 30-35 = *Very high satisfaction, highly satisfied*. The SWLS has been used in studies including secondary victims of homicide (e.g., Simmons et al., 2014).

Self-Worth. A single-item asked respondents to endorse (1 = *Excellent*, 2 = *Good*, 3 = *Fair*, 4 = *Poor*) the response best completing the sentence, “My belief and confidence in my personal value as an individual person is ____.” Self-worth has positive and protective effects

on health and well-being and is defined as a person's feeling of being "cared for, loved, esteemed, and valued" (WHO, 2003).

Data Collection Procedure

Surveys were completed online through a secure, hosted-service CallWeb system (Homicide Group) and FluidSurveys™ (Comparison Group). A unique access code served as study identification and allowed participants to save and return to their survey. Participants were asked to complete the survey within 2 weeks of first access. A reminder email was sent 2 days after the 2-week period, and once more 2 weeks later. Once submitted, a participant's access to their online survey was lost. Two participants in the Homicide Group requested completing the survey in hard copy. On their return by mail, data were manually entered into the CallWeb system. Access codes were provided to 93 potential participants for the Homicide Group, of which 68 (73.1%) accessed and 67 (72.0%) completed the survey. Of these, 54 (80.6%) provided responses for all 7 questionnaires. Access codes were provided to 100 potential participants for the Comparison Group, 80% of who accessed and completed all 7 questionnaires. No participant from either group withdrew from the study.

Mean imputation was used for data making up less than 10% of the data missing at random and for outliers greater than 3.5 standard deviations from their group means (for which there were two instances). Data from Homicide Group participants completing less than 20% of the items on an instrument were excluded from analysis of these data.

Data Analysis

We first compared the Canadian and American siblings of homicide victims on 19 demographic and homicide-specific variables. No systematic differences were found, allowing us

to collapse the data across the two groups to form the Homicide Group. We used Pearson chi-square analyses ($p \leq .01$) and 2-sample t -tests (two-tailed, Bonferroni-adjusted $p \leq 0.02$) to examine differences between the Homicide Group and Comparison group. Where t -test differences were statistically different, Cohen's d was used to assess if effect sizes were small ($d \leq 0.2$), medium ($d \geq 0.5$), or large ($d \geq 0.8$; Cohen, 1988, p. 25, as cited by Becker, 2000).

RESULTS

Sample Characteristics and Descriptive Statistics

The achieved sample of 147 participants (Homicide Group, $n = 67$; Comparison Group, $n = 80$) was a self-selected, non-probability sample characterized by participants' willingness to participate. Twenty-five (37%) participants in the Homicide Group and 17 (21%) in the Comparison Group did not report estimates of family income while growing up. The amount and wide variety of potentially traumatic life events and stressors listed by the Comparison Group was not surprising given that 77.5% of Canadians (Stein, Walker, Hazen, & Forde, 1997), and 89% of Americans (Kilpatrick et al., 2013), report experiencing at least one potentially traumatic event during their lifetime.

--Insert Table 1 about here--

Further to Table 1, we provide the following information for a more complete picture of the Homicide Group. For the majority (80.6%), siblings were murdered within the last 10 years ($M = 14.58$, $SD = 13.24$, range: 1-54). Participants represented 56 murdered siblings (51% were participants' brothers) with a mean age of 20.9 years ($SD = 6.31$, range: 15_{months}-35_{years}) at the time of death. Of these 56 homicides, 75% had been cleared (a charge had been laid, case prosecuted, or accused was deceased). Number of years for unsolved and cold cases, ranged

between 1 and 54 years. Of the participants who knew the relationship between their sibling and the accused/offender, 31.2% reported the accused/offender a stranger, 52.5% an acquaintance, and 14.8% a family member. Ten percent did not know the relationship between the accused/offender and their sibling. Three had witnessed the murder of their sibling.

Results for Measures of Current Health and Well-being

An overview of descriptive and statistical results is provided in Table 2.

--Insert Table 2 about here--

Socioeconomic Status

Data were collapsed across categories into four relatively large categories for each of income, education, and occupation type. No differences were found.

General Health

There was no significant mean difference between the two groups for general health perception. While a significantly greater proportion of the Homicide Group reported missing at least one day of school/work in the past 3 months because of not feeling well, there was no significant between-group difference for going at least once to school/work in the past 3 months despite not feeling capable of working.

Subjective Distress

The Homicide Group reported significantly greater mean total scores and significantly greater levels of subjective distress associated with avoidance, intrusion, and hyperarousal on both the IES-R-Homicide and IES-R-Loss. Effect sizes on both comparisons (i.e., IES-R-Homicide vs. IES-R Comparison Group; IES-R-Loss vs. IES-R Comparison Group), were moderate for avoidance ($d = .75$; $d = .65$) and high for intrusion ($d = 1.09$; $d = 1.12$) and

hyperarousal ($d = .98$; $d = .99$). Total scores ranged between 0-72 (IES-R-Homicide) and 0-74 (IES-R-Loss) for the Homicide Group, and between 0-66 for the Comparison Group.

Social support, Satisfaction with Life, and Self-worth

While both groups reported more-than-average agreement (ratings $> 3 \leq 5$ on the 7-point scale) with the statement, “Currently, I have a lot of social support in my life,” this was approaching “good agreement” (a rating of 5) for the Comparison Group. This difference was statistically significant and showed a medium effect size ($d = .54$). Total scores for both groups were in the average range for SWL (total scores between 20-24); ranging between 5-32 for the Homicide Group and 8-34 for the Comparison Group. The two groups were essentially equivalent on the measure of self-worth; both reporting good self-worth.

