PERCEPTIONS ON INTERNET-DELIVERED COGNITIVE BEHAVIOUR THERAPY

AMONG PUBLIC SAFETY PERSONNEL

A Thesis

Submitted In Partial Fulfillment of the Requirements

for the Degree of

Bachelor of Arts (Honours) in Psychology

University of Regina

by

Angelo Sison

Regina, Saskatchewan

April 20th, 2020
Abstract

High rates of mental health disorders are prevalent among public safety personnel (PSP). Consequently, the Government of Canada is supporting a pilot project intended to improve access to mental health support for PSP through Internet-delivered Cognitive Behaviour Therapy (ICBT). To better inform the implementation of ICBT, this study sought to understand perceptions of ICBT among PSP in order to inform the use of ICBT within this population. Research questions included: What are the general perceptions of ICBT among PSP? Are there certain demographic or clinical characteristics that predict perceptions of ICBT?; and do participants who learn about ICBT from a story have different attitudes than those who learn about ICBT from a poster? Participants (n=132) from various PSP sectors in Saskatchewan were randomly assigned to receive a poster or poster and client story, and then completed an online survey assessing perceptions of ICBT. PSP had relatively positive perceptions of ICBT with positive ratings in the Credibility and Expectancy Questionnaire and Treatment Adherence and Acceptability Scale. Data confirmed that 93% of participants would access ICBT if they needed help with mental health concerns. Furthermore, ICBT with therapist support was ranked second out of 13 treatment options. Female participants found ICBT to be more credible than male participants. There were no differences in perceptions of ICBT between conditions (e.g., poster vs. poster with story). Participants who had clinically elevated scores found the story more relatable than those without clinically significant scores. By understanding perceptions of ICBT, this study could benefit future implementations of ICBT for PSP within Canada.
Table of Contents

Abstract ............................................................................................................................................ i
Introduction ..................................................................................................................................... 1
Research Purpose ............................................................................................................................ 9
Methods ......................................................................................................................................... 10
  Participants .................................................................................................................................. 10
  Procedures .................................................................................................................................. 11
  Measures .................................................................................................................................... 12
Analyses ........................................................................................................................................ 16
Results ......................................................................................................................................... 18
  Descriptive Statistics ............................................................................................................. 18
  Quantitative Results ............................................................................................................... 22
  Qualitative Results .................................................................................................................. 26
Discussion ..................................................................................................................................... 29
  Principle Findings .................................................................................................................... 29
  Limitations and Strengths ......................................................................................................... 33
  Future Research Directions .................................................................................................... 35
  Conclusions .............................................................................................................................. 37
References .................................................................................................................................... 38
Appendix A .................................................................................................................................. 45
Appendix B .................................................................................................................................. 49
Appendix C .................................................................................................................................. 65
Appendix D .................................................................................................................................. 66
Appendix E .................................................................................................................................. 67
Appendix F .................................................................................................................................. 69
List of Tables

Table 1 Combined Participant Background Information .................................................. 22
Table 2 Mean Scores of all Measures ............................................................................. 24
Table 3 PSP Mental Health Treatment Preferences ...................................................... 25
Table 4 PSP Perceptions of ICBT .................................................................................. 27
Perceptions on Internet-delivered Cognitive Behaviour Therapy Among Public Safety Personnel

In comparison to the general public, public safety personnel (PSP) including first responders (FR) experience higher rates and more profound symptoms of mental health disorders, including depression, anxiety, and posttraumatic stress disorder (Carleton et al., 2018). This demographic includes but is not limited to, border security officers, correctional officers, dispatch/communication workers, emergency medical services (EMS)/paramedics, firefighters, and police officers. While the general population experiences their own stressors, PSP have been shown to deal with increased levels of work demand, as well as dealing with a number of physical and psychological stressors (Haugen et al., 2012). Regarding the demands of work, they regularly work overtime and are constantly faced with public scrutiny (Haugen et al., 2012). Labor and management conflicts, and harassment also contribute to psychological stress (Haugen et al., 2012).

Relative to more higher and profound rates of mental health symptoms, PSP are routinely confronted with traumatic stressors as part of their regular duties. The *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; DSM-5; American Psychiatric Association, 2013) defines trauma as exposure to death, threatened death, actual or threatened serious injury or actual or threatened sexual violence. Repeated exposure to traumatic events such as highly stressful and dangerous situations, providing emergency medical services to injured people, and recovering and searching for victims is expected when employed as PSP (Carleton et al., 2017; Bergen et al., 2012). Previous literature has shown that the majority of exposures to potentially traumatic events were linked with significantly increased rates of screening positive for mental disorders, including comorbidity for posttraumatic stress disorder and major depressive disorders (Carleton et al., 2018; Bergen et al., 2012; Haugen et al., 2012; Marmar et al., 2006).
Over 90% of PSP report exposure to the majority of traumas listed in the DSM-5 Life Event Checklist (Blevins et al., 2015). In contrast, 51.8% of the general population has been exposed to the “death of family/close friend because of violence/accident/disaster" and 53.1% to a "physical or sexual assault" (Kilpatrick et al., 2013). These statistics demonstrate the significant discrepancy between the general population and PSP with regards to the prevalence of exposure to traumatic events and the inherent consequences incurred. The prevalence of mental health symptoms and disorders is a common occurrence in PSP that it is also referred to as “operational stress injury” (Carleton et al., 2012).

