The Economic Impact of Posttraumatic Stress Symptoms Among Canadian Attorneys

Marie-Jeanne Léonard, B.Sc.
Department of Psychiatry, Faculty of Medicine
McGill University, Montreal
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Abstract

Exposure to cases involving traumatic elements is common for certain attorneys. Such exposure is a possible trigger for the development of a posttraumatic stress disorder. The scientific literature on this issue is scarce, but suggests that attorneys suffer from posttraumatic stress symptoms (PTSS) at a large scale. Moreover, no study has examined the economic impact of PTSS among attorneys to our knowledge. The present exploratory study investigated these last two aspects. The first objective was to assess the long-term prevalence rate (eight-month period) of probable PTSS among attorneys and to assess the factors associated to it. The second objective was to report the Canadian economic impact for the past year of probable PTSS among attorneys. Overall, 284 attorneys were invited to complete the survey and 159 completed the entire survey. The measures assessed PTSS levels, past traumatic event exposure, quality of life, loss of productivity at work, health services used, physicians and paraprofessionals consulted, prescription medications used, and sick leaves. In order to evaluate the first objective, descriptive statistics, independent-samples *t*-tests, ANOVAs, and Chi-Squares were carried out. The second objective was assessed using the non-parametric tests of Mann-Whitney U, Kruskal-Wallis H, and gamma-log-link multivariate regression analyses. When appropriate, Post-Hoc Bonferroni analyses were conducted and variables were considered as significant based on a two-tailed alpha level of .05. Results showed that the eight-month prevalence rate of probable PTSS among Canadian attorneys was of 14%. Attorneys who worked with traumatic content cases suffered from higher levels of PTSS. Specifically among attorneys exposed to traumatic content cases, the odds of suffering from probable PTSS were nine times superior for those who suffered from probable PTSS eight months earlier and they were seven times superior for people who did not have children. Attorneys who suffered from probable PTSS incurred significantly higher costs on average related to ER visits, prescription medication used, and loss of productivity at work. Private attorneys who suffered from probable PTSS also incurred on average significantly higher costs related to billable hours lost. Furthermore, attorneys who suffered from persistent PTSS engendered systematically higher costs on average

than attorneys who did not suffer from probable PTSS. An overall annual loss of $688 662 056 related to probable PTSS among attorneys was found. How those alarming results mirror the values and behaviours that are promoted in the field of law is discussed. Interestingly, attorneys who did not suffer from probable PTSS also incurred costs. Other mental health disorders could influence the costs and should be investigated in future studies. Even though more refined studies assessing the economic impact of PTSS among attorneys are needed, more tailored prevention methods and treatment options should be developed and offered immediately.

Résumé

L'exposition à des dossiers qui contiennent des éléments traumatiques est commun pour certains avocats. Ce type d'exposition est considéré comme pouvant déclencher le développement d'un trouble de stress post-traumatique. La littérature scientifique sur cette problématique est rare, mais elle suggère que les avocats souffrent de symptômes de stress post-traumatique (SSPT) à grande échelle. À notre connaissance, aucune étude n'a examiné l'impact économique des SSPT chez les avocats. La présente étude exploratoire a évalué ces derniers aspects. Le premier objectif était d'évaluer le taux de prévalence au long terme (sur huit mois) des SSPT probables chez les avocats, ainsi que d'évaluer les facteurs qui y sont associés. Le deuxième objectif était de rapporter l'impact économique au cours de la dernière année des SSPT probables chez les avocats au Canada. Un total de 284 avocats a été invité à compléter le sondage et 159 avocats ont complété le sondage au complet. Les questionnaires ont évalué le niveau des SSPT, l'exposition passée à des événements traumatiques, la qualité de vie, la perte de productivité au travail, les services de santé utilisés, les médecins et paraprofessionnels consultés, les médicaments de prescription consommés et les congés maladie pris. Afin d'évaluer le premier objectif, des analyses descriptives ont été faites, ainsi que des tests-*t* indépendants, des ANOVAs et des chi-carrés. Le deuxième objectif a été évalué en performant des analyses non paramétriques, soit des Mann-Whitney U, des Kruskal-Wallis H et des analyses de régression multivariées *gamma-log-link*. Des analyses post-hoc de Bonferroni ont été faites lorsque nécessaire et les variables étaient considérées comme étant significatives avec un seuil alpha à deux queues de .05. Les résultats montrent que le taux de prévalence de huit mois pour les SSPT probables chez les avocats canadiens était de 14%. Les avocats qui travaillaient avec des dossiers à contenu traumatique souffraient de niveaux plus élevés de SSPT. Spécifiquement pour les avocats qui travaillent avec des dossiers à contenu traumatique, il a été trouvé que les risques de souffrir de SSPT probables étaient neuf fois supérieurs pour les personnes qui souffraient de SSPT probables huit mois plus tôt, et que les risques étaient sept fois supérieurs pour les personnes qui n'avaient pas d'enfants. Les avocats qui souffraient de SSPT probables engendraient significativement

plus de coûts en moyenne par rapport aux visites aux urgences, à la consommation de médicaments de prescription et à la perte de productivité au travail. Les avocats privés qui souffraient de SSPT probables engendraient également significativement plus de coûts en moyenne liés à la perte d'heures facturables. De plus, les avocats qui souffraient de SSPT persistants engendraient des coûts systématiquement plus élevés en moyenne que ceux qui ne souffraient pas de SSPT probables. Une perte totale annuelle de 688 662 056$ liée aux SSPT probables chez les avocats a été trouvée. Comment ces résultats alarmants reflètent les valeurs et les comportements qui sont promus dans le milieu du droit est discuté. Les avocats qui souffraient de peu de SSPT ont également généré des coûts. D'autres troubles mentaux pourraient aussi influencer les coûts et ils devraient être examinés dans les études à venir. Malgré le fait que des études plus raffinées évaluant l'impact économique des SSPT chez les avocats soient nécessaires, plus de méthodes de prévention et d'options de traitements adaptés devraient être développées et offerts immédiatement.

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Contribution of Authors

Dr. Alain Brunet and Dr. Helen-Maria Vasiliadis contributed to the conceptualization of the present study and the review of this thesis. They also offered their guidance in the statistical analyses performed and the revision of the results. Dr. Djamal Berbiche helped to carry out the statistics by teaching the use of SPSS and the development of the syntax for the statistical analyses. Marie-Ève Leclerc conducted the initial survey and wrote its initial research proposal for ethical approval. I, Marie-Jeanne Léonard, contributed to the conceptualization of the present study and I was entrusted to conduct it. I was responsible for the ethical approval of the protocol amendment in order to morph the initial study into a longitudinal one, as well as, the review of the literature, for obtaining the licence from Optum and the data from the Canadian Institute for Health Information, the recruitment, the management of the data, the statistical analyses, the knowledge dissemination, and for writing the thesis.

The Economic Impact of Posttraumatic Stress Symptoms Among Canadian Attorneys

Every crime reported to the police requires that at least one attorney examines the evidence in order to build a defence or an accusation. Various elements of such crimes can be considered as horrific, and in some cases, possibly traumatizing. Such repeated trauma exposure as part of one's work was only acknowledged as a possible cause for posttraumatic stress disorder (PTSD) in the latest edition of the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2013), with the addition of criterion A4. The prevalence of posttraumatic stress symptoms (PTSS) among Canadian attorneys and their economic impact are the core subjects of the present study.

A Profession Aside

Rationality Trumps Emotionality.

Attorneys have a unique profession. They work in an environment promoting rigour, workaholism, and intransigence. Attorneys are trained to consider and interpret the law in a platonic, intellectual, and emotionless manner. As Aiken and Wizner (2003) say, "the law student is taught to be a dispassionate evaluator of both the client's case and the law governing it." They are not taught about the possible psychological effects of their work, even though some will be exposed throughout their entire careers to cases involving clients who were victims or perpetrators of a traumatic event. Such exposure can include testimonies, distressing statements, court evidences like sordid pictures or graphic videotapes, etc.

Professor Peters from Yale Law School illustrated vicarious trauma in attorneys as two people standing in a river, one person (the attorney) experiencing the after waves created by a boulder (trauma) falling on the other person (the client). The after waves are much smaller than the client's trauma, but the attorney still feels the trauma "in the same shape and nature" as the client, and it will have an impact (Portnoy & Peters, 2004).

The Workplace Environment.

Attorneys suffering from work-related PTSS cannot openly seek the support of a peer, since they work in a competitive environment stigmatizing mental illness. Adding to the competitive nature of the law profession, they have to protect their reputation and cannot let themselves be emotionally affected by their clients/cases. Attorneys suffering from mental health issues tend to be tagged as lazy, unreliable, and not able to work under pressure (Lawyer's Professional Indemnity Company, 2013). Judges have reported that they would not seek their colleagues' support regarding trauma or personal issues because it would be considered as "a sign of weakness and vulnerability" (Osofsky, Putnam, & Lederman, 2008). Perlin (2007) refers to it as *sanism* in the workplace and notes that mental health issues are "at best, under the radar for many or, at worst, the subject of a *don't ask, don't tell* attitude."

Attorneys are under extreme pressure to constantly deliver high quality work and meet short deadlines. In the public service, attorneys often deal with clients who have had chaotic lives, and who are helpless and defenseless in front of the law. Private firms push attorneys to increase their billable hours, develop a clientele and generate profits for the firm (Bergin & Jimmieson, 2014), which will ultimately be rewarded with a partnership proposal (Alfini & Van Vooren, 1995). Desirable partners are the attorneys who put their job first. Suffering from mental health issues is therefore not an option.

Professional Duties.

Deslandes (2016) explains that attorneys are required to communicate clearly with their clients about their problems, as well as listen, guide, and inform them. An attorney with PTSS could mishandle an interview so as to avoid exposure to trauma reminders. But it is required that they deliver services of high quality and that their mental state does not compromise their work and their judgement [art. 22 C.d.a.] (Deslandes, 2016; "Loi sur le Barreau," 2017). In order to prevent a lack of diligence and minimize professional errors and misconduct, it would be desirable to change the workplace intolerance towards mental health issues so that attorneys will speak and seek treatment when necessary.

Mental Disorders.

Attorneys suffer from mental health disorders that may be comorbid with PTSD. A recent study showed that 45.7% of attorneys reported depression, 8.0% a panic disorder, and 11.5% suicidal thoughts during their career (Krill, Johnson, & Albert, 2016). The authors also found that moderate to high levels of depression currently affected 28% of the participants screened and that 20.6% of the respondents engaged in "hazardous, harmful and potentially alcohol-dependent drinking." Due to the nature of their work, attorneys are therefore a population at risk of suffering from symptoms of mental disorders.

Vicarious Trauma, Compassion Fatigue, and Secondary Traumatic Stress

Before the inclusion of criterion A4 in the DSM-5, which allows the diagnosis of work-related PTSD to be made, professionals who developed traumatic stress symptoms were considered to suffer from unrecognized syndromes. Vicarious trauma was used to describe alterations of cognitive schemas in mental health professionals as a result of treating traumatized patients (Jenkins & Baird, 2002; McCann & Pearlman, 1990; Pearlman & Saakvitne, 1995). Compassion fatigue referred to being emotionally affected by a client's trauma and re-experiencing a client's traumatic event because of a "deep empathy" (Figley, 1995, 2002; Hagen & Bogaerts, 2014). Secondary traumatic stress focused on the "physiological and behavioural reactions", as well as the development of PTSD-like symptoms in a professional exposed indirectly to trauma through a patient (Bischoff, 2014; Figley, 2002).

Those syndromes were often used interchangeably in studies (American Couseling Association, N. D.; Bischoff, 2014; Chamberlain & Miller, 2008; Vrklevski & Franklin, 2008). They seemed to overlap and measure "differing aspects of the same collective syndrome" (Bischoff, 2014; Hagen & Bogaerts, 2014; Vrklevski & Franklin, 2008). With the addition of the criterion A4 (repeated exposure to traumatic elements at the workplace), the DSM-5 dismantled the conceptual confusion surrounding the traumatization of professionals.

PTSD

Criterion A of the DSM-5 states that a diagnosis of PTSD implicates prior direct or indirect exposure to a traumatic event involving a life-threat, threat to the physical integrity, or sexual violence. Indirect exposure applies to people who witnessed a traumatic event or learned about it happening to a significant other, as well as, professionals whose work involves working in an environment prone to exposure to disturbing details of traumatic events (American Psychiatric Association, 2013).

A person suffers from PTSD when symptoms have been present for at least one month following the traumatic event. Symptom onset can be triggered days, months, or years after the traumatic event, and they can last up to many years (Kessler, 2000; U.S. Department of Veterans Affairs, 2016). The symptoms are clustered in four groups: intrusion symptoms (e.g. nightmares), persistent avoidance behaviours of memory cues of the traumatic event (e.g. avoiding places), negative alteration of the mood or the person's cognition (e.g. blaming oneself), and hyperarousal and over reactivity (e.g. insomnia). Those symptoms must elicit distress and/or interfere with one or more life domains, such as occupational or social areas (American Psychiatric Association, 2013).

The current prevalence rate of PTSD in the general population of Canada is reported at 2.4% by Van Ameringen, Mancini, Patterson, and Boyle (2008). The lifetime prevalence rate among Canadians is 9.2%, making it a "common psychiatric disorder in Canada" according to Van Ameringen et al. (2008). Van Ameringen, Mancini and Patterson confirmed this result again in 2011 using the DSM-IV criteria.

Risk Factors.

Ozer, Best, Lipsey, and Weiss (2003) conducted a meta-analysis regarding the risk factors of PTSD. They reported seven predictors: (a) trauma history, (b) prior psychological adjustment, (c) family history of psychopathology, (d) perceived life threat during the trauma, (e) social support following the trauma, (f) emotional responses experienced during the trauma, and (g) peritraumatic dissociation. Other studies have reported individual risk factors such as gender, socioeconomic status, education levels, and marital status (Breslau, 2009; Van Ameringen et al., 2008). Prior exposure to traumatic events is also a risk factor (Birinci & Erden, 2016; Breslau, 2009), but results

are inconsistent in attorneys (American Bar Association, 2016). There are also professional risk factors, such as having worked for a shorter time with a traumatized clientele (Pearlman & Mac Ian, 1995; Zacharcenko, 2010), or a high caseload of trauma-related cases (American Bar Association, 2016). Still, those risk factors are inconsistent in the literature (Vrklevski & Franklin, 2008). Studies have also reported the number of hours worked on traumatic content cases and the exposure levels to traumatized clients as factors related to PTSS severity (Levin, 2008; Levin et al., 2011; Levin, Besser, Albert, Smith, & Neria, 2012; Levin & Greisberg, 2003; Piwowarczyk et al., 2009).

Symptoms of Traumatic Stress Across Professions.

Studies have investigated the presence of PTSD among diverse populations of professionals. A current prevalence rate as high as 32% was reported for police officers (Asmundson & Stapleton, 2008), 17% for firefighters (Corneil, Beaton, Murphy, Johnson, & Pike, 1999), and 22% for ambulance paramedics (Bennett et al., 2005). A recent study by Leinweber, Creedy, Rowe, and Gamble (2017) reported a prevalence rate of 17% for probable PTSD among a sample of Australian midwives. Van Beusekom, Bakhshi-Raiez, de Keizer, Dongelmans, and van der Schaaf (2016) reviewed the studies investigating the presence of PTSS among informal caregivers of patients who had stayed at the intensive care unit. They found a current prevalence rate of PTSS reaching 56.8%, while the past year prevalence ranged from 31.7% to 80%. Moreover, a study found that 33% of the intensive care unit staff had experienced significant symptoms of posttraumatic stress (Ong, Siddiqui, John, Chen, & Chang, 2016) and another one reported that 71% of therapists suffered from PTSS (Weaks, 2000). Traumatic stress symptoms were also assessed among parole officers (Scott, 2016) and emergency medicine clinicians, including emergency nurses (Duffy, Avalos, & Dowling, 2015; Roden-Foreman et al., 2017). After the Oklahoma bombing, Wee and Myers (2002) reported that 20.6% of mental health workers suffered from moderate to severe degrees of PTSS. They also noted that 73.5% of the mental health workers were at moderate, high, or extremely high risk of suffering from compassion fatigue.

Legal area.

There is a dearth of scientific literature regarding the possibility of PTSD among law professionals. A few studies have involved jurors (Hafemeister & Ventis, 1992; Kaplan & Winget, 1992; Lonergan, Leclerc, Deschamps, Pigeon, & Brunet, 2016; Miller & Bornstein, 2005; Opheim, 2005; Robertson, Davies, & Nettleingham, 2009; Shuman, Hamilton, Daley, Behinfar, & et al., 1994). The results showed that exposure to traumatic trials, their details, and the emotional challenges incurred could lead to the development of symptoms consistent with PTSD.

Attorneys' exposure to traumatic content cases is comparable to the exposure of judges. Some studies reported that judges experienced stress, burnout, vicarious trauma, even "torment", and that they were at risk for secondary traumatic stress symptoms (Baillot, Cowan, & Munro, 2013; Chamberlain & Miller, 2009; Hagen & Bogaerts, 2014; Zimmerman, 2002). Jaffe, Crooks, Dunford-Jackson, and Town (2003) conducted the most important study up to this day by assessing 105 judges who worked in criminal, domestic relations/civil and/or juvenile court. They found that 63% experienced one or more short or long-term symptoms of vicarious trauma.

Even though criminal defence attorneys are considered at risk for vicarious trauma since Pearlman and Saakvitne's work in 1996, not many researchers have investigated the possible presence of PTSD among attorneys. Overall, only 11 studies can be found, and one of them (Gundermann, 2015) simply reassessed the same sample as a previous one (Sokol, 2014). A scoping review summarized the findings of nine original studies and reported that the different PTSS levels found across the studies varied greatly. Still, it was concluded that attorneys suffered from PTSS due to exposure to aversive details of traumatic events (Léonard, Saumier, & Brunet, 2019).

The first study to investigate the issue did so by assessing the presence of secondary traumatic stress in a sample of criminal and family attorneys, as well as, a sample of mental health professionals (Levin & Greisberg, 2003). The attorneys were more likely to report secondary traumatic stress than the mental health professionals. Levin conducted another study in 2008 assessing secondary traumatic stress in law students working for a semester with women victims of domestic violence (Levin, 2008). Compared with the previous study, Levin reported that the students had lower levels of

secondary traumatic stress compared to the attorneys. Only a minority of students (3 out of 43) experienced symptoms clinically severe due to exposure to traumatic details.