DISCUSSION

By examining an array of measurable and reliable aspects of general health and subjective well-being, findings from this study begin a dialogue around a broader understanding of the effects of homicide loss on the health and well-being of siblings of homicide victims. Subjective well-being is experienced as a positive and affirming state of being (National Wellness Institute, n.d.); and is reflected in the capacity to feel, think, and act in ways that enhance abilities to realize self-potential (Chen, Jing, Hayes & Lee, 2013), enjoy life, and deal with the inevitable and the terrible of life (Wong, 2015). Most studies on homicidal loss focus on psychopathology. While important, this narrow view limits understanding by not providing a broad and more balanced perspective. Given its reciprocal association with health and contribution to future health (WHO, 2012), subjective well-being is an equally important focus for understanding how homicide loss affects siblings of homicide victims.

Socioeconomic Status

Whereas it has been suggested that developmental milestones of childhood, adolescence, and early adulthood (Asaro & Clements, 2005; Clark et al. 2009) can be set off course by the loss of a sibling through homicide, we found no significant differences for income, education, or occupation. What this means is not immediately clear to us. It is certainly easy to reach to an explanation of resilience, for example. In fact, the most common response to trauma is resilience (Bonanno, 2005). But, to do so here would be speculative only.

That annual incomes less than \$20,000 were reported by almost a third (30.9%) of the Homicide Group and half (43.2%) of the Comparison Group, reflects the relatively young average age of the sample—most particularly the Comparison Group. Even though the two groups were age-equivalent, 60.0% of the Comparison Group were aged 30 years or younger (vs. 44.8% of the Homicide Group).

Anecdotal and research report (Vigil & Clements, 2003) of reduced academic functioning among homicide survivors was difficult to discern from our sample. One quarter of both groups had completed high school or less; some because they were still at junior or high school. Both groups were also as likely to have completed some level of post-secondary education or training. Also, a relatively larger proportion of the Comparison Group were graduates of college or university bachelor-level programs, but a relatively larger proportion of the Homicide Group were graduates of professional or university graduate-level programs. Furthermore, using data abstracted from the occupation item, a significantly greater proportion (63.8%) of the Comparison Group (vs. 20.9% of the Homicide Group) were attending full or part-time education or training programs ($\chi^2(2, N = 147) = 25.21, p < .0001$). Again, this finding could

reflect the same age-disproportion of the two groups noted earlier. It is impossible to know if these differences reflect true differences or an artifact of sampling. Future studies will need to tease out findings related to the impact of homicide on the academic and educational outcomes of siblings of homicide victims.

The finding of no difference for occupation might be due to the broad categories used to group occupation type. Of note is that more than half of both groups endorsed current occupation as Other/No current occupation. For the Comparison Group, much of this is explained by the significantly greater proportion attending full or part-time education or training programs compared to the Homicide Group. For the Homicide Group, 33% (vs. 13% of the Comparison Group) reported “employment difficulty” (defined as job losses, changes, and dissatisfaction)—a significant post-hoc difference ($\chi^2 (2, N = 147) = 8.63, p < .01$). Employment difficulty is consistent with anecdotal report (e.g., POMC, 2009) and the existing literature on secondary victims of homicide (Casey, 2011; Mezey et al., 2002). Freeman et al. (1996) also reported difficulties at school for their sample of siblings of homicide victims. Absenteeism (significantly elevated in the Homicide Group vs. Comparison Group), might also have contributed to difficulties at school and work reported by our sample.

Another roughly 20% (vs. none in the Comparison Group) were currently unemployed, or not working by choice; and 14.9% (vs. 1.3% of the Comparison Group) were homemakers—also a significant post-hoc difference ($\chi^2 (2, N = 147) = 22.8, p < .0001$). This hints at anecdotal report of an increased valuing of family and relationships being observable within our sample. A shift in values and priorities may also affect and account for some aspect of the increased level of absenteeism we found, possibly related to nuanced differences in the way

siblings of homicide victims (re)consider and (re)arrange their school/work/life lives over the longer course. In the words of a participant in our study:

I didn't take a lot more days off. But I went into work later and left earlier because I just didn't care and didn't see the point. This went on for at least 6 months. While the feeling of not caring gradually went away, I was left with a different perspective on work and life. I wanted more of a work/life balance than I had before, so I allowed myself to take sick days and have a more balanced schedule which I still have today. (2007, 27/31 years)²

General Health

Our finding of no difference on general health perception contradicts findings from mixed samples of secondary victims of homicide in the UK (Casey, 2011) and US (Clements & Burgess, 2002). For example, 83% of the UK sample reported compromised physical health and 53% said poor health was a particularly challenging aspect of homicidal loss. In contrast, only 3.0% of our sample reported poor current health (in line with the 2.5% of the Comparison Group). More telling of the disparity, is that 70.5% of the Homicide Group rated current health between good and excellent (ratings of 1 and 2). We are unsure why our finding is at odds with the existing mixed-sample literature, especially because there was no meaningful association between current health and the number of years since the homicide ($r(65) = 0.06, p = 0.63$).

Considering our finding that absenteeism due to feeling unwell was significantly greater for the Homicide Group, we were surprised to find no difference for going to school/work despite not “feeling capable of doing your work or performing your work duties.” It may have been that for some of the Homicide Group, absenteeism was driven less by physical health and more by having “a different perspective on work and life” (using the words of the participant quoted above), or psychological well-being. Keyes (2007) suggested that absenteeism and cutbacks in the amount of work are highest among all people scoring low on measures of

psychological well-being. This is consistent with the findings of significantly higher levels of subjective distress for the Homicide Group.