Although some PSP have knowledge of and access to services pertaining to mental health support, many are still significantly impacted by mental health issues. In a study investigating mental health disorders among Canada’s PSP, results indicated that approximately 44.5% screened positive for mental health disorder symptoms; significantly higher than the rates of the general population at 10.1%, and the international estimate range of 10% to 35% (Carleton et al., 2018).

Despite high rates of exposure to trauma and mental health disorders, PSP have historically avoided seeking psychological services (Karaffa et al., 2017). In a study done by Karaffa and colleagues (2017), results demonstrated that there was a considerable amount of stigmatization of seeking mental health services. PSP who displayed higher scores of stigmatizations for mental health, also showed that they were less inclined to seek psychological help. In addition, it was also found that PSP underestimated their colleague’s inclinations to seek mental health services (2017).

There are a number of other barriers that PSP also face when considering seeking mental health services. These include difficulty getting time off work and related time constraints, the
desire for privacy and confidentiality, cost of treatment, and the availability of and/or access to appropriate resources (Stanley et al., 2016). An increased prevalence for mental health symptoms and disorders, chronic exposure to trauma, and the challenges associated with accessing care create unique challenges for PSP.

In Haugen and colleagues’ study (2012), it was mentioned that there was very little research available on psychotherapy among PSP, but that literature supports treatment recommendations for cognitive behavior therapy (CBT) to be used as first-line treatment for PTSD. In comparison to other psychosocial treatments, CBT has the largest evidence-based support of effectiveness across trauma populations. Haugen proposes that due to PSP’s frequent exposure to trauma, CBT provides the most effective model of treatment. Even after PSP complete their CBT sessions, they will be repeatedly exposed again to critical incidences and traumas. CBT teaches clients how to reduce their symptoms through cognitive restructuring, and exposure therapy, and provides skills to cope with their existing mental health concerns (Mcginn & Sanderson, 2001).

**Internet-delivered Cognitive Behaviour Therapy**

Internet-delivered cognitive behaviour therapy (ICBT) is an empirically supported form of therapy and its efficacy has been largely supported in available literature (Andersson et al., 2019; Carlbring et al., 2018). ICBT is an alternative form of cognitive behaviour therapy (CBT) where content typically shared in face-to-face CBT is delivered online (Andersson et al., 2019). The ICBT process entails users following a structured intervention process, whereby materials are provided as clients progress through the course, with or without monitoring from a therapist (Andersson, 2009). When therapists are utilized, they typically provide support and address any concerns throughout the ICBT process (Hadjistavropoulos et al., 2012). A wide range of
disorders and symptoms are treated with ICBT, with strong empirical evidence supporting
treatment for depression and anxiety disorders (Andersson et al., 2019; Carlbring et al., 2018).

Initially, the development of ICBT was to assist in minimizing healthcare costs, and extend access of psychological treatment (Gratzer & Khalid-Khan 2016). Implementation of ICBT has shown to be cost effective and has demonstrated effectiveness in real-world uncontrolled settings (Anderson et al., 2016). ICBT overcomes many barriers to receiving mental health treatment such as time constraints, privacy, mobility challenges, rural and remote locations, stigmatization, and preference to self-manage (Andersson & Titov, 2014).

Overall, literature on the use of ICBT has shown a number of positive results, including high client satisfaction and large improvement in symptoms and functioning (Andersson, 2016). Therapist-assisted ICBT has shown large effects for anxiety disorders (Olthuis et al., 2015) providing evidence of it being an effective treatment for anxiety in adults. Literature reviews conducted by Andersson and colleagues also found ICBT to be an effective treatment for mild to moderate depression (2016). Additionally, research has shown ICBT to be considered a viable mental health support option (McCrone et al., 2004). This intervention may potentially benefit both the individuals and organizations by decreasing the amount of time people are off work due to mental health disability (McCrone et al., 2004).

Moreover, studies have shown ICBT with therapist support provides treatment results comparable to face-to-face therapy (Andrews et al., 2010). In a literature review by Andersson and colleagues, they reviewed 11 studies treating depression with ICBT. This review also included and compared ICBT with face-to-face CBT that were based on 4 trials. Overall, random effect size leaned in favor of therapist-guided ICBT, although statistical significance was low (Anderson et al., 2014). In a meta-analysis reviewing the effectiveness of ICBT and CBT in
somatic and psychiatric disorders, results shown that overall effect for treatment outcomes was close to zero (Carlbring et al., 2018). These findings indicated that both treatment formats were equally effective in treating panic disorder, social anxiety disorder, depressive symptoms, insomnia, body dissatisfaction, fibromyalgia, tinnitus, body dissatisfaction, male sexual dissatisfaction, spider phobia, and snake phobia (2018).