Levin also investigated secondary traumatic stress and PTSD in 2011 among attorneys from the Wisconsin State Public Defender Office and their administrative support staff (Levin et al., 2011). As expected, the attorneys were more likely to report symptoms congruent with PTSD and secondary traumatic stress compared to their administrative support staff (11% of the attorneys suffered from symptoms congruent with PTSD compared to 1% for their administrative support staff). After a 10-month period, the study showed that the symptom levels of PTSD remained stable, as 9% of the attorneys met the criteria for a diagnosis of PTSD at the follow-up survey (Levin et al., 2012).

Interestingly, Goldman (2006) assessed both secondary traumatic stress and PTSD symptoms in a sample of 125 law guardians. It was found that 7.2% of attorneys suffered from severe secondary traumatic stress symptoms, but not from PTSD. Goldman suggests that it might be due to the short time frame (past week) covered by the measure used to assess PTSD (IES-R). Vrklevski and Franklin (2008) conducted a study comparing criminal attorneys to solicitors not practising criminal law. The authors reported that criminal attorneys had significantly higher vicarious trauma symptoms, but that avoidance, intrusion and hyperarousal symptoms were not significantly different between the two groups when assessed by the IES-R. Piwowarczyk et al. (2009) found that 9% of attorneys working *pro bono* for asylum seekers suffered from moderate levels of secondary traumatic stress. In 2014, Sokol reported that 15% of a sample of Judge Advocate General's Corps attorneys had high levels of secondary traumatic stress, but that the levels of secondary traumatic stress were not related to viewing gruesome media content. The author indicated that it might be due to the small sample size (n = 27) or to the low exposure level of a majority of the sample (75% of the attorneys reported that between 1% and 20% of their cases involved traumatic elements). Sokol still mentioned that attorneys had reported the viewing of media involving sexual abuse of children as particularly difficult for them and that exposure to traumatic elements was associated with emotional difficulties. Another study reported that attorneys suffered significantly more from vicarious trauma and PTSD symptoms than mental health professionals (Maguire & Byrne, 2017). Lastly, Leclerc (2017) conducted a study comparing three groups of

attorneys working at different levels with traumatic content cases (0%, 1-50%, and 51-100% of the time). The author reported that attorneys spending more time on traumatic content cases suffered from higher levels of PTSS. Furthermore, 9.2% of the sample met the diagnostic criteria of PTSD according to a self-report measure.

Limitations of the previous studies.

The inconsistent results reported in the literature may, in part, be due to design and methodology differences. First, studies used different measures of PTSD and secondary traumatic stress (e.g. IES-R, Vicarious Trauma Scale, or Secondary Trauma Scale). There was also an inconsistency in the conceptualization of trauma throughout the studies. Trauma was often based on the number of clients who experienced a traumatic event or the number of traumatic content cases that an attorney dealt with. Trauma exposure levels would be better translated as the percentage of time spent working on traumatic content cases, as noted by Leclerc (2017). Furthermore, the majority of studies only included samples of attorneys practising a specific law or working in a specific environment. Many studies were cross-sectional and had a small sample size (Levin and Greisberg, 2003; Maguire and Byrne, 2017; Piwowarczyk et al., 2009; Vrklevski and Franklin, 2008; Sokol, 2014) and only one study was longitudinal (Levin et al., 2012). Moreover, it is not clear whether the stability of symptoms found in the study of Levin et al. (2012) was due to persistent symptoms or to new incident (against remitted) cases. Further to this, the comparison groups chosen were generally not appropriate (Levin and Greisberg, 2003; Levin et al., 2011; Maguire and Byrne, 2017; Vrklevski and Franklin, 2008) with regards to professional responsibilities, professional training, and perceived work pressure.

The Economic Burden of PTSD

The economic burden of PTSD remains largely unknown in the Canadian scientific community (Lamoureux-Lamarche, Vasiliadis, Preville, & Berbiche, 2016; Wilson, Guliani, & Boichev, 2016). In 2006, Hoch and Smith noted that only two studies assessed the costs of PTSD. To our knowledge, the societal costs associated with PTSD in attorneys has never been studied. Investigating the economic impact of mental health

disorders requires to assess the direct and indirect costs. The direct costs are the "value of the resources used" due to a condition (Hunsley, 2002). They include the costs of treatment, of prescription medications, and of health care services used, such as hospitalizations, health specialists consulted, etc. (Greenberg et al., 1999; Hunsley, 2002). The indirect costs represent the "value of resources lost" (Hunsley, 2002). This category includes loss of productivity such as absenteeism and presenteeism, short or long-term disability, unemployment, and death (sometimes by suicide) due to a condition (Greenberg et al., 1999; Hunsley, 2002). Presenteeism is defined as a person working even when sick, lowering the performance and the quality of the work (Lerner et al., 2004; McTernan, Dollard, & LaMontagne, 2013). Most studies investigating the costs of PTSD consider general populations and don't take both direct and indirect costs into account.

Direct Costs.

Chan, Air, and McFarlane (2003) assessed the direct costs associated with PTSD among a population of people who suffered a car crash in South Australia. They found a total direct cost of A$6 369 520 and reported an association between the total scores on the self-report *PTSD Checklist* (PCL) and the health costs. In the USA, Ivanova et al. (2011) found that patients with PTSD incurred higher healthcare costs than a group of patients with major depression. The PTSD group incurred on average higher costs reaching 4.2% to 9.3%, depending on the type of insurance the person had. A recent study by Lamoureux-Lamarche et al. (2016) evaluated the healthcare costs of PTSD in a primary care population of older adults in the province of Quebec (Canada). The authors included the costs of prescription medications, outpatient and emergency room visits, inpatient stays, and physician fees. They found that the direct costs were significantly related to the presence of PTSD and that respondents with PTSD cost $838 more on average than respondents without PTSD.

Another study by Walker et al. (2003) compared the healthcare costs in the USA among 1 225 women members of a group offering medical and mental health services. The sample was categorized as having low, moderate, or high scores on the PCL. The study showed that women with high PCL scores incurred on average higher costs reaching $3 060 annually as compared to women with moderate and low PCL scores,

who incurred on average $1 779 and $1 646 annually. Unfortunately, these results were not generalizable to the general population, since the authors only considered women. In Chan, Cheadle, Reiber, Unutzer, and Chaney's study (2009), those with a diagnosis of both PTSD and major depression incurred higher mental health related healthcare costs (antidepressant use and mental health services) than those with major depression alone.

Indirect Costs.

Kessler (2000) reported that PTSD had an impact on productivity at work just as important as major depression does. He revealed that in the USA, PTSD incurred 3.6 impaired work days per month, representing a loss of productivity costing close to $3 billion per year. Another study investigated the costs of PTSD, depression and alcohol use in a sample of 150 police officers (Fox et al., 2012). It was found that those with PTSD had higher levels of loss of productivity compared to those without mental health issues. Overall, police officers with a mental health issue incurred on average $1 720 in additional costs annually than officers without mental health issues.

Direct and Indirect Costs.

In 2009, Tanielian estimated that the cost of PTSD over two years per military who returned home after combat ranged between $5 904 and $10 298. The costs included treatments received, loss of productivity at work and suicides. The largest portion of the total costs was loss of productivity.

A more recent study was conducted by Ferry et al. (2015) and investigated both the direct and indirect costs of PTSD in a sample of 1 986 participants with PTSD from Northern Ireland. The authors considered the costs of health services used, prescription medications, presenteeism, and loss of productivity at work. Hospitalizations represented the largest direct cost, followed by family physician consultations, and psychiatrists' consultations. The costs related to health services used and medication costs in 2008 amounted to £27 317 184 and £5 658 406. The costs due to loss of productivity at work were £113 564 751 and the costs related to presenteeism were £26 215 721. The authors reported an overall cost of £172.8 million in 2008, with loss of productivity representing 66% of the costs. One of the limitations of the study was that it did not include a control

group to ascertain the additional costs related to PTSD. In addition, the authors used the DSM-IV criteria in their study which did not include the criteria of being exposed repeatedly or extremely to traumatic details as part of a profession. It was only included in the DSM-5 criteria for PTSD.

Comorbidity.

People with PTSD have two to four times the risk of also suffering from other psychiatric disorders (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). PTSD is particularly comorbid with depression, as well as, alcohol and substance use disorders (Van Ameringen, Mancini, & Patterson, 2011). It has been suggested that the overlap of symptoms could explain the high comorbidity between PTSD and depression. This could elicit confusion for professionals and incur misdiagnoses of depression instead of PTSD, particularly in a context where the patient is not adequately questioned about possible trauma exposure (Brady, Killeen, Brewerton, & Lucerini, 2000). Moreover, people with PTSD are known to self-medicate, and as much as 20% of people with PTSD use substances in order to alleviate their symptoms (Leeies, Pagura, Sareen, & Bolton, 2010).

The economic impact of depression and alcohol and substance use have been investigated. Given the comorbidity of PTSD with those disorders, a portion of the economic impact of depression, as well as, alcohol and substance use could be actually due to PTSD in high risk populations. Substance abuse was revealed to cost Canada $39.8 billion for the year of 2002 (Rehm et al., 2006). Illegal drugs represented 21% of the total costs, whereas alcohol accounted for 37%, and tobacco for 43%. In Canada, mental illnesses were estimated to cost close to $51 billion in 2003 (Lim, Jacobs, Ohinmaa, Schopflocher, & Dewa, 2008). It was reported that one-fourth of the costs were related to people who were not diagnosed with a mental illness, probably including attorneys with PTSS.

Present Study

Rationale, Objectives and Hypotheses

The prevalence of PTSS among Canadian attorneys related to reviewing and examining traumatic content cases has been estimated to reach 15% (Levin et al., 2012). The presence of PTSS has been associated with increased societal costs in general population studies. The present study aimed to assess the economic costs associated with PTSS in a sample of Canadian attorneys. Narrowing the targeted study population from "general population" to "Canadian attorneys" provides an opportunity to better estimate the PTSS-related costs that can be generalized to Canadian attorneys. The work environment and repeated exposure to traumatic content cases among attorneys is unique. It is therefore important to study this specific population in order to estimate reliable costs and to inform on need for care.

The first objective of this study was to assess the short and long-term prevalence rates of PTSS, as well as, the odds of suffering from probable PTSS among Canadian attorneys. Based on previous studies, we expected that the short and long-term prevalence rates would be higher among Canadian attorneys than in the general population. The second objective was to determine and compare retrospectively the: (1) direct costs, (2) indirect costs, (3) patient costs, and (4) overall societal costs related to Canadian attorneys with and without probable PTSS. It was hypothesized that attorneys suffering from probable PTSS would incur higher costs than those without probable PTSS.

Overall, this study was the first step to assess PTSS among attorneys in a quantified and economic language that may speak to a broader range of professionals. The findings are expected to encourage the development and implementation of more resources for attorneys to prevent and treat PTSS in order to reduce the societal burden incurred by such symptoms.

Methods

Study Design

The study was a longitudinal survey and used a convenience sample of Canadian attorneys. The sample was derived from attorneys participating in a previous survey with the objective of assessing PTSS severity variations among Canadian attorneys who were

highly, moderately, or never exposed to traumatic content cases (Leclerc, 2017). Leclerc conducted the initial study online (via the website SurveyMonkey) and recruited participants from December 2016 until April 2017. Attorneys were randomly selected across all the Canadian provinces and territories, except Nunavut and Newfoundland and Labrador. Different law agencies, associations and private firms across Canada collaborated to the recruitment by sharing the hyperlink to the online survey with their members and/or advertised it on their websites and social media. The participants who completed the online survey through the hyperlink were only identified by their IP address. The researchers also sent online invitations directly to the email of identified attorneys via Survey Monkey. Since these participants were identified with their emails, the survey was confidential, but not anonymous. Only these participants identified and recruited via email could be contacted again. The Institutional Review Board of the Faculty of Medicine of McGill University approved of the follow-up study in order to evaluate retrospectively the economic impact of PTSS.

Participants

In order to be invited to complete the follow-up survey and participate in the current study, a valid email was required. The other inclusion criteria were: having completed the PCL-5 questionnaire in the initial survey, be presently working as an attorney, and having agreed to be contacted in the future for a subsequent study.

Of the 867 participants who completed the initial survey, 359 were excluded from the current study because they did not complete the PCL-5 questionnaire and were working in an allied profession rather than as attorneys. This left a group of 509 prospective participants. Of these, 141 were excluded because they were only identified by an IP address. This left 368 possible participants to contact of which 84 did not accept to be contacted again and leaving a sample of 284 participants.

Attorneys whom we failed to recruit might have suffered from a different level of PTSS, or might have differed regarding gender, age, number of years worked, and time spent working on traumatic content cases. However, the average PTSS severity did not differ significantly (p = .103) between the “not contacted group” (12.43 $\pm$ 15.30) and the “contacted group” (10.37 $\pm$ 12.42). Furthermore, the groups did not differ on gender

distribution (p = .282), age (p = .291), and number of years worked (p = .192). However, the groups differed regarding the time spent working on traumatic content cases (p = .002).

A final group of 284 participants were formally invited to complete the online follow-up survey. Of these, 86 individuals did not open the survey and 2 attorneys were excluded because they were on maternity leave (i.e. not currently practicing). Of the 196 participants who opened the survey, 173 partially completed the survey (n = 14, "partial group"), or completed the whole questionnaire (n = 159, "entire group"). For further information, please refer to Figure 1, p.48.

Record Keeping

Consent and Confidentiality.

Before completing the survey, each participant provided their consent to participate (Appendix B, p.70). The informed consent form described the study, its potential risks and benefits, the participants' rights, the investigators' contact information and the contact information of the McGill Institutional Review Board's Ethics Officer of the Department of Medicine. The participants were also made aware that they would not receive a compensation, that the study had been approved by the McGill Institutional Review Board, and also of the confidentiality procedure and the survey software company used. The participants completed the survey on a voluntary basis. Only the research personnel had access to the data.

Survey Software.

The follow-up data was collected using the same survey software as for the initial survey (Leclerc, 2017): SurveyMonkey. SurveyMonkey complies to the *EU-US Privacy Shield Framework* and *Swiss-U.S. Privacy Shield regulations* (Survey Monkey, 2019). Data collected through SurveyMonkey is owned by the creator of the survey. SurveyMonkey commits not to use the data collected for other purposes unless the creator gives permission to do so, or if the Law requires it. SurveyMonkey only has to divulge information under the *US Patriot Act* in cases of illegal activities. SurveyMonkey does not use the participants' contact information, only the creator of the survey can. All

data is encrypted and SurveyMonkey does not share or sell the data collected to third parties.

Procedure

Eight months after completing the initial survey (Leclerc, 2017), eligible participants for the follow-up survey according to the inclusion and exclusion criteria were contacted again. The recruitment took place from August 2017 to December 2017. An electronic invitation (in French and English) was sent from the survey software to complete the online follow-up survey. The participants were provided with the option to respond "I decline" in order for them to not receive any reminders. In order to optimize the participation rate and in case the electronic invitation was redirected to the "junk mail" section of their mailbox (attorneys sometimes use software to automatically filter their emails), an email inviting the participants to complete the follow-up survey was also sent from the research coordinator's Douglas personal email.

From the electronic invitation, the respondents selected whether they preferred to answer the survey in French or in English and whether they worked in a private practice, or as an in house-counsel, or for the legal aid. According to their answer, they were redirected to the appropriate version of the survey. The participants were then provided with the consent form, which they had to agree to in order to complete the follow-up survey. The survey software allowed the tracking of certain information related to the participants, including their email address. Therefore, we could contact and remind the ones who had opened the survey, but did not complete it entirely, to do so. Those reminders were sent once a week, for three weeks, and ended with a "thank you" email.

In the event that participants had an issue with the online survey, they could contact the research coordinator by email. The main issue encountered was that participants could not find the electronic invitation sent from the survey software, which was then resent. If the problem persisted, the participant was offered to complete the pdf version of the survey, which was the case for one participant.

When considering the participants who fully completed the follow-up survey (n = 159), the participation rate (56%) was very good, and was superior to the one obtained

by Levin et al. (2012) in their cross-lagged longitudinal survey in trauma-exposed attorneys.

Study Measures of Interest

Socio-Demographic Questionnaire.

The socio-demographic questionnaire is composed of 18 items investigating: (a) demographic information, including gender, geographical location, age, ethnicity, personal income, family income, relationship status, number of children, and education level; and (b) work-related information, including questions inquiring about trauma-related cases and their composition, number of years worked as an attorney, type of law practiced, type of position held as an attorney, and number of hours worked weekly. The socio-demographic questionnaire also provided the definitions of trauma-related cases and non-trauma-related cases.

Operational Definition of Traumatic Event.

A “traumatic event” was described as a direct threat to life or a physical and/or mental injury to a person in the form of: (1) physical abuse/assault, (2) sexual abuse/assault, (3) other unwanted or uncomfortable sexual experience, (4) assault with a weapon, (5) interpersonal violence, (6) exposure to combat or to a war zone, (7) being held in captivity, (8) emotional/psychological abuse or neglect, (9) sudden violent death, (10) trauma from grief or separation, (11) life-threatening illness or injury, (12) natural disaster, (13) fire or explosion, (14) transportation/work/home/recreational activity accidents, (15) exposure to toxic substances, (16) serious injury, harm, or death you caused to someone else, (17) sudden accidental death, (17) other severe human suffering.

In this study, “trauma-related cases” were defined as cases involving “clients who had requested professional legal services in relation to one or more traumatic events, which they experienced directly or indirectly, as a victim or perpetrator.” Cases also included causes showcasing aversive details like photos, films, testimonies, etc. of traumatic content. Non-trauma exposed clients/non-trauma-related cases were defined as all other clients.

Posttraumatic Stress Checklist-5 (Weathers et al., 2013).

The PTSD Checklist-5, or PCL-5, is a self-report measure composed of 20 items reflecting the diagnostic criteria of the DSM-5 (APA, 2013) for PTSD. It assesses the probable presence and the severity of posttraumatic stress symptoms in the past month. Each item corresponds to a symptom. Participants rated the items using a 5-point scale: “Not at all” (0), “A little bit” (1), “Moderately” (2), “Quite a bit” (3), and “Extremely” (4). A total sum is then computed between 0 and 80, a higher score translating as more severe PTSS. This questionnaire’s psychometric properties were tested using an online survey for both its French and English versions by Ashbaugh, Houle-Johnson, Herbert, El-Hage, and Brunet (2016). Authors concluded that it has an “excellent internal consistency (English: $\alpha = .95$; French: $\alpha = .94$), strong convergent and divergent validity, as well as a strong internal consistency” (Ashbaugh et al., 2016). Ashbaugh et al. (2016) also found a good “test-retest reliability for the French version” of the PCL-5 ($r = 0.89$). The authors concluded that the psychometric qualities of the English and French versions of the questionnaire were similar, and that they were similar to the psychometric properties of the older versions of the PCL. Based on a review of the literature, the cut-off score of 31 is considered optimal to determine if a person suffers from probable PTSS (Ashbaugh et al., 2016; Bovin et al., 2016; Wortmann et al., 2016).