Subjective Distress

Others have reported high levels of psychological distress, including post-traumatic symptoms (Applebaum & Burns, 1991) or disorder (Freeman et al. 1996) among siblings of homicide victims. Elevated levels of uncontrollable, intrusive fantasies about their sibling's fear and pain (Freeman et al. 1996; Moss & Raz, 2001) and hypervigilance (Clark et al. 2009; Moss & Raz, 2001), are reported as common. In our sample, clear differences existed between the two groups regarding current levels of subjective distress. Subscale and total scores on both iterations of the IES-R were all significantly higher for the Homicide Group. However, important to note is that average ratings across all three subscales were relatively low ($M = 1.26$ for both iterations); we cautiously suggest this points to an increased likelihood of elevated subjective distress, but not necessarily PTSD. This is in keeping with the idea that while the 22 items of the IES-R correspond with 14 of the 17 DSM-IV symptoms of PTSD (Simmons et al., 2014), the IES-R is best considered a measure of *general subjective distress* (emphasis not in the original), not PTSD (Creamer et al., 2003).

At the same time, Creamer et al. (2003) also suggested a total score ≥ 33 is an accurate screen for likely PTSD 90% of the time. This is a challenge for our suggestion of increased likelihood of elevated subjective distress but not necessarily PTSD because we found total scores ≥ 33 for more than one third of our sample of siblings of homicide victims: 41% showed total scores ≥ 33 in response to their sibling being murdered, and 36% to the loss of their sibling. These relative frequencies fall within the 19.1% to 71% rates of PTSD reported by van Denderen

et al. (2015) in their review of studies on psychopathology among homicidally bereaved individuals. Interestingly, we found total scores ≥ 33 for just 7.3% of the Comparison Group—consistent with the 9% and 8.7% lifetime prevalence estimates for PTSD in Canada (Van Ameringen, Mancini, Patterson, & Boyle, 2008) and the US (DSM-V, APA, 2014, p. 276). The interpretation of IES-R total scores ≥ 33 indicating likely PTSD argues we found evidence supporting the association of homicide loss with an increased likelihood of PTSD. If this is so, then we propose that, for siblings of homicide victims, the increased likelihood of PTSD associated with homicide falls within the mid-range of what other studies have reported for mixed samples of secondary victims of homicide.

Still, we also agree with Walter (2005) that all grief is complicated (including by trauma), and that normalizing and pathologizing grief are social constructions. As stated at the outset of this article, from the time of learning that a sibling is missing or dead because of a probable homicide, siblings of homicide victims are thrust into new physical worlds—all of which amplify subjective distress (Casey, 2011) and complicate personal worlds. Current understanding is that trauma and grief intertwine (Neimeyer & Burke, 2011) in a “complex synergy” (Neria & Litz, 2004, p. 73). Post-hoc, we found a statistically significant and positive correlation ($r(52) = .91, p = .001$) between the two IES-R iterations, indicating an approximately 83% overlap. We interpret this overlap to reflect current understanding and to come full circle to what Freeman et al. (1996) described as the dual set of trauma and grief experienced by siblings of homicide victims. Based on Frankl’s contention that, “an abnormal reaction to an abnormal situation is normal behavior” (1984, p. 38), we wonder if the findings we are reporting here for subjective distress depict a normal response to homicide bereavement, and not psychopathology. A participant in our study

speaks relatedly to what van Denderen et al. (2015) essentially described as the empirical rush to pathologize subjective distress in response to homicide bereavement:

i had a psychiatrist tell me i was mentally ill because I was still grieving after 3 months and this was not "standard" . . . Overall, every bit of sadness or dysfunction that ensued was pathologized as some sort of disease, illness, non-normal, when my very definition of normal had changed . . . i was met with judgement NOT help. (2002, 16/25 years)

We further interpret our findings to tentatively indicate that subjective distress experienced by siblings of homicide victims is more pronounced and conserved across time versus that of many other distressing and potentially traumatic life events. This reflects reports of little association of time (e.g., Zinzow, Rheingold, Byczkiewicz, Saunders, & Kilpatrick, 2011) or case closure (Simmons et al., 2014) with improvement in subjective distress among secondary victims of homicide. As seen in Table 1, it is also the case that the Homicide Group reported less happiness and feeling more different growing up (after the homicide), and that these differences were very large ($d = -1.25$ for happiness; $d = 1.32$ for feeling different). Self-assessed happiness growing up is a determinant of well-being (Bellis, Hughes, Jones, Perkins & McHale, 2013), and may therefore help to explain the elevated levels of subjective distress (and lower life satisfaction) we found for siblings of homicide victims. It also adds to our thinking that chronically low to moderate levels of subjective distress among siblings of homicide victims may be both normal and understandable.

We are cautious in our interpretations not only because our study was exploratory, but because 72% of our sample of siblings of homicide victims reported having a lot of current social support (agreement ratings between 5 and 7). Having supportive and rewarding social relationships and friendships is not only linked to better health and well-being (WHO, 2003), but tempers high levels of subjective distress (CIHI, 2012). In other words, our findings of slightly

elevated mean levels of subjective distress may be explained by the large amount of social support our sample of siblings of homicide victims reported having currently in their lives.

Current Social Support, Satisfaction with Life, and Self-worth

Despite the large amount of social support reported by almost three-quarters of the Homicide Group, they demonstrated a statistically lower mean level of current social support than the Comparison Group. Our findings appear to both contradict and corroborate studies indicating shortfalls in social support for siblings of homicide victims.