Life Event Checklist for DSM-5, LEC-5 (Weathers et al., 2013).

The LEC-5 is a self-report measure composed of 17 items and screens for potential lifetime trauma exposure. The checklist has 16 categories of events that can potentially trigger the development of PTSS, as well as one open-ended item assessing other traumatic events experienced by the participant that might not have been covered by the previous items. Participants must indicate whether the items applied to them by ticking (a) “It happened to me”, (b) “I witnessed it”, (c) “I learned about it”, (d) “Part of my job”, or (e) “Doesn’t apply to me”. The psychometric properties of this checklist were validated by others through two samples, one composed of undergraduate university students and one composed of combat veterans (Gray, Litz, Hsu, & Lombardo, 2004). The checklist demonstrated “adequate temporal stability and strong convergence with the Traumatic

Life Events Questionnaire", which also measures exposure to past traumatic events. In order to determine the lifetime experiences of the participants, the responses to the LEC-5 across the two surveys (initial and follow-up) were combined.

Work Productivity and Activity Impairment Questionnaire: General Health V2.0 – Revised for Attorneys, WPAI:GH-RA (Reilly, Zbrozek, & Dukes, 1993).

The WPAI:GH-RA is a self-report questionnaire assessing loss of productivity at work related to absenteeism and presenteeism in the past month due to a health problem. It is one of the most used questionnaires to assess loss of productivity at work (Thompson, Ospina, Dennett, Waye, & Jacobs, 2015). Bays, Fox, and Grandy (2014) demonstrated that the questionnaire has good validity and reliability. The questionnaire was adjusted in this study to consider the differing methods for recording working hours. One version was adapted for attorneys working in the private sector (law firms) and another one was adapted for attorneys working as in-house counsels or in the public sector. Four attorneys were consulted to evaluate the adjustments (two private law firm partners, the director of an in-house legal department, and the director of a legal department of a governmental organization). The four attorneys approved of the modifications, and the adjusted versions therefore had face validity. A better representation of loss of productivity at work among attorneys was expected, as the questionnaire was adjusted for this specific population (Lofland, Pizzi, & Frick, 2004). The questionnaire for private attorneys included 12 self-reported items examining missed hours of work, billable and non-billable hours worked in the past month and at what level attorneys were limited when working. The questionnaire for public attorneys (including in-house counsel) included seven self-reported items examining missed hours of work and at what level attorneys were limited when working. This version of the questionnaire did not include items related to billable and non-billable hours, since public attorneys do not keep track of their work hours this way. The formula to calculate the total loss of productivity at work was (Reilly et al., 1993):

$$\frac{\text{“hours missed due to health problems”}}{\text{“hours missed due to health problems”} + \text{“hours actually worked”}} + \left(1 - \frac{\text{“hours missed due to health problems”}}{\text{“hours missed due to health problems”} + \text{“hours actually worked”}} \times \frac{\text{“degree health affected productivity while working”}}{10}\right)$$

Medico-Economic Questionnaire-Revised (Beecham & Knapp, 1992).

The Medico-Economic Questionnaire-Revised (MEDEC-R) is a self-report measure including 41 items. The items assess health services used and the health's state through six contexts: (a) hospitalizations, (b) consultations of family physician, (c) consultation of medical specialists, (d) consultation of other health professionals, (e) prescription medication use, and (f) sick leaves. Based on the answers, it is possible to compute the direct costs incurred by the participant in the past 12 months. The MEDEC-R was adjusted based on the Canadian Community Health Survey Cycle 1.2 (Statistics Canada, 2003) in order to collect precise data for prescription medication used.

SF-12 – V2 Health Survey (Optum, 2017).

We obtained a license to use the SF-12 - V2 Health Survey in the follow-up survey. It is composed of 12 items collecting information on the participant's health status and well-being. Eight health domains are examined: "physical functioning, role-physical, bodily pain, general health, vitality, social functioning, role-emotional and mental health" (American Thoracic Society, 2008). The SF-12 - V2 was derived from the SF-36 – V2 and was reported to be valid and reliable (Optum, 2017). Items were composed of statements which participants answered via so-called "Likert" scales. Optum provided a scoring algorithm which calculated a "preference-based utility index". Two overall summaries were calculated for every participant: (a) the Mental Component Summary (MCS), and the (b) Physical Component Summary (PCS). Each summary was declined into four categories and an overall score. The scoring algorithm also derives the percentage of the sample at risk for depression. The final results are derived from the comparison of the participants' scores to the general population of the United States. Therefore, the average on the MCS and PCS is 50. A score above 50 illustrates a better than average health, while a score lower than 50 illustrates a poorer than average health. The psychometric properties of this questionnaire were tested in a group of US patients suffering from severe mental illnesses. The questionnaire has a good test-retest reliability and is "related to physical and mental health indexes in expected ways" (Salyers, Bosworth, Swanson, Lamb-Pagone, & Osher, 2000). It is therefore a valid and reliable questionnaire to assess

quality of life. Canadian respondents' scores were reported to be generally similar to the scores obtained by respondents from the US on the SF-36 (Hopman et al., 2000). We therefore consider the results to be valid.

Costs.

The costs analyses were conducted with a societal perspective. The societal costs included direct costs, indirect costs, and patient costs. The total direct costs included the costs due to hospitalizations, ER visits, family physicians, and other physicians' consultations, as well as drug costs (sleep aids, antidepressants, anxiolytics, stimulants, and mood stabilizers) in the past year. The cost of a hospitalization (for psychiatric or other reasons) was based on a *per diem* cost and was provided by the Canadian Institute for Health Information (CIHI) for the year 2015-2016. The cost for a visit to the emergency room was based on a cost per visit and was provided by CIHI for the year 2016-2017. The hospitalization cost was indexed for the fiscal years of 2016 (1.4%) and 2017 (1.6%), and the emergency room visit cost was indexed for the fiscal year of 2017 (1.6%) using the Annual Review Consumer Price Index (Statistics Canada, 2017, 2018). The costs of physicians' consultations were also provided by CIHI for the year 2015-2016 and were indexed for the fiscal years of 2016 (1.4%) and 2017 (1.6%).

The indirect costs represented the costs related to loss of productivity at work (absenteeism and presenteeism) and sick leaves. Since attorneys receive an annual salary, sick leave costs were estimated based on the salary received during the sick leave period. Based on sick leave regulations (Aide juridique de Montréal/Laval, 2018), attorneys on sick leave for 11 days or more received 75% of their salary. Furthermore, loss of productivity at work was considered based on the annual salary. Billable hours lost due to absenteeism were also calculated for attorneys working in private firms, based on the reported annual salary. Private attorneys work with billable hours, which pay for their own salary, rent, staff's salary, stationery material, etc. This creates a double cost for a firm, as one hour of absenteeism represents a cost on the annual salary, as well as, a loss of one billable hour.

The patient costs included out-of-pocket costs and costs related to time lost due to health services used. Out-of-pocket costs were the costs for one individual related to

consultations of mental health professionals and paraprofessionals. The fees for one consultation with a mental health professional or paraprofessional were found through an online review throughout Canada. The costs related to personal time lost due to waiting and using health services were also calculated. Those included hospitalizations, emergency room visits, and physicians' consultations. One day of hospitalization was considered to induce eight hours of lost time, while one emergency room visit and one physician consultation were considered to incur four hours of lost time (Hernan et al., 2003; Vasiliadis, Latimer, Dionne, & Préville, 2013). In order to calculate the costs, the intrinsic value of the hourly wage of the participant was multiplied by the number of hours lost due to wait.

Categorization.

In the present study, the participants completed the PCL-5 in relation to either a specific case they dealt with or their overall work experience. Based on the cut-off score of the PCL-5, the sample was dichotomized: (1) participants who scored 31 or higher (participants with probable PTSS), and (2) participants who scored lower than 31 on the PCL-5 (participants without PTSS). Second, the sample was categorized in four groups depending on their symptoms severity variation through time: (1) people without probable PTSS at the initial and follow-up surveys (without PTSS at both interviews), (2) people who developed significantly high symptoms through time (incident), (3) people who had significantly high symptoms at the initial survey and then sub-clinical symptoms at the follow-up survey (remission), and (4) people whose PTSS scores stayed significantly high through time (persistent). The participants were asked to complete the LEC-5 by referring to the past 8 months of their lives since they had already completed the same measure regarding their whole life in the initial survey, including the category "Part of my job". Data on this scale from the initial and follow-up surveys were collated. Afterwards, "It happened to me", "I witnessed it", and "I learned about it" were aggregated into the category "Personal Life Trauma". This provided the opportunity to compare "Personal Trauma" and "Exposure through job".

Statistical Analyses

The statistical analyses were conducted using the SPSS Statistics program version 23 (IBM, Armonk, USA), except for the SF-12 - V2 which used QualiMetric's desktop Scoring Software 5.0. Descriptive statistics were carried out on the categorical variables of the demographic questionnaire, as well as on the LEC-5, the health services use questionnaire, the quality of life questionnaire and the loss of productivity at work questionnaire. They were reported as counts and frequencies. Descriptive statistics were also conducted for the variables included in the direct costs. The relationships between symptom severity and the continuous variables were tested using a Pearson correlation coefficient (*r*). Since this study was exploratory, no measures were taken to counter the inflation rate of the alpha threshold. A two-tailed alpha level of .05 was used for all these statistical analyses, except when mentioned otherwise. No correction for multiple testing was used.

For the first objective, descriptive statistics were carried out on the PCL-5, using the cut-off score of 31. Furthermore, between-group differences in symptom severity according to the PCL-5 mean scores were compared using t-tests and ANOVA tests with Post-Hoc Bonferroni analyses. Chi-square tests were carried out to assess between-group differences in rates and proportions of varied characteristics. In order to determine which variables to assess for odds ratios, variables significant with a two-tailed alpha level of .05 either on the *t*-tests, ANOVA, or chi-square analyses were included in our model. The sample was dichotomized between attorneys working with traumatic content cases vs those who did not. The model was tested separately on each group with multivariate logistic regressions, and using no PTSS vs with probable PTSS as the outcome variable. Based on the results of the multivariate logistic regression analyses, variables which were once more significant with a two-tailed alpha level of .05 were grouped and tested again using multivariate logistic regressions. From this second multivariate logistic regression analysis, variables significant with a two-tailed alpha level of .05 were considered as significant.

Because cost data were not normally distributed (highly skewed to the right), the second objective was assessed using non-parametric tests. The non-parametric test Mann-Whitney U was used in order to determine the statistical significance of cost differences between attorneys with and without probable PTSS. The non-parametric test

Kruskal-Wallis H was also used to compare the costs differences as a function of the four PTSS status groups, as described in the section “Categorization”.

Additional analyses were carried out in order to investigate costs as a function of the PCL-5 scores at the initial survey, as well as, the variation in PTSS severity during the eight-month period. A model was developed, including gender, region, age, relationship status, children, working with traumatic content cases, percentage of time spent working on traumatic content cases, weekly hours worked, the type of position, initial PTSS score and the variation of points on the PCL-5 between the initial and follow-up surveys. It was analyzed using four gamma-log-link multivariate regression analyses on the total direct, indirect, patient, and societal costs.

Results

Sample Description

The sample (*n* = 159) was composed mainly of women (59%) and residents from the Eastern part of Canada (67%). Half of the participants completed the survey in French (55%), two thirds worked with traumatic content cases (67%), and a majority worked for private law firms (69%). The sample was considered representative of the general population of Canadian attorneys with regards to age, ethnicity, number of years practising as an attorney, and weekly hours worked (please refer to Table A1 in the Appendix A section, p.65). The most frequent trauma-related cases involved interpersonal and conjugal violence (14%), followed by sexual abuse or assault (9%). The type of law most practiced in the sample was family and juvenile law (26%). Overall, 86% of the sample never had probable PTSS through time, 6% had a dramatic increase in their PTSS scores in the eight-month period, 4% were in remission at the follow-up, and 4% had persistent PTSS. For more descriptive details of the sample, please refer to Table 1 (p.49) and Graphs 1, 2 and 3 (p.51, 52, 53), as well as, Tables A2, A3 and A4 in the Appendix A section (p. 66, 68).

“Distress at work” represented the level at which attorneys felt that their productivity at work was affected by a distress associated to the cases they dealt with. “Distress at home” represented the level at which attorneys felt that their ability to do regular activities

was affected by a distress associated to the cases they dealt with. Strong and positive correlations were found between PTSS severity and distress at work scores (r = .81, p < .001), and distress at home scores (r = .86, p < .001) for public attorneys. Strong and positive correlations were also found between PTSS severity and distress at work scores (r = .60, p < .001*)*, and distress at home scores (*r* = .73, *p* < .001*)* for private attorneys. The average PTSS score was highly correlated with MCS scores (r = -.59, p < .001), but not with PCS scores (r = -.02, p = .812). For more details on the correlations observed, please refer to Table 2, p.54. Overall, the average scores of the sample on the PCS and MCS were 55.33 ± 5.90 and 46.24 ± 9.27 respectively.

A majority of the respondents (88%) reported consulting a paraprofessional in the past year, with an average of six consultations. Psychologists were consulted by only 21% of the sample with an average of one consultation per year. The most often used health service was the consultation of a family physician (79%) with an average of two consultations, followed by consultations of specialized physicians (52%) with an average of one consultation. A portion (27%) of attorneys went to the emergency room, with a range between one and four visits. A minority of the sample was hospitalized for psychiatric reasons (7%) between one and four days and 12% were hospitalized for other reasons between one and twelve days in the past year. The most used prescription medication among attorneys was sleep aid medication (19%), with 13% taking it once every day. Antidepressants were also often used (12%), as well as anxiolytics (11%). A minority took antidepressants (9%) and anxiolytics (8%) once every day. For more descriptive details regarding the use of health services and medications, please refer to Tables 3 and 4, p.55.

PTSS - First Objective

Symptoms.

T-tests revealed that attorneys working with traumatic content cases suffered from higher levels of PTSS compared to attorneys not working with such cases (12.86 ± 14.29 vs 4.21 ± 7.12, p < .001). An ANOVA was run to look more closely at the percentage of time spent working on traumatic content cases. Interestingly, only attorneys spending

between 26% and 50% of their time on traumatic content cases had a significant increase of 11.45 ± 2.91 points (p = .002) on the PCL5 compared to attorneys never working on traumatic content cases.

Private attorneys suffered significantly less from PTSS (8.04 ± 11.01) than public attorneys (14.51 ± 15.97, p = .012). Furthermore, attorneys using sleep aid medication suffered more from PTSS (18.13 ± 17.25) than attorneys who did not use sleep aid medication (8.15 ± 11.11, p = .005). Similar results were found for attorneys using antidepressants (19.79 ± 16.84) compared to attorneys not using antidepressants (8.71 ± 11.90, p = .011). Attorneys who reported having consulted a psychologist or social worker in the past year also reported significantly higher symptoms (14.82 ± 15.19) than attorneys who did not consult one (8.78 ± 12.17, p = .017). For further details and more results, please consult Table 1, p.49.

Overall, the severity of PTSS remained stable between the initial survey (37.15 ± 5.66) and the eight-month follow-up survey (30.77 ± 16.59; t = 1.51, p = .156). Similarly, among those without probable PTSS at the initial survey (6.55 ± 7.65), there was no change at the eight-month follow-up survey (8.18 ± 10.98; t = -1.91, p = .058). Results are reported in Table A5 in the Appendix A section, p.69.

The overall average PTSS score at the follow-up survey was 10.03, while it was 9.06 at the initial survey. The prevalence rate of probable PTSS in the past month at follow-up was 10.06% compared to a prevalence rate of 8.17% at the initial survey. Based on the cumulative incidence of probable PTSS found over the eight-month period (incident, remission and persistent cases), an eight-month prevalence rate of 14% was found. Graphs 4 and 5 (p.56) illustrate the variations of PTSS severity between the initial and follow-up surveys for the participants who initially had high levels of symptoms and low levels of symptoms respectively.

Factors Related to PTSS.

Based on the results found in Tables 1 and 5 (p.49, 57), the multivariate logistic regression analyses included the following variables: baseline PTSS, income, having children, working in the private or public sector, and percentage of time spent on traumatic

content cases. Based on the literature of risk factors for PTSD, we also included gender and age.

The multivariate analyses showed that among attorneys working with traumatic content cases, those who reported the presence of probable PTSS at the initial survey had nine times the odds of also reporting probable PTSS at the follow-up survey (p = .003). Moreover, those who did not have children had seven times the odds of suffering from probable PTSS than those who reported having children (p = .005). Details can be found in Table 6, p.58. No significant results were found for attorneys not working with traumatic content cases.

The Economic Outcomes - Second Objective

The direct, indirect, patient, and societal costs associated with probable PTSS are described in Tables 7, 8 and 9, p.59, 60.

Direct Costs.

The total direct costs included four variables: (a) hospitalization costs, (b) visits to the emergency room, (c) ambulatory physician fees, and (d) prescription medication use. They are presented in Table 7, p.59. Overall, the total direct costs were not significantly different among those with and without probable PTSS ($2 878 vs $1520, p = .064).

When looking more specifically at this category, the results, however, showed that participants with probable PTSS, as opposed to those without, incurred higher costs on average per year in visits to the emergency room ($130 vs $48, p = .048) and medications ($71 vs $34, p = .008). There was no significant difference between those with and without probable PTSS in costs related to hospitalizations and ambulatory physician fees.

The direct costs associated with the incidence, remission and persistence of PTSS are presented in Tables 8 and 9, p.60. The results indicated that participants with persistent PTSS incurred on average higher hospitalization costs than those with incident PTSS ($4 128 vs $963, p = .022) and those without PTSS at both interviews ($4 128 vs $1 118, p = .005). The total costs per year for prescription medications were on average higher for individuals with persistent PTSS ($128) when compared to individuals with no PTSS at either interview ($33), p = .002.

Indirect Costs.

The total indirect costs included the costs related to three variables: (a) loss of productivity at work, (b) sick leaves, and (c) billable hours lost due to absenteeism among private attorneys. Overall, the total indirect costs were on average significantly higher for those with probable PTSS than without probable PTSS ($68 599 vs $21 156, $p < .001$).

When looking at categories in more detail, analyses showed that costs related to loss of productivity at work were higher on average for attorneys with probable PTSS than without probable PTSS ($54 755 vs $15 376, $p < .001$). Specifically to attorneys working in private firms ($n = 110$), those with probable PTSS as opposed to those without also incurred on average higher costs per year in billable hours lost due to absenteeism ($29 906 vs $6 832, $p < .001$). The difference in sick leave costs was not significant between those with and without probable PTSS ($760 vs $859, $p = .191$).

Results showed that attorneys without PTSS at both interviews incurred, on average, lower indirect costs than attorneys with incident PTSS ($18 467 vs $56 924, $p = .017$) and attorneys with persistent PTSS ($18 467 vs $88 056, $p = .001$). When looking in more details, the same tendency was found for costs related to loss of productivity at work. Attorneys without PTSS at both interviews incurred on average lower costs than attorneys with incident PTSS ($14 209 vs $49 643, $p = .012$) and attorneys with persistent PTSS ($14 209 vs $63 275, $p = .001$). Attorneys in remission of PTSS incurred, on average, higher sick leave costs than attorneys without PTSS at both interviews ($5 780 vs $606, $p = .042$). Regarding costs related to billable hours lost among private attorneys, it was found that, on average, the costs were higher for private attorneys with persistent PTSS as opposed to those without PTSS at both interviews ($48 480 vs $5 068, $p = .013$).

Patient Costs.

Overall, the total patient costs per person per year were not significantly different between those with and without probable PTSS ($3 454 vs $2 453, $p = .074$).

Out-of-pocket costs.

The out-of-pocket costs were not significantly different between attorneys reporting and not reporting probable PTSS ($1253 vs $789, p = .057). There were no differences in the average out-of-pocket costs due to mental health professional consultations ($273 vs $130, p = .067) and paraprofessional consultations ($980 vs $658, p = .118) between participants with and without probable PTSS.

Still, results showed that out-of-pocket costs related to consultations of mental health professionals were, on average, higher for individuals in remission compared to individuals without PTSS at both interviews ($494 vs $111, p = .046). This result was not found when comparing attorneys with persistent PTSS as opposed to attorneys in remission.

Costs related to personal time lost due to health services use.

The costs of personal time lost due to emergency room visits were not different on average between people with and without probable PTSS ($171 vs $86, p = .074). Similar results were found for the average costs related to personal time lost due to hospitalizations ($700 vs $554, p = .108) and due to outpatient visits to physicians ($1330 vs $1 024, p = .239).

Still, attorneys with persistent PTSS suffered from higher costs on average related to personal time lost due to hospitalizations compared to attorneys with incident PTSS ($1 399 vs $280, p = .026), as well as, compared to attorneys without PTSS at both interviews ($1 399 vs $564, p = .008).

Societal Costs.

Societal costs included direct, indirect and patient costs. Overall, there was a significant difference on average in the estimated societal costs per year between attorneys reporting and not reporting probable PTSS ($74 930 vs $25 128, p < .001).

Moreover, results showed that the societal costs were significantly higher on average for individuals with persistent PTSS as opposed to individuals with no PTSS at either interview ($97 627 vs $22 416, p = .002).

The Multivariate Model in Predicting Costs.

More details can be found in Tables 10, 11, 12, and 13, p.61, 62, 63, 64.

The multivariate analysis showed that the total direct costs were associated with the relationship status, the total PTSS score at the initial survey, and the variation in PTSS scores between baseline and follow-up. Attorneys who were married or in a non-marital relationship incurred, on average, $932 ($p$ = .009) more in direct costs compared to attorneys who were single, while keeping all other variables constant. Furthermore, for every one unit increase on the PCL-5 at the initial survey, the direct costs increased by $93 ($p$ < .001), while keeping all other variables constant. Also, for every one unit increase in PCL-5 scores during the eight-month period, the direct costs increased an additional $77 ($p$ = .008), while keeping all other variables constant.

In regard to the total indirect costs, the analysis revealed that region, the total PTSS score at the initial survey, and the variation in PTSS scores between baseline and follow-up were statistically significant. The results showed that attorneys living in Western Canada incurred, on average, $32 966 ($p$ = .005) more in indirect costs compared to attorneys living in Eastern Canada, while keeping all other variables constant. Moreover, for every one unit increase on the PCL-5 at the initial survey, the indirect costs increased by $11 073 ($p$ < .001), while keeping all other variables constant. For every one unit increase in the PCL-5 scores during the eight-month period, the indirect costs increased by an additional $6 716 ($p$ = 0.05), while keeping all other variables constant.

The analysis revealed that patient costs were significantly associated with age, weekly hours worked, the total PTSS score at the initial survey, and the variation in PTSS scores between baseline and follow-up. The results showed that attorneys who were 50 years old or older incurred, on average, $1 214 ($p$ = .029) more in patient costs compared to attorneys who were 39 years old or less, while keeping all other variables constant. In addition, attorneys who worked between 46 and 55 hours per week incurred on average $1 092 more in patient costs than attorneys working 45 hours or less per week. Also, for every one unit increase on the PCL-5 at the initial survey, the patient costs increased by $54 ($p$ = .001), while keeping all other variables constant. For every one unit increase in the PCL-5 scores during the eight-month period, the patient costs increased by an additional $40 ($p$ = 0.05), while keeping all other variables constant.

The results showed that the total societal costs were significantly associated with region, the total PTSS scores at the initial survey, and the variation in PTSS scores between baseline and follow-up. Therefore, attorneys living in Western Canada incurred, on average, $18 006 ($p$ = .002) more in societal costs compared to attorneys living in Eastern Canada, while keeping all other variables constant. Moreover, for every one unit increase on the PCL-5 at the initial survey, the societal costs increased by $4 710 ($p$ < .001), while keeping all other variables constant. Finally, while keeping all other variables constant, for every one unit increase in the PCL-5 scores during the eight-month period, the societal costs increased by an additional $ 2 855 (p < .001).

Discussion

To our knowledge, this is the first study to investigate the economic impact of PTSS among Canadian attorneys. This study expands the existing body of literature on the health economics of PTSS by considering two groups: (1) a group of clinically symptomatic attorneys, and (2) a group of non-clinically symptomatic attorneys as the baseline comparison group. This study also adds to the literature by considering costs specific to the reality of attorneys. It represents the first step to reveal the impact of PTSS in Canadian attorneys in a quantitative and economic language sometimes easier to understand for professionals in the field of law.

Factors Associated With Probable PTSS

The three traumatic events most often experienced by respondents in their personal lives were transportation accident, life-threatening illness or injury, and sudden accidental death. The three traumatic events respondents were most exposed to through their cases were physical assault, sexual assault, and other unwanted sexual experiences. In the present study, an eight-month prevalence rate of 14% and a current (past-month) prevalence rate of 10% were found for probable PTSS among Canadian attorneys. These prevalence rates were higher than the 9.2% lifetime prevalence rate and 2.4% past-month prevalence rate observed in the Canadian general population for PTSD (Van Ameringen et al., 2008). However, previous studies investigating PTSD in attorneys

or other professional groups reported similar prevalence rates to the ones identified in this study (Levin et al., 2011; Levin et al., 2012; Sokol, 2014). For instance, Levin et al. (2011) reported a current (past-week) PTSD prevalence rate of 11% for attorneys, which was higher than the one reported for attorneys' administrative support staff (1%). In 2012, Levin et al. also reported similar current PTSD prevalence rates for attorneys of 15% and 9% at two different time-points. Among jurors, Chopra (2002) reported a current prevalence rate of 11.3% for PTSD, while Bride (2007) found that social workers had a current prevalence rate of 15% for probable PTSS. Therefore, the current prevalence rate reported in this study was similar to those reported in other studies investigating attorneys and other professional groups. However, this study was the first, to our knowledge, to provide a long-term prevalence rate for probable PTSS among attorneys. Still, the PTSS prevalence rates reported here should be confirmed in a future study including a larger sample.

Specifically for attorneys working with traumatic content cases, those reporting the presence of probable PTSS in the initial survey were nine times more likely to also report PTSS at the follow-up survey as compared to those without probable PTSS. This is consistent with findings reporting a psychiatric history as a risk factor for future PTSD (McFarlane, 2000). The results also showed that attorneys who did not have children had seven times the odds of reporting the presence of probable PTSS compared to those who had children. To our knowledge, this is the first study to report this result in relation to PTSS. A recent study reported lower levels of depression in parents compared to those without children (Grundy, Van den Broek, & Keenan, 2019). The World Health Organization (2012) also reported that "work-life balance (…) including leisure time with family and friends" was an important factor influencing well-being. Indeed, attorneys who do not have children might spend longer hours working at the office and also work at home, increasing their exposure to traumatic content. Moreover, attorneys who have children could be distracted once they get home and will not have as much time to ruminate over their cases, preventing them from aggravating their symptoms.

Gender, age, and percentage of traumatic content cases were not found to be associated with probable PTSS as suggested in other studies (Goldman, 2006; Leclerc, 2017; Levin and Greisberg, 2003).

Economic Outcomes

The hypothesis that attorneys suffering from probable PTSS would incur higher costs than attorneys not suffering from probable PTSS was confirmed by the results. Significant differences were found between Canadian attorneys with and without probable PTSS for emergency room visits (difference of $82), prescription medication use (difference of $37), loss of work productivity ($39 379), and loss of billable hours for private attorneys specifically ($23 074). Although there was not a significant difference between the two groups on the total direct costs, the costs incurred were still elevated for both groups ($2 878 vs $1 520). Compared to attorneys without PTSS, attorneys with probable PTSS generated on average $47 443 more in total indirect costs. The total between-group societal cost difference was of $49 802 over one year.

Those results were consistent with other health economic studies on PTSD and PTSS in general populations (Chan, Cheadle, Reiber, Unutzer, & Chaney, 2009; Ferry et al., 2015; Lamoureux-Lamarche et al., 2016). These studies revealed higher direct healthcare costs for people suffering from PTSD than people without PTSD. The present study however also revealed higher indirect than direct costs in attorneys reporting the presence of probable PTSS. This was in agreement with other studies investigating PTSD (Ferry et al., 2015) and anxiety disorders (Cuijpers et al., 2007; Tomonaga et al., 2013). In this study, the total indirect costs represented between 84% and 92% of the total societal costs, while Ferry et al. (2015) reported that indirect costs related to PTSD represented only around 66% of the overall costs. However, the study of Ferry et al. (2015) included 1 986 people suffering from PTSD from the general population of Northern Ireland, instead of a specific population of workers (attorneys) like in the present study. This may in part explain the differing results.

Attorneys suffering from persistent PTSS also incurred higher costs than attorneys without PTSS at both survey interviews. They incurred on average $3 010 more in hospitalization costs, $95 more in prescription medication costs, $49 066 more in loss of productivity at work, and $43 412 more in billable hours lost (specifically for private attorneys). As compared to attorneys without PTSS at both interviews, attorneys in remission of PTSS incurred higher costs reaching on average $5 174 in sick leaves and

$383 in consultations with mental health professionals. These results suggest, at least in this sample, that it is less expensive to treat PTSS and pay for sick leaves and mental health professionals' consultations than it is to let PTSS persist through time and tolerate presenteeism, highlighting the importance of preventing and treating PTSS.

Interestingly, analyses confirmed that all four costs categories were explained by (a) the severity of PTSS at the initial survey and (b) the variation in PTSS scores between baseline and follow-up. However, the indirect and societal costs were also affected by the region. Attorneys living in Western Canada incurred higher costs than attorneys living in Eastern Canada. This result might be influenced by the pay gap between provinces in the East and West of Canada. For instance, a report from Wazzan (2007) showed that, in the private sector, the provinces of Alberta and Ontario (which were both categorized as Western provinces) were the two provinces with a higher 75th percentile annual income than the average one throughout Canada. Furthermore, the direct costs were higher for people who were married or in a non-marital relationship compared to attorneys who were single. Being in a relationship could be a motivating factor to consult a doctor, as the partner could encourage the other to take care of their health. For instance, it was found in the USA that 83% of women in a relationship encouraged their partner to see a doctor (Cleveland Clinic, 2018). Finally, the patient costs were also influenced by the age and the number of weekly hours worked. Attorneys who were 50 years old or older incurred higher patient costs than attorneys under 39, and this could be related to the fact that older attorneys had on average a higher income. Attorneys who worked between 46 and 55 hours per week seemed to have consulted mental health professionals more than attorneys who worked less than 45 hours per week.

To highlight the importance of the results, we made the assumption that the sample was representative of the population from which it was drawn, and the costs (average per person per year) were extrapolated to the population of attorneys in Canada. The latest report of the Federation of Law Societies of Canada (2016) reported that 98 776 attorneys were registered in Canada and actively practicing. Given that the eight-month prevalence rate of probable PTSS found in this study was 14%, we extrapolated that around 13 828 attorneys may be suffering from probable PTSS in Canada (98 776 X .14). By extrapolating the total direct, indirect and patient related costs per person per year, the

additional costs associated with the presence of probable PTSS in attorneys reached $18 778 424, $656 041 804, and $13 841 828 annually in Canada respectively. In sum, these costs represented a total societal cost reaching $1 036 132 040 every year, with $688 662 056 due to probable PTSS.

People suffering from probable PTSS develop avoidance symptoms towards cues reminding the traumatic event (American Psychiatric Association, 2013). Therefore, attorneys affected might cognitively disconnect from their work or avoid certain aspects of it, such as hearing a client's testimony, looking at pictures or a video (presenteeism), or might simply not come in to work (absenteeism), which will prevent them from completing their professional duties. It is sometimes possible for attorneys to work from home, providing a good alibi for being absent from the office. As previously mentioned, studies have shown that mental health disorders have an impact on productivity at work (Lerner et al., 2004; McTernan et al., 2013). The large economic impact related to loss of productivity at work and loss of billable hours represents a burden which could easily be offset by sound prevention campaigns and by encouraging attorneys to seek treatment.

Attorneys suffering from probable PTSS generated higher costs regarding prescription medication. More specifically, sleep aid medication and antidepressants users had higher PTSS. Prescription medications are an easy treatment for attorneys who constantly work. Furthermore, substance use is a known issue among attorneys (Krill et al., 2016). In the field of law, there is a permissive attitude towards alcohol and substance use (Anker, N. D.; Olson, 2016), as long as the professional duties are performed and the work is delivered. Self-medication as a treatment to cope with PTSS among attorneys was not investigated in this study, but could also partially explain why attorneys suffering from probable PTSS do not consult physicians or mental health professionals more than average (Vrklevski & Franklin, 2008). Medication is a subtler treatment method for attorneys.

Health economic studies often find that people suffering from mental health disorders incur higher direct and indirect costs then people in the subclinical levels (Luppa, Heinrich, Angermeyer, König, & Riedel-Heller, 2007; Simon, Ormel, VonKorff, & Barlow, 1995; Stewart, Ricci, Chee, Hahn, & Morganstein, 2003). The present study did not reveal such consistent results, as only costs related to emergency room visits,

prescription medication used, loss of productivity at work, and loss of billable hours were higher for the group of attorneys suffering from probable PTSS. This may be due to the small sample size of the study, considering that the effect size obtained for the direct costs was .296.

The Professional Environment

The professional environment of attorneys can be considered as the frame to understand those results. The results reflect the values, qualities and behaviours that are promoted in the work environment of attorneys. Attorneys are not academically trained about the risks of their profession, nor are they trained to recognize their symptoms (Maguire & Byrne, 2017). They work in a very competitive environment that promotes efficiency, constant performance, and devotion to the job (Alfini & Van Vooren, 1995). Attorneys are under pressure to be at the office, work long hours, and work around short deadlines, which can be detrimental to their health (Anker, N. D.). In our sample, 61% of attorneys worked more than 46 hours per week, leaving little time for leisure, or for them to consult with physicians or mental health professionals. Moreover, attorneys need to protect their reputation, which is based on winning cases and being psychologically unbreakable (Lawyer's Professional Indemnity Company, 2013). How can one keep such a reputation? An attorney needs to be intransigent, put his/her emotions aside, and consider the law in a rational and factual perspective (Aiken & Wizner, 2003; Baillot et al., 2013). Hence, attorneys are not allowed to be emotionally affected by their cases, as this would be considered as a sign of weakness. A study by Henningsen and Cionea (2007) showed that clients considered their attorneys as not qualified if they displayed "comforting strategies" towards them. Therefore, we can posit that developing PTSS due to exposure to traumatic content cases would be ill-perceived by colleagues, adversaries and clients, and would indicate that the person is not reliable (Lawyer's Professional Indemnity Company, 2013).

Quality of life.

The results on the SF-12 showed that our sample of attorneys had a lower quality of life than the general population. More specifically, they were physically healthier than

the general population, but had a poorer mental health. Still, average scores were considered as normal. Scores indicated that attorneys were slightly affected in their normal social activities, that their emotional problems affected their work or activities, and that they suffered from “feelings of nervousness or depression”. Optum’s algorithm calculated that 31% of the sample was at risk for depression, which was quite superior to the rate of 20% in the general population (Optum, 2017). Those results suggest that a portion of the costs found in the group without probable PTSS might be related to depression or other disorders.

Other worries.

At the conclusion of the present study, attorneys were sent a final email in order to highlight the quantitative results with a qualitative question. They were asked, “At this moment, what is (are) your main preoccupation(s) regarding your work?”. A total of 56 attorneys answered the question, with an average of two preoccupations per person, and the number of preoccupations ranged between zero and five.

The qualitative responses were separated in eight categories. Only one attorney pointed out that a specific case was a preoccupation. This answer was categorized in the category “other”, which was the smallest one (7%). Nearly half of the attorneys (46%) considered “workload” as an important preoccupation, because of the difficult time management, or because the workload was too high or insufficient. Issues related to “clients” were the second most important preoccupation (36%). Attorneys were concerned with clientele development, satisfaction, and loyalty. Attorneys were also particularly preoccupied by “personal issues and self-satisfaction”, many pointing to a low quality of life, being unsatisfied with their work, worried of failing or being dismissed, and with planning their retirement (30%). Furthermore, 29% were concerned with “money”. A lot mentioned their billing targets as a source of great preoccupation, while others had issues with their salaries, or collecting receivable accounts. Some mentioned their “social work environment”, as 20% were concerned by their relationships with colleagues, bosses, high standards, and social dynamics. “Work-family balance” was a concern for only 14% of the sample. Finally, 13% of the attorneys were preoccupied with “adapting to a changing work environment”, which included worries of changing technologies, new

responsibilities and the arrival of a new generation of attorneys who had different values and mindsets.