The picture of contradiction is this: Siblings of homicide victims experience diminished social support through relationship difficulties with family members and friends (Freeman et al., 1996; Pretorius et al., 2010); insensitive responses from peers and teachers (Clements & Burgess, 2002; Freeman et al., 1996); and social stigma (Clements & Burgess, 2002). However, in all these studies, siblings' homicides had occurred "recently" (between 1-3 months or an average of 5 months previously). In contrast, average time since a sibling's homicide in our sample was 14.58 years (range: 1-54 years). Comparing the experience of current social support reported by our sample with findings generated from samples more recently bereaved, is not meaningful and may account for the contradictory evidence we report here.

The picture of corroboration is this: Descriptive data clarifying, or explaining the rating provided on this item, shows that siblings of homicide victims in our sample continued to experience relationship difficulties, insensitive responses, and social stigma, but in a less pronounced way compared to what they described for early social support. Rather, the emblematic difficulty of current social support was one of continuing to feel alone in the experience of a sibling's homicide. We understand this shadow of aloneness to reveal the

paradox in our finding that almost three-quarters of the Homicide Group reported a lot of current social support. We also understand and suggest that feeling alone may be part-and-parcel of living with the obdurate reality of a sibling's homicide-death and (for most) its case status within the CJS. Below, we use representative quotes from our sample to illustrate and provide insight into two reasons for why this may be so.

The first is a product or some combination of (a) not expecting others to understand; (b) a conflict between wanting support but withdrawing from family and friends (also described by Pretorius et al., 2010); (c) the changed nature of relationships within the family and friendships (also described by Clark et al., 2009; Freeman et al., 1996; and Pretorius et al., 2010); and (d) the diminishing availability of social support. Participants were of the strong opinion that nobody who has not “been through a murder of their sibling” (1998, 16/ 29 years), and the painful and indeterminate creep through the CJS, can truly understand, despite “doing their best to be supportive when I’m having a bad day” (2002, 15/24 years). For many, “[t]he cultural norm that a parents’ grief is the greatest pain one can experience” (1980, 11/34 years) continued, as did an ongoing hesitancy to “speak to a family member as it would bring upset to their day” (1977, 13/47 years). Also, with the passage of time, friends were seen to “have their own lives, as they have gotten married and started to have families” (2007, 27/31 years), or “assume I have moved on or that it no longer affects me on a daily basis. . . . but even my good friends . . . I think they know it upsets me to talk about it so they don’t bring it up” (2010, 23/24 years).

The second reason for feeling alone, and closely intertwined with the first, is a deep and ongoing sense of feeling different. Illustrating this intertwining of reasons are the overarching reasons given by our sample for feeling different: wondering how anyone could possibly

understand; having difficulty fitting in, or relating to others, even to close friends; feeling or noticing people looking at them differently; being treated completely differently, “as though I had ‘homicide’ written across my forehead” (1981, 21/51 years); changes and adjustments in responsibilities and family life—sometimes described as growing up quickly; and straightforwardly not being the same person anymore. Feeling different echoes the sentiment and experience expressed by siblings of homicide victims in the Freeman et al. (1996) and Pretorius et al. (2010) studies. Post-hoc analysis showed no effect of time on feeling different. Feeling different may thus be another enduring effect of the homicidal loss of a sibling and delimit good social relationships and friendships. As succinctly discussed by a participant in our study:

I still to this day feel different. . . . I have seen something that not many others have experienced and they don’t know what it can do to someone. I have friends who have experienced loss of a sibling but not through murder. (1995, 10/26 years)

Further to these two reasons for feeling alone, are those of changes to siblings’ fundamental worldview assumptions (Vigil & Clements, 2003) and secondary victimization. While we did not include our measures on early and current levels of secondary victimization for the present article, 14.9 % of our sample reported currently feeling extremely victimized (16.4% denied such), and most were somewhere in the middle. Both secondary victimization—the antithesis of social support—and changed worldview assumptions are also likely to contribute to feeling different, further exacerbating feeling alone with homicidal loss.

Changes to siblings’ fundamental worldview assumptions could also help to explain our finding of a lower level of current social support in the Homicide Group. Homicidally bereaved individuals commonly come to see themselves as unworthy of love, other people as selfish and untrustworthy, and the world as unreliable and unjust (Armour, 2003). Such a shift in worldview

may well contribute or lead to reduced motivation to seek out social support. At the same time, we found no difference between the two groups on self-worth—and presumably, therefore, of feeling worthy of being “cared for, loved, esteemed, and valued” (WHO, 2003). Not only this, but self-worth was also good in our sample of siblings of homicide victims. It is also true, however (and as noted earlier), that despite having less social support than the Comparison Group, close to 75% of the Homicide Group had a lot of current social support; and social support validates self-worth (CIHI, 2012). Nonetheless, because self-worth has positive and protective effects on a person’s health and well-being (WHO, 2003, p. 22), our finding of no difference in self-worth is an encouraging finding in understanding the effects of homicide loss on the health and well-being of siblings of homicide victims. Whether this sense of self-worth was hung onto from the outset, or lost and (re)claimed, is an open question.

Life satisfaction, however, was significantly lower for the Homicide Group. Still, it just met the cut-off score for average SWL. In the Comparison Group, SWL was in the higher range of average. Cross-national and cultural findings show that most people report moderate SWL (Biswas-Diener, Vittersø, & Diener, 2005). We were not surprised to find lower SWL in the Homicide Group corresponding with our findings of elevated subjective distress and lower current social support; both of which are interrelated with SWL (Mcdowell, 2006, p. 206). Nevertheless, because SWL is an indicator of positive functioning (Vleiorus & Bosma, 2005) and subjective well-being (Mcdowell, 2006, p. 206), the finding of average SWL demonstrated by our sample of siblings of homicide victims, is also encouraging.

Limitations

Both groups were self-selected and included more sisters than brothers. In assembling our

sample, we did not ask about nationality, culture, race, religion, or ethnicity—all of which are likely to influence response to homicidal loss of a sibling. It is also possible for the experienced effects of homicide loss to be different for siblings of homicide victims in countries (or areas within countries) with higher rates of homicide than in Canada or the US. Levels of early and current social support reported by our sample may also be greater than what (sadly over-represented) siblings of homicide victims from economically disadvantaged neighbourhoods experience. The cross-sectional design and missing data among the Homicide Group are other limitations. Further studies are encouraged to examine the association of self-assessed happiness growing up following the homicide death of a sibling with health and well-being over the longer term. At a policy level, it will be practical for future studies to assess a net effect of homicide on the health and well-being of siblings of homicide victims.

CONCLUSION

Findings from this study offer some insight into the specific effects of homicide loss on the health and well-being of siblings of homicide victims. Not only does this study add to a neglected area of study, but also adds a larger sample on the issue of siblings of homicide victims. Including a non-homicide exposed comparison group also allows more concrete evidence for the effects of homicide on siblings of homicide victims. Six aspects of general health and subjective well-being were assessed. Findings somewhat challenge and balance out empirical and anecdotal assumptions of psychopathology. No differences were found for current income, education, occupation type, general health, or self-worth. Subjective distress may continue to remain elevated at low levels, and absence from school/work due to feeling unwell may also continue over the longer term. Our finding of good self-worth among siblings of

homicide victims is both novel and encouraging. An attempt to unpack or measure the sum of these aspects of health and well-being in terms of net health and well-being, was beyond the scope of this study. We hope that the findings reported in this article will be useful to educate victim service, health, counselling, and social work professionals about the broader effects of homicidal loss on the health and well-being of siblings of homicide victims. This understanding will help to support, validate, and encourage siblings of homicide victims.

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References

- AFMC Primer on Population Health. (2013, August 14). Determinants of health and health inequities (Chapter 2). Retrieved from <https://afmc.ca/pdf/AFMC-Primer-on-Population-Health-2013-08-14.pdf>
- American Psychiatric Association. (2014). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing.
- Applebaum, D. R., Burns, G. L. (1991). Unexpected childhood death: posttraumatic stress disorder in surviving siblings and parents. *Journal of Clinical Child Psychology*, 20(2), 114-120. doi: 10.1207/s15374424jccp2002
- Armour, M. (2003). Making meaning in the aftermath of homicide. *Death Studies*, 27, 519-540. doi: 10.1080/07481180302884
- Asaro, M. R., & Clements, P. T. (2005). Homicide bereavement: A family affair. *Journal of Forensic Nursing*, 1, 101-105. doi: 10.1097/01263942-200509000-00004
- Becker, L.A. (2000). *Effect size*. Retrieved from <http://www.uv.es/~friasnav/EffectSizeBecker.pdf>
- Bellis, M. A., Hughes, K., Jones, A., Perkins, C., & McHale, P. (2013). Childhood happiness and violence: a retrospective study of their impacts on adult well-being. *British Medical Journal Open*, 3(e003427). doi: 10.1136/bmjopen-2013-003427
- Biswas-Diener, R., Vittersø, J., & Diener E. (2005). Most people are pretty happy, but there is cultural variation: The Inughuit, The Amish, and The Maasai. *Journal of Happiness*, 6(3), 205–226. doi: 10.1007/s10902-005-5683-8
- Bonanno, G. A. (2005). Resilience in the face of potential trauma. *Current Directions in*

- Psychological Science*, 14(3), 135-138. doi:10.1111/j.0963-7214.2005.00347
- Canadian Institute of Health Information. (2012, March). *The role of social support in Reducing psychological distress*. Retrieved from https://secure.cihi.ca/free_products/AiB_ReducingPsychological%20DistressEN-web.pdf
- Casey, L. (2011, July). *Review into the needs of families bereaved by homicide*. Retrieved from <https://www.justice.gov.uk/downloads/news/press-releases/victims-com/review-needs-of-families-bereaved-by-homicide.pdf>
- Chen, F. F., Jing, Y., Hayes, A., & Lee, J. M. (2013). Two concepts or two approaches? A bifactor analysis of psychological and subjective well-being. *Journal of Happiness Studies*, 14(3), 1033–1068. doi: 10.1007/s10902-012-9367-x
- Clark, J., Warburton, J., & Tilse, C. (2009). Missing siblings: Seeking more adequate social responses. *Child & Family Social Work*, 14, 267-277. doi:10.1111/j.1365-2206.2008.00593.x
- Clements, P. T., & Burgess, A. W. (2002). Children's responses to family member homicide. *Family Community Health*, 25, 32-42. doi: 10.1097/00003727-200204000-00007
- Clements, P. T., & Weisser, S. M. (2003). Cries from the morgue. *Journal of Child and Adolescent Psychiatric Nursing*, 16, 153-161. doi: 10.1111/j.1744-6171.2003.00153.x
- Creamer, M., Bell, R., & Failla, S. (2003). Psychometric properties of the Impact of Event Scale – Revised. *Behavior Research and Therapy*, 41(12), 1489-1496. doi: 10.1016/j.brat.2003.07.010
- Diener, E. (2006). *Understanding scores on the Satisfaction with Life Scale*. Retrieved from,

<https://internal.psychology.illinois.edu/~ediener/Documents/Understanding%20SWLS%20Scores.pdf>

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale.