These results highlight the different sources of stress and anxiety attorneys face daily. The traumatic contents of cases did not seem to be an overt source of anxiety, even though the results of the present study pointed to it. One possibility is that attorneys were not necessarily aware of those traumatic elements' effects, and that other anxiety disorders could influence the economic impact of attorneys without probable PTSS. Another possibility is that the self-report PTSD symptom measure (PCL-5) used in this study acted as a proxy measure capturing more diffuse psychological distress related to the work environment.

Limitations

Readers should consider the following limitations when interpreting the results. First, the sample size remains a relatively small one to conduct health-economic analyses. The extrapolation derived from the results should be considered as a best current estimate since it assumes that the sample is representative with respect to age, ethnicity, number of years of practice, and number of hours worked weekly. How well the results could be extrapolated to the general attorney population in Canada is unknown given the convenience sample. For the indirect costs, we did not consider the costs of personnel turnover, of early retirement (possibly due to the job), and of deaths by suicide. In other words, when the recruitment pool consists of workers, the lifetime prevalence of any condition is typically underestimated due to the fact that the most ill individuals have left the profession and are being each replaced by 'fresh troops' (Brunet, Monson, Liu, & Fikretoglu, 2015). Furthermore, the number of hours of absenteeism was assessed for a one-month period and extrapolated to a full year afterwards. Third, the costs might have been underestimated since the annual salary was assessed through broad categories. Therefore, attorneys were considered to receive a maximum annual salary of $210 000, likely a lower bound estimate. Also, we did not have access to insurance databases. This incurred a limitation for the calculation of prescription medication costs, as it was based on the unit cost of one pill for each medication category. Since the calculation was based on self-reported questions, it is possible that some attorneys were uncomfortable

disclosing the use of psychotropic medication or were not sure of the medication type they were using. Moreover, it was not possible to add the costs related to pharmacists. Fourth, PTSS were assessed with a self-reported questionnaire (PCL-5). While using the PCL-5 allowed us to recruit attorneys across Canada and encouraged survey participation, a formal diagnosis conducted by a mental health professional would have been better. Fifth, there could have been a recall bias when participants reported their health services used and loss of productivity at work in the past year or month. Moreover, PTSD is comorbid with other disorders (American Psychiatric Association, 2013), and the symptoms can sometimes be confused with those of other disorders, notably depression (Brady et al., 2000). So, what if it was not just PTSS? Since these disorders were not controlled for, the results might have been underestimated, as some attorneys suffering from probable PTSS might have been part of the category without PTSS.

Future studies should aim to recruit a larger representative sample, involve the collaboration of more law associations and agencies, and also consider the assessment of more mental health issues in order to better nuance and refine the results.

Conclusion

To our knowledge, this was the first study to report on the economic impact of DSM-5 PTSS among attorneys. The results revealed that attorneys working with traumatic content cases developed more PTSS than attorneys who did not. Attorneys working with traumatic content cases are therefore at risk of developing PTSS. In addition, we demonstrated that attorneys suffering from probable PTSS incurred higher societal costs than attorneys not suffering from PTSS. Being exposed to traumatic elements as part of the professional duties had an impact on the mental health, which in turn had an economic impact. Further research is needed to investigate whether more prevention and de-stigmatization programs would have an impact on those costs.

Still, do we need to wait for more research before targeting this economic issue? Simple long-term measures can already be easily implemented to counter this endemic problem. Attorneys do not seem aware that exposure to traumatic content cases can have a justified impact on their mental health. They work in a unique field, developing resources

tailored to their reality is therefore appropriate. An undergraduate course on anxiety and trauma related disorders among attorneys should be implemented in the curriculum of law degrees. Workshops and conferences on the topic could also be credited as continuing professional development hours by the Bar associations for attorneys who have completed their degree. Anonymous support groups for attorneys suffering from PTSD could also be developed, with a peer mentorship program. Firms and offices should encourage dialogue among peers and could partner with health clinics and mental health professionals in order to provide an easy and quick access to treatment. We argue that implementing such resources would decrease the costs of probable PTSS, although, empirical research will be required.

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Figure 1. Recruitment of the Sample

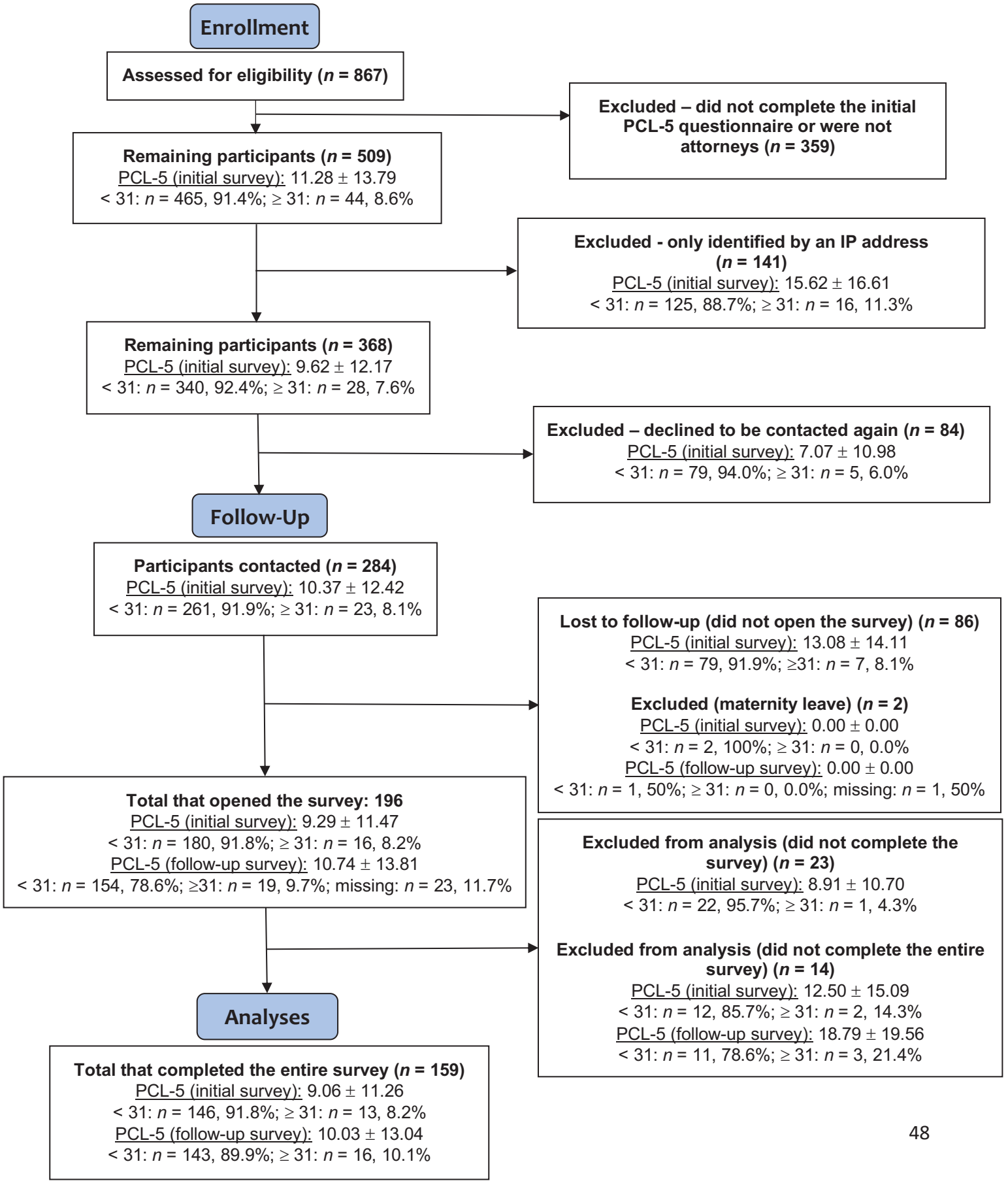


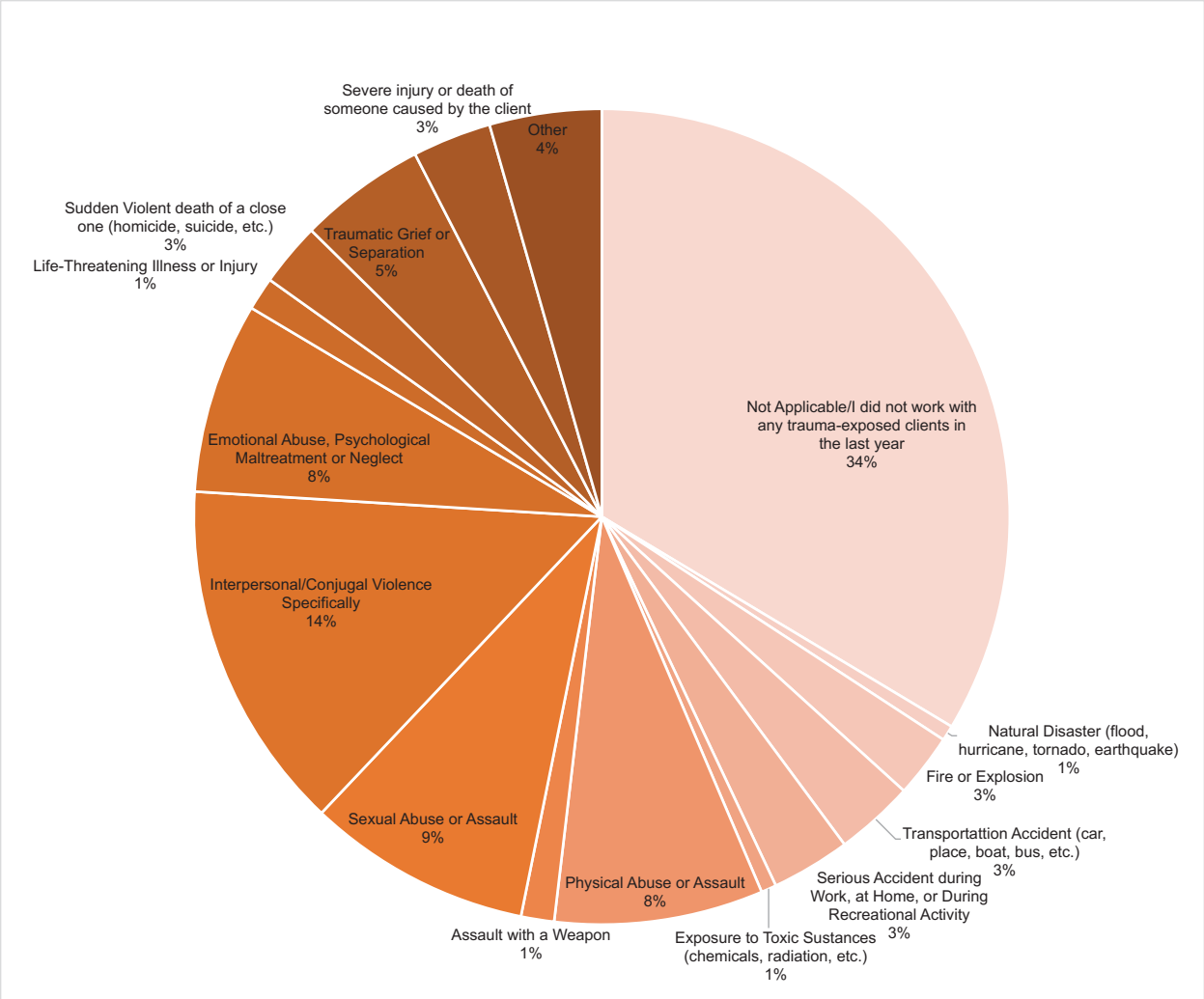
Table 1

Posttraumatic Stress Symptoms (PTSS) Across the Two Surveys

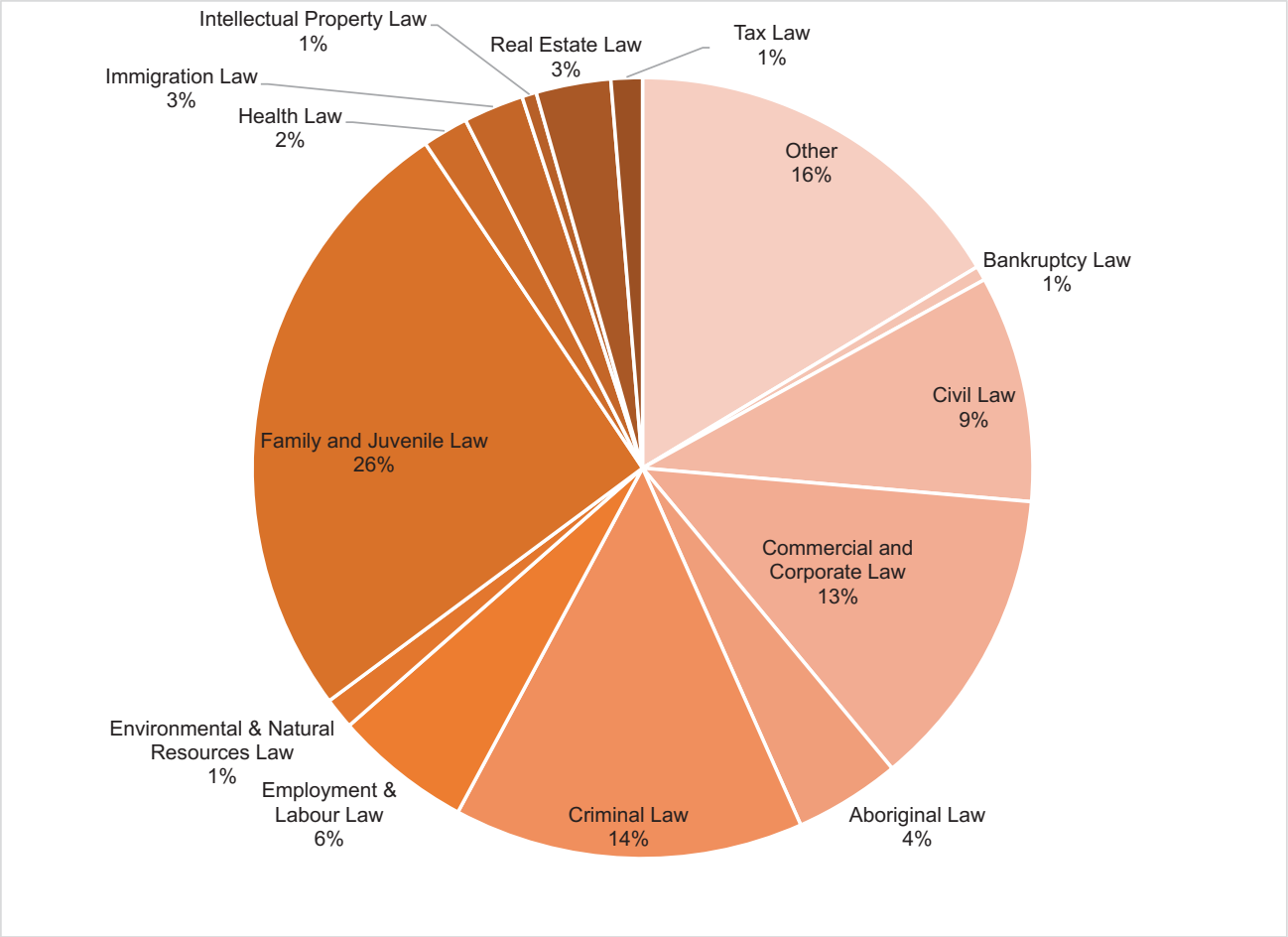
Variables	*n*	Initial Survey Scores		Follow-Up Survey Scores	
		$\bar{x}$ ± SD	*p*	$\bar{x}$ ± SD	*p*
Age					
39 and less	66	8.77 ± 10.86	.195	9.33 ± 12.93	.282
40-49	39	11.72 ± 14.26		12.90 ± 15.81	
50 and more	54	7.48 ± 8.93		8.81 ± 10.70	
Gender					
Male	66	7.95 ± 9.71	.300	8.36 ± 10.89	.175
Female	93	9.84 ± 12.23		11.22 ± 14.31	
Number of years worked					
Less than 3 years	23	7.96 ± 10.21	.469	10.04 ± 12.95	.942
4-7 years	26	12.08 ± 12.28		11.35 ± 14.00	
8-10 years	13	7.08 ± 11.18		10.62 ± 15.41	
10 years and more	97	8.77 ± 11.25		9.60 ± 12.65	
Traumatic content cases					
No	52	2.94 ± 6.13	< .001	4.21 ± 7.12	< .001
Yes	107	12.03 ± 11.99		12.86 ± 14.29	
Percentage of hours spent on traumatic content cases					
0%	55	2.96 ± 6.06	< .001	4.76 ± 7.68	.001
1-25%	50	9.14 ± 9.95		10.68 ± 12.51	
26-50%	26	13.54 ± 15.01		16.38 ± 17.88	
51-75%	18	15.89 ± 10.44		13.94 ± 15.02	
76-100%	10	18.20 ± 12.82		12.20 ± 11.85	
Income					
$60 000 or less	10	15.20 ± 17.20	.001	18.70 ± 18.07	.003
$60 001 to $180 000	105	10.66 ± 11.42		11.25 ± 13.70	
$180 001 or more	44	3.84 ± 6.76		5.16 ± 7.55	
Education level					
LL.B/J.D.	132	9.62 ± 11.65	.533	10.47 ± 13.67	.814
LLM.	14	7.36 ± 10.60		8.57 ± 7.17	
Master's Degree (other than law)	11	5.18 ± 7.10		7.18 ± 12.04	
PhD in Law	2	5.00 ± 1.41		7.00 ± 9.90	
Years of practice					
Less than 3 years	23	7.96 ± 10.21	.469	10.04 ± 12.95	.942
4-7 years	26	12.08 ± 12.28		11.35 ± 14.00	
8-10 years	13	7.08 ± 11.18		10.62 ± 15.41	
10 years or more	97	8.77 ± 11.25		9.60 ± 12.65	
Relationship status					
Single	36	13.39 ± 13.85	.029	14.28 ± 15.54	.056
Married or non-marital status	123	7.79 ± 10.10		8.79 ± 12.00	

Sector					
Private	110	7.15 ± 10.42	.001	8.04 ± 11.01	.012
Public	49	13.33 ± 11.99		14.51 ± 15.97	
Absenteeism - public attorneys					
No	43	11.47 ± 10.35	.003	11.65 ± 13.44	.002
Yes	5	27.80 ± 16.98		34.20 ± 21.01	
Additional hours worked - public					
No	35	10.80 ± 9.88	.73	8.71 ± 10.53	.003
Yes	13	19.54 ± 15.28		28.23 ± 18.80	
Absenteeism - private attorneys					
No	95	5.76 ± 9.22	.011	6.06 ± 8.18	.006
Yes	15	16.00 ± 13.33		20.53 ± 17.32	
Absent from work for other reasons - public attorneys					
No	27	11.11 ± 10.21	.184	13.19 ± 14.90	.689
Yes	21	15.81 ± 13.91		15.05 ± 17.05	
Absent from work for other reasons - private attorneys					
No	46	8.02 ± 12.16	.462	6.74 ± 10.00	.297
Yes	64	6.53 ± 9.02		8.97 ± 11.66	
Sleep medication use					
No	129	6.83 ± 9.08	< .001	8.15 ± 11.11	.005
Yes	30	18.63 ± 14.48		18.13 ± 17.25	
Anxiolytic medication use					
No	142	8.01 ± 9.83	.039	9.36 ± 12.51	.06
Yes	17	17.76 ± 17.64		15.65 ± 16.18	
Antidepressant medication use					
No	140	7.78 ± 9.94	.009	8.71 ± 11.90	.011
Yes	19	18.47 ± 15.63		19.79 ± 16.84	
Psychologist or social worker[a]					
No	126	7.64 ± 10.39	.008	8.78 ± 12.17	.017
Yes	33	14.45 ± 12.90		14.82 ± 15.19	

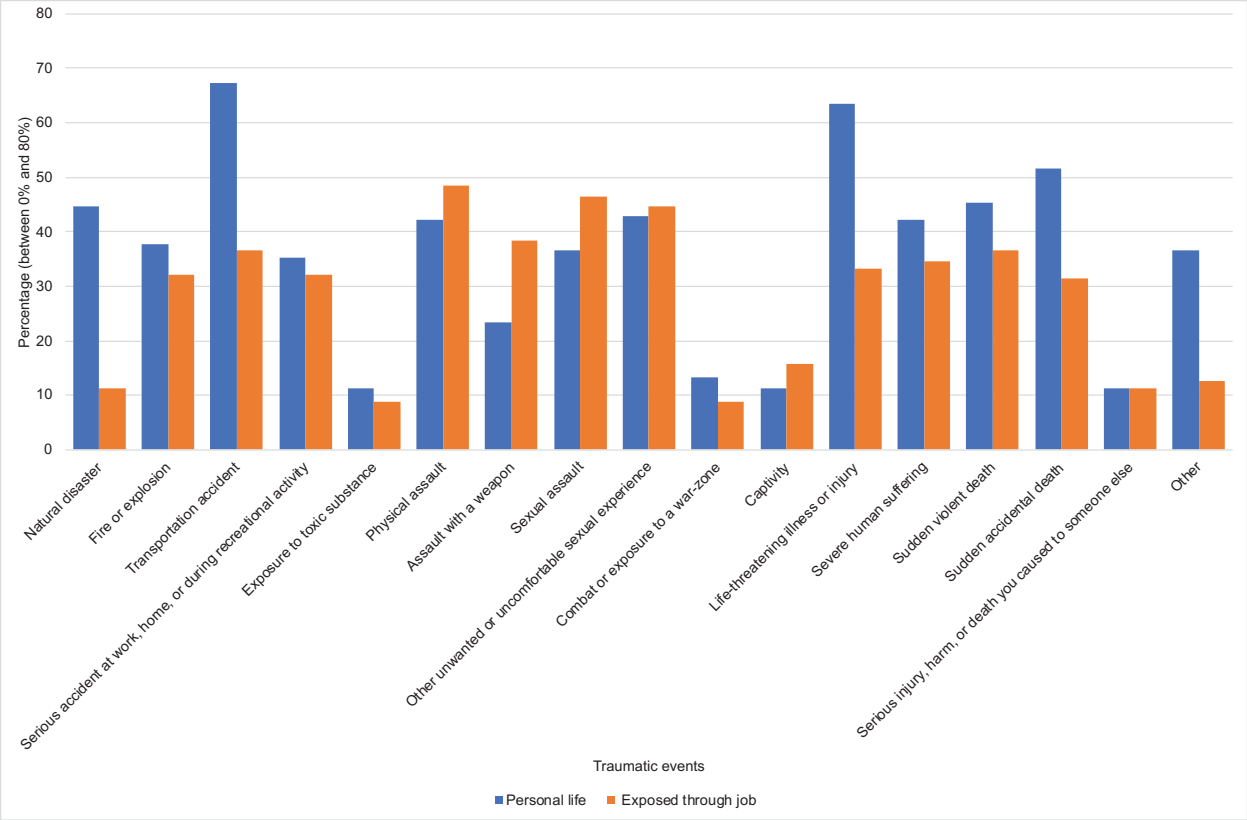
Note. PTSS levels were assessed twice with the PCL-5 over an eight-month period, absenteeism from work was assessed with the WPAI-GH-RA, and medication used and mental health professionals' consultations were assessed with the MEDEC-R.
[a] Consulted in the past eight months.



Graph 1. Distribution of traumatic content cases attorneys reported working with (%).



Graph 2. Distribution of the main type of law practised (%).



Graph 3. Prevalence of lifetime traumatic events.

Table 2

Correlations Between Descriptive Variables and Posttraumatic Stress Symptoms (PTSS) Total Scores Across the Two Surveys

Variables	Correlation	
	Initial Survey	Follow-Up Survey
Public attorneys		
Distress at work[a]	$r = 0.50^{***}$	$r = 0.81^{***}$
Distress at home	$r = 0.55^{***}$	$r = 0.86^{***}$
Private attorneys		
Distress at work	$r = 0.47^{***}$	$r = 0.60^{***}$
Distress at home	$r = 0.46^{***}$	$r = 0.73^{***}$
Quality of life		
PCS[b]	$r = -0.12$	$r = -0.02$
MCS[c]	$r = -0.43^{***}$	$r = -0.59^{***}$
Health specialists' visits	$r = 0.26^{***}$	$r = 0.19^{*}$
Psychologists' and social workers' consultations	$r = 0.30^{***}$	$r = 0.22^{**}$
Paraprofessionals' consultations	$r = 0.15$	$r = 0.14$
Family physician visits	$r = 0.33^{***}$	$r = 0.22^{**}$

Note. PTSS levels were assessed with the PCL-5, levels of distress were assessed with the WPAI-GH-RA, quality of life was assessed with the SF-12, and health professionals' consultations were assessed with the MEDEC-R.

[a] The levels of distress at work and at home were assessed at the follow-up survey.

[b] Physical Component Summary.

[c] Mental Component Summary.

* $p < .05$, ** $p < .01$, *** $p < .001$

Table 3

Health Services Used in the Past Year

Health service	*n* (%)		Number of times the service has been used				Number of days the service has been used			
	Used the service	Didn't use the service	mean (95%CI)	Median	Mode	Range	mean (95%CI)	Median	Mode	Range
Psychiatric hospitalization	11 (6.9%)	148 (93.1%)	0.01 (-0.01, 0.02)	0	0	(0, 1)	0.03 (-0.03, 0.08)	0	0	(0, 4)
Hospitalization for other reasons	19 (11.9%)	140 (88.1%)	0.135 (0.059, 0.212)	0	0	(0, 4)	0.332 (0.095, 0.569)	0	0	(0, 12)
Family physicians' consultations	126 (79.2%)	33 (20.8%)	2.038 (1.720, 2.356)	2	1	(0, 12)				
Specialized physicians' consultations	83 (52.2%)	76 (47.8%)	1.315 (0.996, 1.633)	1	0	(0, 11)				
Emergency room visits	43 (27.0%)	116 (73.0%)	0.340 (0.231, 0.448)	0	0	(0, 4)				
Psychologists and social workers consultations	33 (20.8%)	126 (79.2%)	1.421 (0.801, 2.042)	0	0	(0, 24)				
Paraprofessionals' consultations	140 (88.1%)	19 (11.9%)	6.346 (5.139, 7.553)	3	2	(0, 41)				

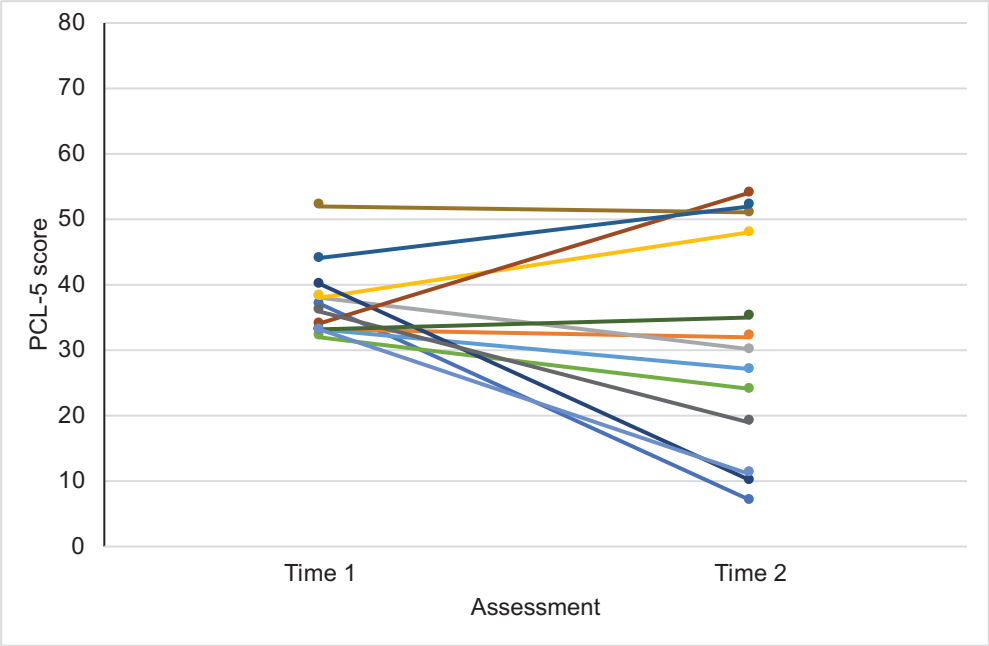
Note. Health services used in the past year were assessed with the MEDEC-R.

Table 4

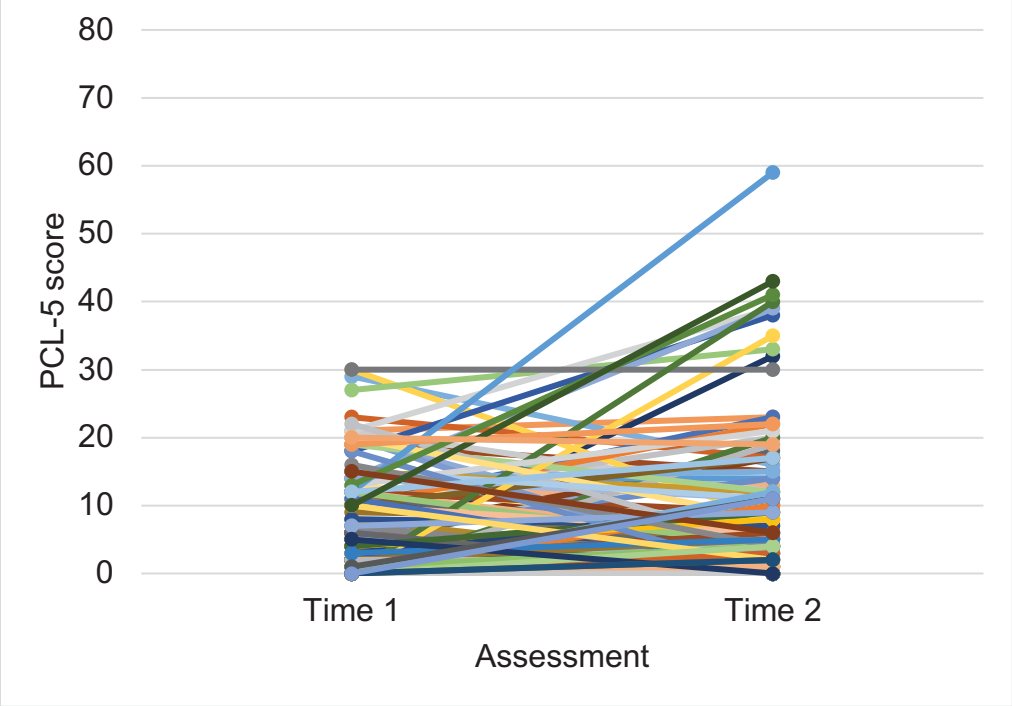
Medication Used in the Past Year

Type of medication	*n* (%)		Number of different medications			Number of times per day the medication is taken				How long the medication has been taken - *n* (%)				
	Takes medication	Doesn't take medication	Doesn't apply	1 type	2 types	Doesn't appl	1 time	2 times	3 times	4 times	Doesn't apply	Less than 3 month	3 to 6 months	6 to 9 months	9 to 12 months
Sleep medication	30 (18.9%)	129 (81.1%)	130 (81.8%)	20 (12.6%)	9 (5.7%)	136 (85.5%)	21 (13.2%)	0 (0%)	0 (0%)	2 (1.3%)	133 (83.6%)	2 (1.3%)	1 (0.6%)	1 (0.6%)	22 (13.8%)
Anxiolytics	17 (10.7%)	142 (89.3%)	144 (90.6%)	12 (7.5%)	3 (1.9%)	143 (89.9%)	12 (7.5%)	3 (1.9%)	1, 0.6%)	0 (0%)	144 (90.6%)	1 (0.6%)	0 (0%)	2 (1.3%)	12 (7.5%)
Antidepressants	19 (11.9%)	140 (88.1%)	141 (88.7%)	15 (9.4%)	3 (1.9%)	141 (88.7%)	14 (8.8%)	4 (2.5%)	0 (0%)	0 (0%)	141 (88.7%)	2 (1.3%)	1 (0.6%)	0 (0%)	15 (9.4%)
Mood stabilizers	3 (1.9%)	156 (98.1%)	157 (98.7%)	2 (1.3%)	0 (0%)	157 (98.7%)	2 (1.3%)	0 (0%)	0 (0%)	0 (0%)	157 (98.7%)	0 (0%)	1 (0.6%)	0 (0%)	1 (0.6%)
Stimulants	1 (0.6%)	158 (99.4%)	158 (99.4%)	1 (0.6%)	0 (0%)	158 (99.4%)	1 (0.6%)	0 (0%)	0 (0%)	0 (0%)	157 (98.7%)	0 (0%)	0 (0%)	1 (0.6%)	1 (0.6%)

Note. Medication used in the past year were assessed with the MEDEC-R.



Graph 4. Posttraumatic stress symptom scores on the PCL-5 at the follow-up for participants who suffered from probable PTSS at the initial survey.



Graph 5. Posttraumatic stress symptom scores on the PCL-5 at the follow-up for participants who did not suffer from probable PTSS at the initial survey.

Table 5

Posttraumatic Stress Symptoms (PTSS) Severity at the Follow-up Survey

Variables	Low PTSS *n* (%) = 143 (89.9%)	High PTSS *n* (%) = 16 (10.1%)	Chi-square analyzes			
	n (%)	*n* (%)	Pearson chi-square	df	Phi value	Cramer's V
Baseline PTSS at initial survey						
High	136 (95.1%)	10 (62.5%)	20.376***	1	0.358	
Low	7 (4.9%)	6 (37.5%)				
Gender						
Male	61 (42.7%)	5 (31.25%)	0.771	1		
Female	82 (57.3%)	11 (68.75%)				
Region						
East	97 (67.8%)	9 (56.25%)	0.869	1		
West	46 (32.2%)	7 (43.75%)				
Age						
39 and less	59 (41.3%)	7 (43.75%)	0.770	2		
40-49	34 (23.8%)	5 (31.25%)				
50 and more	50 (34.9%)	4 (25.00%)				
Working with trauma content cases	51 (35.7%)	1 (6.25%)	5.657*	1	0.189	
No	92 (64.3%)	15 (93.75%)				
Yes						
Percentage of time working on trauma content cases						
0%	54 (37.8%)	1 (6.25%)				
1-25%	44 (30.8%)	6 (37.5%)	9.226	4		
26-50%	20 (14.0%)	6 (37.5%)				
51-75%	16 (11.2%)	2 (12.5%)				
76-100%	9 (6.3%)	1 (6.25%)				
Hours worked per week						
Less than 45 hours	56 (39.2%)	6 (37.5%)	0.198	2		
46-55	58 (40.6%)	6 (37.5%)				
56 hours or more	29 (20.3%)	4 (25.0%)				
Income						
$60,000 or less	8 (5.6%)	2 (12.5%)	4.665	2		
$60,001 to $180,000	92 (64.3%)	13 (81.25%)				
$180,001 or more	43 (30.1%)	1 (6.25%)				
Relationship status						
Single	32 (22.4%)	4 (25.0%)	0.056	1		
Married or non-marital status	111 (77.6%)	12 (75.0%)				
Number of children						
0	46 (32.2%)	12 (75.0%)				
1	23 (16.1%)	1 (6.25%)	12.559*	4		0.281
2	44 (30.8%)	1 (6.25%)				
3	18 (12.6%)	2 (12.5%)				
4 or more	12 (8.4%)	0 (0.0%)				
Sector						
Private	103 (72.0%)	7 (43.75%)	5.397*	1	0.184	
Public	40 (28.0%)	9 (56.25%)				

*p < .05, **p < .01, ***p < .001

Table 6

Odds of Suffering from Probable Posttraumatic Stress Symptoms (PTSS) for Attorneys Working with Traumatic Content Cases

Variables	Exp(B)	95% CI	
		Lower	Upper
Suffering from probable PTSS at the initial survey	9.226**	2.181	39.030
Having children	0.151**	0.040	0.571

*$p < .05$, **$p < .01$, ***$p < .001$

Table 7

Costs ($) Per Year for an Attorney With vs Without Probable Posttraumatic Stress Symptoms (PTSS)