Journal of Personality Assessment, 49(1), 71-75. doi: 10.1207/s15327752jpa4901_13

Eisen, M., Ware, Jr. J. E., Donald, C. A., & Brook, R. H. (1979). Measuring components of children's health status. *Medical Care*, 17(9), 902-921.

doi:10.1097/00005650-197909000-00003

Federal Bureau of Investigation (FBI). (2014). *Crime in the United States. By Volume and Rate per 100,000 Inhabitants, 1995–2014. Table 1*. Retrieved from

<https://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2014/crime-in-the-US-2014/tables/table-1>

Frankl, V. E. (1984). *Man's search for meaning*. New York: Simon & Schuster.

Freeman, L. N., Shaffer, D., & Smith, H. (1996). Neglected victims of homicide: The needs of young siblings of murder victims. *The American Journal of Orthopsychiatry*, 66,

337-345. doi: 10.1037/h0080184

Government of Canada (2015). *Criminal code (R. S. C., c. C-34, s. 212)*. Retrieved from

<http://laws-lois.justice.gc.ca/eng/acts/C-46/section-229.html>

Keyes, C. L. M. (2007). Promoting and protecting mental health as flourishing: A

complementary strategy for improving national mental health. *American Psychologist*,

62, 95–108. doi:10.1037/0003-066X.62.2.95

Kilpatrick, D. G., Resnick, H. S., Milanak, M. E., Miller, M. W., Keyes, K. M., & Friedman, M.

J. (2013). National estimates of exposure to traumatic events and PTSD prevalence using

- DSM-IV and DSM-5 criteria. *Journal of Traumatic Stress*, 26(5), 537-547.
doi:10.1002/jts.21848
- Mcdowell, I. (2006). *Measuring health: A guide to rating scales and questionnaires* (Third ed.).
NY, New York: Oxford University Press.
- Mezey, G., Evans, C., & Hobdell, K. (2002). Families of homicide victims: Psychiatric responses
and help-seeking. *Psychology and Psychotherapy*, 75, 65-75.
doi:10.1348/147608302169553
- Moss, E., & Raz, A. (2001). The ones left behind: A siblings' bereavement group. *Group
Analysis*, 34, 395-407. doi: 10.1177/05333160122077956
- National Wellness Institute (n.d.). *The six dimensions of wellness*. Retrieved from
http://www.nationalwellness.org/?page=Six_Dimensions
- Neimeyer, R. A., & Burke, L. A. (2011). Complicated grief in the aftermath of homicide:
Spiritual crisis and distress in an African American sample. *Religions*, 2(4), 145–164.
doi:10.3390/rel2020145
- Neria, Y., & Litz, B. T. (2004). Bereavement by traumatic means: The complex synergy of
trauma and grief. *Journal of Loss and Trauma*, 9(1), 73-87.
doi: 10.1080/15325020490255322
- Pavot, W., & Diener, E. (2008). The satisfaction with life scale and the emerging construct of life
satisfaction. *The Journal of Positive Psychology*, 3(2), 137-152.
doi:10.1080/17439760701756946
- POMC (2009). *Problems of survivors*. Retrieved from <http://www.pomc.com/problems.cfm>

- Pretorius, H. G., Halstead-Clerk, J., & Morgan, B. (2010). The lived experience of losing a loved one to murder. *Indo-Pacific Journal of Phenomenology*, 10(1), 1-13. doi: 10.2989/IPJP.2010.10.1.7.1079
- Simmons, C. A., Duckworth, M., & Tyler, E. (2014). Getting by after a loved one's death by homicide: The relationship between case status, trauma symptoms, life satisfaction, and coping. *Violence and Victims*, 29(3), 506-523. 10.1891/0886-6708.VV-D-12-00114
- Statistics Canada (2011). *Fifty years of families in Canada: 1961 to 2011*. Retrieved from https://www12.statcan.gc.ca/census-recensement/2011/as-sa/98-312-x/98-312-x2011003_1-eng.cfm
- Statistics Canada. (2013). *National Household Survey, 2011*. Retrieved from: <http://www12.statcan.gc.ca/nhs-enm/2011/as-sa/99-012-x/2011001/tbl/tbl01-eng.cfm>
- Statistics Canada (2015). *Homicide survey, number and rates (per 100,000 population) of homicide victims, Canada, provinces and territories Annual*. Table 253-0001. Retrieved from <http://www5.statcan.gc.ca/cansim/a26?lang=eng&retrLang=eng&id=2530001&&pattern=&stByVal=1&p1=1&p2=-1&tabMode=dataTable&csid=>
- Stein, M. B., Walker, J. R., Hazen, A. L., & Forde, D. R. (1997). Full and partial posttraumatic stress disorder: Findings from a community survey. *The American Journal of Psychiatry*, 154(8), 1114-1119. doi: 10.1176/ajp.154.8.1114
- United Nations. (2014, March). *Global study on homicide 2013*. Retrieved from https://www.unodc.org/documents/gsh/pdfs/2014_GLOBAL_HOMICIDE_BOOK_web.pdf