Variables	High PTSS[a]			Low PTSS[b]			Mann-Whitney U Test	
	$\bar{x}$ (95% CI)	M	Range	$\bar{x}$ (95% CI)	M	Range	U	z
Total direct costs[c]	2 877.65 (554.32, 5 200.98)	628.41	(0.00, 12 696.88)	1 519.82 (920.11, 2119.53)	294.08	(0.00, 19 648.09)	821.500	-1.851
Hospitalizations	2 149.98 (111.55, 4 188.42)	0.00	(0.00, 9 631.93)	1 101.75 (524.49, 1 679.02)	0.00	(0.00, 19 263.86)	951.000	-1.716
ER visits	130.37 (30.57, 230.18)	0.00	(0.00, 641.84)	48.25 (32.50, 64.00)	0.00	(0.00, 641.84)	876.500*	-1.974
Ambulatory physician visits	525.97 (221.28, 830.66)	395.95	(0.00, 2 407.36)	335.97 (272.65, 399.30)	209.47	(0.00, 2 094.70)	845.000	-1.719
Prescription medication	71.33 (10.04, 132.61)	6.75	(0.00, 333.90)	33.85 (15.63, 52.07)	0.00	(0.00, 831.60)	802.000**	-2.672
Total indirect costs	68 598.65 (40 158.59, 97 038.71)	55 137.39	(0.00, 189 757.89)	21 155.60 (11 929.26, 30 381.93)	300.00	(0.00, 470 802.86)	411.000***	-4.416
Loss of productivity at work[d]	54 754.74 (35 373.38, 74 136.10)	53 110.47	(0.00, 113 750.54)	15 375.70 (10 885.30, 19 866.09)	0.00	(0.00, 165 000.00)	417.000***	-4.508
Sick leave	760.16 (-84.02, 1 604.34)	0.00	(0.00, 5 400.00)	859.13 (189.14, 1 529.13)	0.00	(0.00, 37 607.14)	988.000	-1.308
Billable hours lost[e]	29 905.71 (-3 770.38, 63 581.81)	12 900.00	(0.00, 93 600.00)	6 831.74 (-667.49, 14 330.98)	0.00	(0.00, 327 360.00)	184.000***	-3.623
Total patient costs[f]	3 453.71 (2 031.60, 4 875.82)	3 107.79	(108.85, 9 065.51)	2 452.59 (1 951.69, 2 953.50)	1 512.32	(0.00, 2 4217.70)	832.500	-1.784
Total out-of-pocket[g]	1253.13 (674.34, 1831.92)	1 038.87	(0.00, 3 156.65)	788.65 (624.31, 953.00)	435.40	(0.00, 5 707.74)	813.000	-1.903
Out-of-pocket (mental health professionals)	273.48 (22.47, 524.49)	0.00	(0.00, 1 628.16)	130.22 (65.09, 195.36)	0.00	(0.00, 2 442.24)	917.500	-1.830
Out-of-pocket (paraprofessionals)	979.65 (449.74, 1 509.56)	707.53	(108.85, 3 156.65)	658.43 (523.36, 793.49)	326.55	(0.00, 4 462.85)	872.500	-1.564
Costs due to time lost at the ER[h]	171.11 (49.97, 292.25)	0.00	(0.00, 640.00)	86.23 (55.37, 117.09)	0.00	(0.00, 1 120.00)	900.000	-1.786
Costs due to time lost to hospitalizations	699.50 (17.35, 1 381.65)	0.00	(0.00, 4 200.00)	553.89 (248.71, 859.06)	0.00	(0.00, 12 000.00)	963.000	-1.609
Costs due to time lost to pysicians' visits	1 329.97 (540.60, 2 119.34)	920.00	(0.00, 5 760.00)	1 023.82 (782.44, 1 265.19)	562.92	(0.00, 12 000.00)	939.000	-1.177
Total societal costs	74 930.01 (45 607.53, 104 252.50	60 674.22	(108.85, 190 007.09)	25 128.01 (15 617.30, 34 638.72)	6 624.54	(0.00, 489 529.06)	454.500***	-3.948

Note. PTSS levels were assessed with the PCL-5. Costs due to health services used, sick leaves and mental health/paraprofessionals consultations were assessed with the MEDEC-R. Costs due to loss of productivity at work were assessed with the WPAI-GH-RA.

[a] A person is considered to suffer from high PTSS when their total score on the PCL-5 is 31 or higher.

[b] A person is considered to suffer from low PTSS when their total score on the PCL-5 is lower than 31.

[c] Hospitalizations represent the *per diem* cost of psychiatric hospitalizations and hospitalizations for other reasons. ER visits represent the cost for one visit. Ambulatory physicians' visits represent the fees for the consultation of family physicians, other physicians and ER doctors. Prescription medication includes stimulants, mood stabilizers, antidepressants, anxiolytics and sleep aid medication.

[d] Loss of productivity at work includes absenteeism and presenteeism.

[e] Loss of billable hours due to absenteeism is calculated specifically for private attorneys (n = 110).

[f] Total costs for individuals, include total out-of-pocket costs and costs due to time lost.

[g] Out-of-pocket costs represent the costs for one individual paying for a consultation with a mental health professional or paraprofessional.

[h] Costs for an individual related to time lost while waiting and not working.

*p < .05, **p < .01, ***p < .001

Table 8

Costs ($) Per Person Per Year Depending on Posttraumatic Stress Symptom (PTSS) Severity Status

Variables	Sub-clinical (*n* = 136)			Incident (*n* = 10)			Remission (*n* = 7)			Persistent (*n* = 6)			Kruskal-Wallis H	
	¯x (95% CI)	M	Range	¯x (95% CI)	M	Range	¯x (95% CI)	M	Range	¯x (95% CI)	M	Range	df	*H*
Total direct costs	1 516.92 (891.10, 2 142.74)	284.06	(0.00, 19 648.09)	1 474.08 (-744.61, 3 692.77)	493.13	(0.00, 10 251.21)	1 576.21 (-504.46, 3 656.88)	583.90	(259.43, 6 521.99)	5 216.94 (-454.84, 10 888.72)	3 797.385	(31.50, 12 696.88)	3	6.963
Hospitalizations	1 117.99 (515.33, 1 720.65)	0.00	(0.00, 19 263.86)	963.19 (-1 215.70, 3 142.09)	0.00	(0.00, 9 631.93)	786.28 (-1 137.68, 2 710.24)	0.00	(0.00, 5 503.96)	4 127.97 (-528.83, 8 784.77)	2751.98	(0.00, 9 631.93)	3	11.373**
ER visits	47.19 (31.27, 63.12)	0.00	(0.00, 641.84)	80.23 (-17.32, 177.78)	0.00	(0.00, 320.92)	68.77 (-47.99, 185.53)	0.00	(0.00, 320.92)	213.95 (-39.58, 467.47)	160.46	(0.00, 641.84)	3	6.848
Ambulatory physician visits	319.06 (256.20, 381.93)	209.47	(0.00, 2 094.70)	393.09 (224.39, 561.78)	388.80	(0.00, 717.30)	664.46 (203.60, 1 125.33)	418.94	(149.18, 1 526.58)	747.45 (-183.30, 1 678.19)	568.12	(0.00, 2 407.36)	3	8.147*
Prescription medication	32.67 (13.69, 51.66)	0.00	(0.00, 831.60)	37.58 (-18.23, 93.38)	0.00	(0.00, 220.50)	56.70 (-8.15, 121.55)	4.50	(0.00, 144.90)	127.58 (-30.35, 285.50)	56.70	(0.00, 333.90)	3	18.054***
Total indirect costs	18 467.33 (10 623.67, 26 310.98)	0.00	(0.00, 470 802.86)	56 924.41 (19 900.67, 93 948.15)	50 565.65	(0.00, 164 750.54)	73 384.84 (-64 549.22, 211 318.90)	25 004.58	(0.00, 409 607.14)	88 055.71 (30 601.06, 145 510.37)	74 198.39	(42 000.00, 189 757.89)	3	23.706***
Loss of productivity at work	14 209.49 (10 062.93, 18 356.05)	0.00	(0.00, 136 242.86)	49 642.80 (19 682.36, 79 603.24)	45 610.47	(0.00, 113 750.54)	38 033.43 (-15 744.61, 91 811.48)	24 734.04	(0.00, 165 000.00)	63 274.64 (36 068.54, 90 480.74)	53 250.00	(39 310.34, 96 157.89)	3	23.93***
Sick leave	605.86 (151.50, 1 060.21)	0.00	(0.00, 23 523.27)	891.61 (-379.21, 2 162.44)	0.00	(0.00, 5 400.00)	5 779.98 (-7 219.15, 18 779.10)	270.54	(0.00, 37 607.14)	541.07 (-849.80, 1 931.94)	0.00	(0.00, 3 246.43)	3	10.069*
Billable hours lost	5 068.05 (-1 671.73, 11 807.84)	0.00	(0.00, 327 360.00)	15 975.00 (-22419.42, 54 369.42)	6 450.00	(0.00, 51 000.00)	41 400.00 (-73 544.83, 156 344.83)	0.00	(0.00, 207 000.00)	48 480.00 (-68 002.15, 164 962.15)	51 840.00	(0.00, 93 600.00)	3	14.424**
Total patient costs	2 431.77 (1 915.54, 2 947.99)	1 481.38	(0.00, 24 217.70)	2 913.48 (1 522.86, 4 304.09)	2 711.24	(108.85, 7 139.60)	2 857.13 (143.80, 5 570.46)	1 776.08	(192.00, 8 942.85)	4 354.10 9568.99, 8 139.22)	4 540.88	(217.70, 9 065.51)	3	3.597
Total out-of-pocket	763.79 (598.66, 928.91)	428.31	(0.00, 5 707.74)	1 221.75 (512.53, 1 930.97)	1 270.75	(108.85, 3 156.65)	1 271.76 (40.45, 2 503.07)	712.32	(0.00, 3 265.50)	1 305.44 (-88.77, 2 699.64)	707.53	(217.70, 3 156.65)	3	4.76
Out-of-pocket (mental health professionals)	111.49 (49.79, 173.19)	0.00	(0.00, 2 442.24)	274.75 (22.47, 527.04)	101.76	(0.00, 1 017.60)	494.26 (-180.96, 1 169.49)	305.28	(0.00, 2 035.20)	271.36 (-426.19, 968.91)	0.00	(0.00, 1 628.16)	3	12.557**
Out-of-pocket (paraprofessionals)	652.30 (516.57, 788.03)	326.55	(0.00, 4 462.85)	947.00 (242.79, 1 651.20)	653.10	(108.85, 3 156.65)	777.50 (-304.29, 1 859.29)	217.70	(0.00, 3 265.50)	1 034.08 (-123.55, 2 191.70)	707.53	(217.70, 3 156.65)	3	2.737
Costs due to time lost at the ER	85.63 (53.97, 117.29)	0.00	(0.00, 1 120.00)	108.18 (-33.20, 249.55)	0.00	(0.00, 536.00)	98.00 (-87.9, 283.96)	0.00	(0.00, 536.00)	276.00 (11.31, 540.69)	280.00	(0.00, 640.00)	3	6.293
Costs due to time lost to hospitalizations	564.04 (244.83, 883.25)	0.00	(0.00, 12 000.00)	280.00 (-353.40, 913.40)	0.00	(0.00, 2 800.00)	356.57 (-515.93, 1 229.07)	0.00	(0.00, 2 496.00)	1 398.67 (-282.62, 3 079.95)	976.00	(0.00, 4 200.00)	3	10.762*
Costs due to time lost to pysicians' visits	1 018.31 (767.48, 1 269.15)	558.56	(0.00, 12 000.00)	1 303.55 (121.87, 2 485.24)	920.00	(0.00, 5 760.00)	1 130.79 (109.36, 2 152.23)	800.00	(192.00, 3 432.00)	1 374.00 (18.63, 2 729.37)	1 302.00	(0.00, 3 360.00)	3	2.208
Societal costs	22 416.02 (14 325.42, 30 506.61)	6 381.20	(0.00, 489 529.06)	61 311.97 (22 964.29, 99 659.66)	55 987.49	(108.85, 167 735.99)	77 818.18 (-64 621.46, 220 257.82)	27 364.56	(1 730.39, 425 071.98)	97 626.75 (40 892.22, 154 361.29)	88 016.16	(50 589.64, 190 007.09)	3	19.176***

Note. Further Post-hoc analyses revealed that some groups did not differ significantly.
* $p < .05$ **, $p < .01$ ***, $p < .001$

Table 9

Status Categories Significantly Differing in Terms of Costs According to Post-Hoc Tests

Variables	Groups significantly different	
	Status	*p*
Hospitalizations	Incident - Persistent	0.022
	Sub-clinical - Persistent	0.005
Prescription medication	Sub-clinical - Persistent	0.002
Indirect costs	Sub-clinical - Incident	0.017
	Sub-clinical - Persistent	0.001
Loss of productivity at work	Sub-clinical - Incident	0.012
	Sub-clinical - Persistent	0.001
Sick leave	Sub-clinical - Remission	0.042
Billable hours lost[a]	Sub-clinical - Persistent	0.013
Out-of-pocket costs mental health professionals	Sub-clinical - Remission	0.046
Costs due to time lost to hospitalizations	Incident - Persistent	0.026
	Sub-clinical - Persistent	0.008
Societal costs	Sub-clinical - Persistent	0.002

[a] Billable hours were only calculated and analyzed for private attorneys (*n* = 110).

Table 10

Multivariate Model in Predicting Direct Costs

Variables	Mean	95% Confidence Interval		*p*
		Lower	Upper	
Gender				
Female	862.42	415.95	1 788.10	.065
Male	1 486.70	685.56	3 224.05	
Region[a]				
West	947.38	425.85	2 107.60	.234
East	1 353.37	668.58	2 739.54	
Age				
50 and more	1 199.69	545.77	2 637.13	.726
40-49	903.03	410.03	1 988.83	.287
39 and less	1 340.10	596.75	3 009.40	
Worked with traumatic content cases				
Yes	762.13	440.79	1 317.74	.409
No	1 682.33	353.65	8 002.93	
Percentage of hours worked on traumatic content cases				
76-100%	781.52	213.54	2 860.26	.903
51-75%	1 871.32	586.04	5 975.45	.314
26-50%	1 859.28	593.95	5 820.24	.308
1-25%	992.03	320.49	3 070.66	.706
0%	690.07	255.18	1 866.15	
Number of hours worked weekly				
56 hours or more	915.43	383.93	2 182.75	.942
46-55	1 781.40	819.26	3 873.47	.042
45 hours or less	890.27	419.63	1 888.80	
Relationship status				
Married or non-marital status	1 690.43	863.13	3 310.71	.009
Single	758.48	329.64	1 745.22	
Children				
Yes	1 066.61	497.44	2 287.01	.731
No	1 202.09	549.11	2 631.56	
Type of position held				
Public	759.51	296.96	1 942.54	.067
Private	1 688.13	864.77	3 295.43	
Scores on the PCL-5 at initial survey	93.38			< 0.001
Variation of scores on the PCL-5[b]	77.98			.008

[a] Eastern Canada includes Quebec and the Maritime provinces, while Western includes Ontario, British Columbia, Alberta, Saskatchewan, and Manitoba and Yukon, and the Northwest territories.

[b] The variation of scores was assessed through an eight-month period.

Table 11

Multivariate Model in Predicting Indirect Costs

Variables	Mean	95% Confidence Interval		*p*
		Lower	Upper	
Gender				
Female	22 760.73	6 596.75	78 531.23	.939
Male	21 973.13	5 941.98	81255.47	
Region[a]				
West	44 264.92	11 003.15	178 074.77	.005
East	11 298.43	3 525.00	36 214.11	
Age				
50 and more	24 651.89	7 202.62	84 374.19	.849
40-49	20 299.66	5 223.07	78 895.39	.855
39 and less	22 350.03	5 539.39	90 176.71	
Worked with traumatic content cases				
Yes	12 354.58	5 208.79	29 303.47	.445
No	40 480.90	3 032.58	540 365.37	
Percentage of hours worked on traumatic content cases				
76-100%	30 872.12	3 226.53	295 391.14	.853
51-75%	11 318.50	1 534.62	83 478.77	.665
26-50%	27 323.79	4 237.63	176 181.05	.901
1-25%	26 049.59	4 302.26	157 726.57	.922
0%	22 490.44	4 709.55	107 403.00	
Number of hours worked weekly				
56 hours or more	16 276.04	3 906.99	67 804.04	.304
46-55	21 472.56	5 996.06	76 895.60	.441
45 hours or less	32 002.54	8 120.89	126 114.60	
Relationship status				
Married or non-marital status	18 275.29	6 470.91	51 613.47	.456
Single	27 366.16	5 971.34	125 416.83	
Children				
Yes	18 330.20	5 253.90	63 951.73	.407
No	27 284.17	7 374.55	100 945.33	
Type of position held				
Public	23 900.86	5 468.63	104 459.53	.837
Private	20 924.96	6 256.21	69 987.03	
Scores on the PCL-5 at initial survey	11 073.05			< 0.001
Variation of scores on the PCL-5[b]	6 715.64			.005

[a] Eastern Canada includes Quebec and the Maritime provinces, while Western includes Ontario, British Columbia, Alberta, Saskatchewan, and Manitoba and Yukon, and the Northwest territories.

[b] The variation of scores was assessed through an eight- month period.

Table 12

Multivariate Model in Predicting Patient Costs

Variables	Mean	95% Confidence Interval		*p*
		Lower	Upper	
Gender				
Female	2 957.80	1 852.14	4 723.49	.058
Male	2 112.86	1 296.29	3 443.80	
Region[a]				
West	2 750.17	1 620.97	4 666.00	.324
East	2 272.36	1 469.88	3 512.98	
Age				
50 and more	3 388.65	2 066.37	5 557.08	.029
40-49	2 119.57	1 290.60	3 481.01	.909
39 and less	2 175.11	1 279.01	3 699.04	
Worked with traumatic content cases				
Yes	1 752.73	1 274.71	2 410.01	.214
No	3 565.51	1 363.89	9 321.04	
Percentage of hours worked on traumatic content cases				
76-100%	2 275.55	978.43	5 292.29	.650
51-75%	3 403.33	1 594.84	7 262.58	.253
26-50%	2 340.82	1 170.51	4 681.24	.583
1-25%	3 156.46	1 573.98	6 329.97	.281
0%	1 706.23	952.10	3 057.68	
Number of hours worked weekly				
56 hours or more	2 449.38	2 066.37	5 557.08	.462
46-55	3 129.84	1 290.60	3 481.01	.039
45 hours or less	2 037.88	1 279.01	3 699.04	
Relationship status				
Married or non-marital status	2 854.75	1 892.33	4 306.66	.203
Single	2 189.12	1 252.53	3 826.06	
Children				
Yes	2 729.20	1 660.05	4 486.94	.393
No	2 289.83	1 415.81	3 703.39	
Type of position held				
Public	2 379.72	1 320.87	4 287.39	.705
Private	2 626.11	1 715.74	4 019.51	
Scores on the PCL-5 at initial survey	54.07			.001
Variation of scores on the PCL-5[b]	39.63			.040

[a] Eastern Canada includes Quebec and the Maritime provinces, while Western includes Ontario, British Columbia, Alberta, Saskatchewan, and Manitoba and Yukon, and the Northwest territories.

[b] The variation of scores was assessed through an eight- month period.

Table 13

Multivariate Model in Predicting Societal Costs

Variables	Mean	95% Confidence Interval		*p*
		Lower	Upper	
Gender				
Female	22 386.34	11 552.64	43 379.53	.924
Male	21 861.85	10 783.52	44 321.35	
Region[a]				
West	32 887.17	15 578.54	69 426.68	.002
East	14 881.39	7 961.38	27 816.23	
Age				
50 and more	26 720.93	13 353.83	53 468.41	.412
40-49	19 051.02	9 446.12	38 422.28	.714
39 and less	21 268.41	9 972.75	45 358.13	
Worked with traumatic content cases				
Yes	15 389.71	9 722.42	24 360.54	.383
No	31 800.90	7 902.13	127 977.72	
Percentage of hours worked on traumatic content cases				
76-100%	24 382.38	7 272.15	81 750.28	.981
51-75%	14 090.30	4 881.54	40 670.90	.539
26-50%	24 599.83	9 052.75	66 847.28	.970
1-25%	26 287.09	9 689.44	71 315.94	.905
0%	23 850.85	10 415.43	54 617.33	
Number of hours worked weekly				
56 hours or more	18 152.58	8 139.68	40 482.69	.424
46-55	24 767.98	12 233.30	50 146.15	.917
45 hours or less	24 081.09	12 189.08	47 575.25	
Relationship status				
Married or non-marital status	22 304.77	12 543.89	39 660.96	.954
Single	21 941.79	9 855.39	48 850.65	
Children				
Yes	20 354.50	10 239.15	40 462.93	.534
No	24 044.15	11 985.08	48 236.74	
Type of position held				
Public	20 521.02	9 006.26	46 757.70	.682
Private	23 849.05	12 682.31	44 848.10	
Scores on the PCL-5 at initial survey	4 709.96			< 0.001
Variation of scores on the PCL-5[b]	2 855.18			< 0.001

[a] Eastern Canada includes Quebec and the Maritime provinces, while Western includes Ontario, British Columbia, Alberta, Saskatchewan, and Manitoba and Yukon, and the Northwest territories.

[b] The variation of scores was assessed through an eight- month period.

Appendix A

Table A1

Representability of the Sample Compared to the General Population of Canadian Attorneys

Demographic variables[a]	%	Demographic variables across Canada				Representativity
		Quebec[b]	Ontario[c]	Nova Scotia[d]	Canada[e]	
Age						
39 and less	41.5%	40.0%				Representative
40-49	24.5%	24.0%				
50 and more	34.0%	38.0%				
Gender						
Male	41.5%				56.0%	Non-representative
Female	58.5%				44.0%	
Region						
Eastern Canada	66.7%				30.0%	Non-representative
Western Canada	33.3%				70.0%	
Self-reported ethnicity						
Native/Aboriginal	0.6%	0.8%	1.4%			Representative
Caucasian	89.3%	81.2%	81.7%			
Other ethnicities	10.0%	18.0%	16.9%			
Years of practice of law						
Less than 3 years	14.5%	7% (less than 1 year)				
4-7 years	16.4%	13% (2-5 years)		24.1% (0-7 years)		Representative
8-10 years	8.2%	15% (6-10 years)		75.9% (8 more years)		
10 years or more	61.0%	65% (more than 11 years)				
Hours worked per week						
Less than 45 hours	39.0%	55% (more than 40 hours)				Representative
46-55	40.3%					
56 hours or more	20.8%					
Income						
$60 000 or less	6.3%	29% ($70 000 less)				Non-representative
$60 001 to $180 000	66.0%	63% ($70 001-200 000)				
$180 001 or more	27.7%	10% ($200 001 or more)				
Sector						
Private	69.2%	39.8%				Non-representative
Public	30.8%					

[a] Demographic results of the present study's convenience sample.
[b] Statistics reported for the population of attorneys in the province of Quebec (Barreau du Québec, 2015).
[c] Statistics reported for the population of attorneys in the province of Ontario (Canada, 2013).
[d] Statistics reported for the population of attorneys in the province of Nova scotia (Nova Scotia Barristers' Society, 2019).
[e] Statistics reported for the population of attorneys throughout Canada (Federation of Law Societies of Canada, 2016).

Table A2

Demographic Table of the Sample

Demographic variables	*n* (%)
Language	
English	72 (45.3%)
French	87 (54.7%)
Age	
39 and less	66 (41.5%)
40-49	39 (24.5%)
50 and more	54 (34.0%)
Gender	
Male	66 (41.5%)
Female	93 (58.5%)
Region[a]	
Eastern Canada	106 (66.7%)
Western Canada	53 (33.3%)
Self-reported ethnicity	
Afro-Canadian	3 (1.9%)
Asian	1 (0.6%)
Native/Aboriginal	1 (0.6%)
Caucasian	142 (89.3%)
Other	12 (7.5%)
Years of practice of law	
Less than 3 years	23 (14.5%)
4-7 years	26 (16.4%)
8-10 years	13 (8.2%)
10 years or more	97 (61.0%)
Working with trauma content cases	
No	52 (32.7%)
Yes	107 (67.3%)
Time (%) working on trauma content cases	
0%	55 (34.6%)
1-25%	50 (31.4%)
26-50%	26 (16.4%)
51-75%	18 (11.3%)
76-100%	10 (6.3%)
Hours worked per week	
Less than 45 hours	62 (39.0%)
46-55	64 (40.3%)
56 hours or more	33 (20.8%)

Income	
$60,000 or less	10 (6.3%)
$60,001 to $180,000	105 (66.0%)
$180,001 or more	44 (27.7%)
Education[b]	
LL.B/J.D.	132 (83.0%)
LLM.	14 (8.8%)
Masters' degree (other than law)	11 (6.9%)
PhD in Law	2 (1.3%)
Relationship status	
Single	36 (22.6%)
Married or non-marital status	123 (77.4%)
Sector	
Private	110 (69.2%)
Public	49 (30.8%)
Status	
Sub-clinical	136 (85.5%)
Incident	10 (6.3%)
Remission	7 (4.4%)
Persistent	6 (3.8%)

[a] Eastern Canada includes Quebec and the Maritime provinces, while Western includes Ontario, British Columbia, Alberta, Saskatchewan, and Manitoba and Yukon, and the Northwest territories.
[b] LL.B./J.D. stands for Bachelor of Laws/Juris Doctor, while LLM stands for Master of Law.

Table A3

Most Recurrent Type of Trauma Encountered in Cases

Traumatic Event	*n* (%)
Not Applicable/Did not work with trauma-exposed clients in the last year	53 (33.3%)
Interpersonal/Conjugal Violence Specifically	22 (13.8%)
Sexual Abuse or Assault	14 (8.8%)
Physical Abuse or Assault	13 (8.2%)
Emotional Abuse, Psychological Maltreatment or Neglet	12 (7.5%)
Traumatic Grief or Separation	8 (5.0%)
Other	7 (4.4%)
Serious Accident during Work, at Home, or During Recreational Activity	5 (3.1%)
Severe injury or death of someone caused by the client	5 (3.1%)
Transportation Accident (car, place, boat, bus, etc.)	5 (3.1%)
Sudden Violent death of a close one (homicide, suicide, etc.)	4 (2.5%)
Fire or Explosion	4 (2.5%)
Assault with a Weapon	2 (1.3%)
Life-Threatening Illness or Injury	2 (1.3%)
Natural Disaster (flood, hurricane, tornado, earthquake)	1 (0.6%)
Exposure to Toxic Substances (chemicals, radiation, etc.)	1 (0.6%)

Note. Traumatic events were assessed using the LEC-5.

Table A4

Main Type of Law Practised

Main Type of Law Practised	*n* (%)
Family and Juvenile Law	41 (25.8%)
Other (please specify)	26 (16.4%)
Criminal Law	23 (14.5%)
Commercial and Corporate Law	20 (12.6%)
Civil Law	15 (9.4%)
Employment & Labour Law	9 (5.7%)
Aboriginal Law	7 (4.4%)
Real Estate Law	5 (3.1%)
Immigration Law	4 (2.5%)
Health Law	3 (1.9%)
Environmental & Natural Resources Law	2 (1.3%)
Tax Law	2 (1.3%)
Bankruptcy Law	1 (0.6%)
Intellectual Property Law	1 (0.6%)

Note. The main type of law practised was assessed in the demographic questionnaire.

Table A5

Posttraumatic Stress Symptoms (PTSS) Severity Variation after an Eight-month Period

PTSS level category at initial survey	PCL-5 Scores	
	$\bar{x}$ ± SD	*t*
Probable		
Initial survey	37.15 ± 5.66	1.513
Follow-up survey	30.77 ± 16.59	
Not probable		
Initial survey	6.55 ± 7.65	-1.909
Follow-up survey	8.18 ± 10.98	

* p < .05, ** p < .01, *** p < .001

Appendix B

Consent Form

Principal Investigator (PI): Alain Brunet, Ph.D. Professor at McGill University (See Contact Information).
Co-Investigators: Marie-Jeanne Léonard, B.Sc. Master Student, McGill University (See Contact Information);
Marie-Ève Leclerc, B.A. Master Student, McGill University;
Helen-Maria Vasiliadis, PhD. Professor at Université de Sherbrooke.

This research has been approved by McGill's Institutional Review Board.

Introduction:
You are being asked to participate in a follow-up survey, which examines the well-being of attorneys. This consent form provides information about the survey, its risks, benefits and the rights of the participant.

Study Procedures:
Please read this consent form carefully before you choose to take part in this survey. The follow-up survey will take about 10 minutes to complete and must be completed in one sitting. It includes questions about you, as well as questions about the presence of symptoms that could lead to a psychological distress or traumatic stress, questions regarding health services use and questions regarding productivity loss.

Potential Benefits & Compensation:
You may not directly benefit from taking part in this survey. Your participation will help advance knowledge on the stress experienced by attorneys and its costs, and treatment needs to support attorneys. You will receive no compensation for your participation in this study.

Potential Risks:
You may experience some emotional or psychological distress while you complete this survey. A list of professional and supportive resources is provided at the end of the survey. If you wish to talk or debrief, you can contact Marie-Jeanne Léonard (please see contact information).

Participant Rights:
Your participation in this study is voluntary. You can withdraw your consent at any time without any consequences. To withdraw, simply close the survey window on your computer screen, contact the researchers and your survey responses will be withdrawn and destroyed. You can contact the researchers at any time for any questions.

Confidentiality:
Only the data required to meet the project scientific goals will be collected. All the information collected during the research project will remain strictly confidential to the

extent prescribed by law. The research data will be only accessible by research personnel. All collected data will be stored for a period of 7 years by the project researcher. The data may be published or shared during knowledge dissemination practices such as scientific meetings or conferences; however, it will not be possible to identify you. The McGill Institutional Review Board may access the study records to verify the ethical conduct of this study. All these individuals and organizations agreed and must respect the privacy policy.

Survey Software Company

This survey application has implemented account-based access, data encryption and other tools to ensure safe usage of their services. The survey data collected is owned by the survey creator and does not sell this data to third parties or use it for purposes unrelated to the survey creator unless given permission by the creator or are required by law. Survey Monkey shares information with their service providers who are contractually bound to keep this information confidential. We will not track the participant's IP address. The survey data will be stored in servers located in the United States. Users have little reason to be concerned about the US Patriot Act which allows the US government to make data requests from Survey Monkey as this is mainly used for cases of suspected illegal activity. Once the survey creator terminates their contract with Survey Monkey, the data will be fully purged from their system within 14 - 90 days after deletion to allow for the possibility of data recovery. For more information concerning privacy, please visit www.surveymonkey.com/mp/policy/privacy-policy/.

Contact Information:

If you have questions concerning the research project or if you feel you have a problem related to your participation in the research project, you can communicate with the project coordinator: Marie-Jeanne Léonard at marie-jeanne.leonard@mail.mcgill.ca or the Principal Investigator, Dr. Alain Brunet at alain.brunet@mcgill.ca.

If you have any ethical concerns or complaints about your participation in this study, and want to speak with someone not on the research team, please contact the McGill Institutional Review Board, Ethics Officer, Ilde Lepore at 514-398-8302 or ilde.lepore@mcgill.ca

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INFORMED CONSENT FORM

- ☐ I have read the above information and I consent to participate in this study. My participation is voluntary and I know I can discontinue my participation at any time. Agreeing to participate in this study does not waive any of my rights or release the researchers from their responsibilities. The findings of this study can be published. A copy of this consent form can be printed directly from this online survey.

- ☐ I agree to be contacted in the future for follow-up studies or any other study that is coordinated by this team.

Formulaire de consentement

Chercheur principal: Alain Brunet, Ph.D. Professeur à l'Université McGill (voir la section Contacts).
Co-chercheurs: Marie-Jeanne Léonard, B.Sc. Étudiante à la maitrise, Université McGill (voir la section Contacts);
Marie-Ève Leclerc, B.A. Étudiante à la maitrise, Université McGill;
Helen-Maria Vasiliadis, PhD. Professeur à l'Université de Sherbrooke

Cette recherche a été approuvée par le Comité d'examen institutionnel de l'éthique de l'Université McGill.

Introduction :
Vous êtes invité à participer à cette étude de suivi examinant le bien-être chez les avocats. Ce formulaire de consentement explique le but et le déroulement de cette étude, les bénéfices et les risques potentiels, ainsi que vos droits en tant que participant.

Procédure de recherche :
Veuillez lire attentivement ce formulaire avant de prendre la décision de participer à cette étude. Ce sondage de suivi prendra une dizaine de minutes à compléter et doit être complété en une seule séance. Il inclut des questions d'ordre démographiques, des questions sur des symptômes présents qui pourraient mener à une détresse psychologique ou un stress post traumatique, des questions sur l'utilisation des services de santé et concernant la perte de productivité.

Bénéfices de la participation à la recherche et compensation :
Vous ne bénéficierez peut-être pas directement de la participation à cette étude. Votre participation à cette recherche fera avancer les connaissances concernant le stress chez les avocats et ses coûts, et les besoins de traitement afin de supporter les avocats. Vous ne recevrez aucune compensation monétaire pour votre participation.

Risques et inconvénients liés à cette recherche :
Peut-être ressentirez-vous un certain inconfort émotionnel ou psychologique en complétant ce questionnaire. Une liste de ressources de soutien figurera dans la compilation de documents. Si vous souhaitez discuter de vos préoccupations, vous pouvez contacter Marie-Jeanne Léonard (Veuillez-vous référer à la section *Contacts*).

Droit de retrait :
La participation à cette étude se fait de façon volontaire. Vous êtes libre de mettre un terme à votre participation à n'importe quel moment sans aucune conséquence. Si vous désirez mettre fin à votre participation, veuillez fermer la page du sondage sur votre écran d'ordinateur. Si vous décidez de vous retirer de l'étude après avoir terminé le sondage, veuillez simplement prendre contact avec les chercheurs. Vos réponses au sondage seront alors retirées et détruites. Vous avez le droit de nous poser toutes questions concernant la recherche à n'importe quel moment.

Protection de la confidentialité :
Seules les données nécessaires au projet seront recueillies. Toutes les informations resteront confidentielles dans la mesure prévue par la loi. Afin de protéger votre identité et la confidentialité, toute information reliée à votre participation à cette étude se trouvera sur le logiciel du sondage, qui n'est accessible qu'aux membres de l'équipe de recherche. Les données recueillies seront conservées pendant 7 ans par le chercheur principal du projet. Les données sont destinées à être publiées dans des revues spécialisées ou partagées avec d'autres personnes lors de réunions scientifiques. Cependant, il sera impossible qu'on vous identifie. Il se pourrait que votre dossier soit examiné par une personne mandatée par le *Comité d'examen institutionnel de l'éthique de l'Université McGill*, si c'est le cas, cette personne ou l'organisme associé endossent la même politique de confidentialité.

Logiciel et compagnie du sondage :
Cette étude utilisera un logiciel de sondage en ligne appelé Survey Monkey. Il s'agit d'un des logiciels d'enquête le plus utilisé et de confiance. Un cryptage des données et plusieurs autres outils sont mis en place pour assurer une utilisation en toute sécurité de leurs services. Survey Monkey partage des informations avec leurs fournisseurs de services qui sont liés, par contrat, de garder toutes informations confidentielles. Les données de l'enquête seront stockées dans des serveurs situés aux États-Unis. Les utilisateurs ont peu de raisons d'être préoccupés par le Patriot Act américain qui permet au gouvernement américain de faire des demandes de données de Survey Monkey, car cela est principalement utilisé pour les cas d'activités illégales présumées. Une fois que le créateur de l'enquête met fin à leur contrat avec Survey Monkey, les données seront entièrement retirées du système dans les 14-90 jours après la suppression. Pour plus d'informations concernant la vie privée, s'il vous plaît visitez https://www.surveymonkey.com/mp/policy/privacy-policy/.

Contacts:
Si vous avez des questions concernant cette étude ou si vous éprouvez un problème lié à votre participation, communiquez avec Marie-Jeanne Léonard, coordonnatrice de l'étude: marie-jeanne.leonard@mail.mcgill.ca, ou Alain Brunet, Ph.D., chercheur principal du projet: alain.brunet@mcgill.ca. Si vous avez des questions concernant vos droits en tant que participant de recherche, veuillez contacter l'agente du comité d'examen institutionnel de l'éthique, Madame Ilde Lepore au 514-398-8302 ou ilde.lepore@mcgill.ca

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☐ J'ai lu le formulaire ci-dessus et je consens à participer à cette étude. Ma participation est volontaire et je suis avisé que je peux mettre fin à ma participation à tout moment. Accepter de participer à cette étude ne m'oblige en aucun cas à renoncer à mes droits ou libère les chercheurs de leurs responsabilités. Les résultats de cette recherche peuvent être publiés. Une copie de ce formulaire de consentement peut être imprimée directement par l'intermède de ce sondage en ligne.

☐ J’accepte d’être contacté dans le futur pour d’autres études qui feront suite à celle-ci ou toutes autres études coordonnées par cette équipe.