- U.S. Bureau of the Census. (2004). *State Tables. Family and Living Arrangements. Table ST-F1-2000*. Retrieved from <http://www.census.gov/hhes/families/data/states.html>
- van Ameringen, M., Mancini, C., Patterson, B., & Boyle, M. H., (2008). Post-traumatic stress disorder in Canada. *CNS Neuroscience & Therapeutics*, 14, 171-181. doi: 10.1111/j.1755-5949.2008.00049.x
- van Denderen, M., de Keier, J., Kleen, M., & Boelen, P. A. (2015). Psychopathology among homicidally bereaved individuals: A systematic review. *Trauma, Violence, & Abuse*, 16(6), 70-80. doi: 10.1177/1524838013515757
- Vigil, G. J., & Clements, P. T. (2003). Child and adolescent homicide survivors: Complicated grief and altered worldviews. *Journal of Psychosocial Nursing & Mental Health Services*, 41(1), 30-39.
- Vessier-Batchen, M., & Douglas, D. (2006). Coping and complicated grief in survivors of homicide and suicide decedents. *Journal of Forensic Nursing*, 2, 25-32. doi: 10.1111/j.1939-3938.2006.tb00050.x
- Vleioras, G., & Bosma, H. A. (2005). Are identity styles important for psychological well-being? *Journal of Adolescence*, 28(3), 397-409. doi: 10.1016/j.adolescence.2004.09.001
- Walter, T. (2005). What is complicated grief? A social constructionist perspective. *Omega: Journal of Death & Dying*, 52(1), 71-79.
<https://doi.org/10.2190/3LX7-C0CL-MNWR-JKKQ>
- Weiss, D., & Marmar, C. (1997). The Impact of Event Scale—Revised. In J. Wilson & T. Keane (Eds.), *Assessing psychological trauma and PTSD* (pp. 399-411). New York: Guilford Press.

Wong, P. T. (2015). *Journey of personal development* (Part 2): Heal yourself. Retrieved from:

<http://www.inpm.org/wp-content/uploads/2011/02/Journey-of-personal-development-Part-2-Heal-yourself-March-2015.pdf>

World Health Organization. (2003). *Social determinants of health: The solid facts* (2nd ed.).

Retrieved from

http://www.euro.who.int/__data/assets/pdf_file/0005/98438/e81384.pdf?ua=1

World Health Organization. (2012). *Measurement of and target-setting for well-being: an*

initiative by the WHO Regional Office for Europe. Second meeting of the expert group Paris, France, 25-26 June 2012. Retrieved from

http://www.euro.who.int/__data/assets/pdf_file/0009/181449/e96732.pdf

Zinzow, H. M., Rheingold A. A., Byczkiewicz, M., Saunders, B. E., & Kilpatrick, D. G. (2011)

Examining posttraumatic stress symptoms in a national sample of homicide survivors: prevalence and comparison to other violence victims. *Journal of Traumatic Stress*, 24(6), 743-746. doi: 10.1002/jts.20692

Table 1

Demographic and Background Information Characteristics for the Full Sample (N = 147)

	Homicide Group			Comparison Group			
	n	(n = 67) % or Mean	SD	n	(n = 80) % or Mean	SD	Statistic (df)
<u>Demographic variables</u>							
Female gender	6 7	76.1%		8 0	80.0%		$\chi^2(1, N = 147)$
Current age (range)	6 7	34.9 (9-63 years)	13.6	8 0	32.0 (13-66 years)	13.2	$t(145) = -1.32$
Age at time of sibling's homicide	6 7	20.4 (6-40 years)	8.89				
English as first language	6 7	97.0%		8 0	95.0%		
Literate in English	6 7	100%		8 0	100%		
Currently in a relationship	6 7	66.0%		8 0	55.0%		$\chi^2(2, N = 147)$
Children (% with children)	6 7	53.7%		8 0	33.8%		$\chi^2(1, N = 147)$
Number of children	6 7	1.27	1.44	8 0	0.78	1.22	$t(145) = -2.25$
<u>Growing up information variables¹</u>							
Family stability and satisfaction	6 5	64.6%		7 9	60.8%		$\chi^2(1, N = 147)$
Social stability and satisfaction	6 5	70.8%		7 9	65.8%		$\chi^2(1, N = 147)$
"Happy kid" growing up	5 9	3.09 19.4%	1.72	7 2	5.14 73.4%	1.59	$t(129) = 7.12$
"Feeling different" growing up	5 9	6.29 93.2%	1.22	7 2	4.20 48.7%	1.88	$t(129) = -7.3$

¹Growing up refers to years before a sibling was murdered (Homicide Group), and from birth to 25 years-of-age (Comparison Group).

[‡] $p \leq .02$ (2-tailed; Bonferonni adjusted) for continuous data, * $p \leq .01$ for categorical data, ** $p \leq .001$ for all data.

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Table 2

Summary of Findings Comparing Siblings of Homicide Victims with a Non-homicide Exposed Comparison Sample on Measurable Aspects of Current Health and Well-being

Aspects of health and well-being	n	Homicide	SD	n	Comparison Group		Statistic (<i>df</i>)	
		(<i>n</i> = 67) Mean			(<i>n</i> = 80) Mean	SD		
Socioeconomic Status								
Annual income	5			7			χ^2 (3, N = 129) = 7.01	<i>p</i>
0-\$20,000	5			4				
\$20,000-\$40,000		30.9%			43.2%			
\$40,000-\$60,000		25.5%			33.8%			
\$60,000 or more		29.1%			12.2%			
		14.6%			10.6%			
Education	6			8			χ^2 (3, N = 147) = 7.84	<i>p</i>
High school or less	7			0				
Some form of post-secondary		25.4%			25.0%			
University or college graduate		46.3%			33.8%			
Graduate Professional Training		14.9%			33.8%			
		13.4%			7.5%			
Occupation types	6			7			χ^2 (3, N = 145) = 1.05	<i>p</i>
Unskilled/semi-skilled	7			8				
Skilled		11.9%			14.1%			
Professional		16.4%			14.1%			
Other/No current occupation ¹		17.9%			12.8%			
		53.7%			59.0%			
General Health								
Perceived general health ²	6			7		0.6	<i>t</i> (133) = -2.12	<i>p</i>
Health ≥ "good" (ratings 1-2)	1	2.12	0.78	4	1.85	8		
		70.5%			85.0%			
Absenteeism	4			7			χ^2 (2, N = 116) = 10.56	<i>p</i>
(at least 1 day in last 3 months)	4	50.0%		2	26.4%			
Attendance not feeling capable	4			7			χ^2 (2, N = 111) = 5.12	<i>p</i>
(at least 1 day in last 3 months)	0	70.0%		1	54.9%			

Subjective Distress³*IES-R (Homicide)*

Avoidance	5	1.12	0.87	6	0.55	0.6	$t(123) = -4.24$	p
	6			9				
Intrusion	5	1.46	0.94	6	0.56	0.6	$t(123) = -6.14$	p
	6			9				
Hyperarousal	5	1.20	1.11	6	0.32	0.5	$t(123) = -5.62$	p
	6			9				
Total score ≥ 33	5	41.1%		6	7.3%		$\chi^2 (1, N = 125) = 20.35$	p
	6			9				

IES-R (Loss)

Avoidance	5	1.07	0.95	6	0.55	0.6	$t(123) = -3.66$	p
	6			9				
Intrusion	5	1.47	0.92	6	0.56	0.6	$t(123) = -6.30$	p
	6			9				
Hyperarousal	5	1.24	1.18	6	0.32	0.5	$t(123) = -5.69$	p
	6			9				
Total score ≥ 33	5	35.7%		6	7.3%		$\chi^2 (1, N = 125) = 15.66$	p
	6			9				

Social support⁴

"A lot" (ratings 5-7) 6 7 5.08 1.74 8 0 5.89 1.1 $t(145) = 3.34$ p

72.0% 90.0%

Satisfaction with life (SWL)⁵

SWL \geq average (scores ≥ 20) 6 7 20.1 6.56 8 0 23.2 6.2 $t(145) = -2.94$ p

62.7% 68.8%

Self-worth⁶

Self-worth \geq "good" (ratings 1-2) 6 7 1.96 0.63 8 0 1.98 0.8 $t(145) = -0.10$ p

82.1% 80.0%

Note. Pearson chi-square analyses ($p \leq .01$) and 2-sample t -tests (2-tailed, Bonferroni-adjusted $p \leq .05$) were used to assess for differences.

¹ *No current occupation/Other* included response options home-maker, retired, unemployed/not working by choice, student, or none of the above.

² A single-item adapted from Eisen et al., (1979) using 5 check-box options; 1 = *excellent*, 2 = *good*, 3 = *fair*, 4 = *poor*, 5 = *very poor*.

³ Amount of subjective distress in the past 7 days as assessed on the IES-R (Weiss, & Marmar, 1997) that uses a 5-point scale; 0 = *Not at all*, 1 = *A little bit*, 2 = *Moderately*, 3 = *Quite a bit*, 4 = *Extremely*. Total scores range from 0 to 16.

⁴ Agreement with the statement "Currently, I have a lot of social support in my life" using a 7-point rating scale; 1 = *Strongly disagree*, 2 = *Disagree*, 3 = *Slightly disagree*, 4 = *Neither disagree nor agree*, 5 = *Slightly agree*, 6 = *Agree*, 7 = *Strongly agree*. Higher scores thus reflect greater perceived social support. Ratings between 5 and 7 were considered as agreement.

⁵ Using the *Satisfaction With Life Scale* (Diener, Emmons, Larsen, & Griffin, 1985) where items are rated on a 7-point scale; 1 = *Strongly disagree*, 2 = *Disagree*, 3 = *Slightly disagree*, 4 = *Neither disagree nor agree*, 5 = *Slightly agree*, 6 = *Agree*, 7 = *Strongly agree*.

Strongly agree. Total scores range from 5 to 35. Higher scores reflect greater life satisfaction. Total scores 5-9 = dissatisfied and unhappy, 10-14 = Dissatisfied, 15-19 = Slightly below average in life satisfaction, 20-24 = Average satisfaction, 25-29 = High satisfaction, 30-35 = Very high satisfaction, highly satisfied (Diener, 2006).

⁶Rated on a 4-point scale, with lower ratings indicating higher self-worth; 1 = *Excellent*, 2 = *Good*, 3 = *Fair*, or 4 = *Poor*.

[†] $p \leq .02$ (2-tailed; Bonferonni adjusted) for continuous data, * $p \leq .01$ for categorical data, ** $p \leq .001$ for all data.

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Author Biographies

Susan L. Tasker is an associate professor in counseling psychology at the University of Victoria in Canada and a Canadian Certified Counsellor with the Canadian Counselling and Psychotherapy Association. Her research interest focuses on how people manage and live with challenging and unplanned life events. Currently, Susan is investigating the health and well-being of siblings of young homicide victims in Canada and the United States. Her study is one of the first Canadian studies to examine the immediate and longer-term experiences of the brothers and sisters of homicide victims.

Kenneth E. Wright is a Registered Clinical Counsellor with the British Columbia Association of Clinical Counsellors and a mental health therapist for the Vancouver Island Health Authority. In addition to his interest in understanding the experience of siblings of young homicide victims, he is interested in the development, implementation, and evaluation of mental health programs.

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