Despite the effectiveness of ICBT, there are still a number of negative perceptions and attitudes regarding treatment among clients. In recent studies, the attitudes and preferences to use ICBT over other treatments is considerably low (e.g., Musiat et al., 2014; March et al., 2018; Wallin et al., 2016). In a study done by Musiat and colleagues (2014), participants highlighted the advantages of ICBT in terms of addressing common barriers to accessing therapy such as time, location, and anonymity. However face-to-face therapy was still largely preferred over self-help books and web-based interventions, which were relatively equal. Results from the sample concluded that face-to-face treatment was more likely to achieve perceived treatment needs (e.g., credibility, helpfulness) compared to ICBT (2014). The results from March’s research also identified participant’s low preference for ICBT, but participants’ intentions to access ICBT were high (March et al., 2018).

In a 2016 study, Wallin and colleagues asked participants whether they would prefer ICBT or face-to-face therapy for treatment. Participants indicated that ICBT does have advantages over face-to-face therapy, but still rated ICBT with low acceptability. Perceived disadvantages of ICBT identified by participants included lack of empathy and trust, low credibility, and poor communication (2016). Specifically, participant concerns included the lack of face-to-face contact with a therapist, that ICBT was less personal and less individualized than CBT, that therapy via the internet would be unable to motivate clients, and that clients would
PSP PERCEPTIONS ON ICBT

have difficulty expressing oneself, resulting in the potential for self-isolation (2016). However, it is important to note that a preference for ICBT and acceptability were higher in participants who had prior experience with some other form of web-based therapy (2016).

Although available literature supports the efficacy of ICBT, initial attitudes and perceptions were still identified as low. To increase awareness of the benefits of ICBT and to attract new clientele it would be advantageous to address perceived disadvantages (Wallin et al., 2018). In addition, it has been suggested that a combination of face-to-face therapy and gradual exposure and transition into ICBT (to enhance familiarity and confidence) may be a potential strategy to increase preference and likelihood of use (March et al., 2018). This can be done by integrating and promoting these programs in schools through early adoption of online assistance programs (March et al., 2018). Secondly, clinics can provide awareness through posters and brochures advocating ICBT (March et al., 2018). Mental health professionals can play a significant role in this approach by advocating the use of ICBT, and referring discharged clients who completed CBT in the past to ICBT. These actions could help demystify and normalize ICBT within the general population (March et al., 2018). In addition, it is essential for policy makers to enhance public perceptions of Internet-based therapy (Musiat et al., 2014). Steps towards this include increasing awareness of evidence-based support for ICBT in service users and also clinicians, and increasing inclusion of ICBT into guidelines for clinical treatment (2014).

Although perceptions of ICBT are generally low, this is most likely a result of the lack of knowledge and awareness involved in the process of treatment. As research shows, attitudes and perceptions of ICBT increase once individuals are provided more information about the treatment and what is involved (Mitchel & Gordon, 2007). In a study conducted by Mitchell and
Gordon (2007), participants were asked to give their thoughts and responses on ICBT before and after a short educational session. Prior to the presentation, 34% of participants rated ICBT positively for improving symptoms, and 47% stated they would use it if they had depression. Following the information session, participant responses went up 60% and 69% respectively (Mitchell & Gordon, 2007). This study highlights the importance education has on improving attitudes towards ICBT. Literature has also identified that positive attitudes of psychological treatment are associated with better outcomes (Constantino, Arnkoff, Glass, Ametano, & Smith, 2011). In particular, clients who had positive attitudes about their given treatment prior to treatment, were shown to have better results than those with moderate to negative attitudes (Constantino, Arnkoff, Glass, Ametano, & Smith, 2011).

**Stories and Psychoeducational Information**

The application of stories is often used in CBT (Blenkiron, 2005). The use of stories have historically been used in research to share information allowing for a more personal connection to and a deeper understanding of the information (2005). When CBT is accompanied with relatable stories, results have shown that it increases the ability for individuals to remember what was learned, increases personal impact, and improves overall clinical outcomes (Blenkiron, 2005). Stories aid with integrating clients’ beliefs with new information, helping to establish new mental models, and new intentions for living (2005). Stories can be formulated and shared in ways that help to make theories and practices more comprehensible, engaging and meaningful (Stiles, 1995). In most cases, a story is used in CBT to provide realistic examples of individuals and their behaviours in specific situations, increasing opportunities for clients to relate to the content (Lapatin et al., 2012).
CBT commonly applies stories that relate to a client’s own concerns and issues needing to be addressed (Blenkiron, 2005). For example, if a client is dealing with social anxiety, the story would follow a character who also deals with social anxiety and how they react and behave in certain situations. The therapist and client would then deconstruct the story and analyze the character’s thoughts and behaviours. This allows clients to receive new insight, a metaperspective, from which they can reflect on their problems (2005). In addition, it can clarify meanings and make a therapy, such as ICBT, more understandable (2005). Furthermore, stories can help to bring sensitive topics to light, and get important points across. It allows the person to relate without it getting too personal (Lapatin et al., 2012). Overall, stories have the capacity to increase health behaviour change by reaching individuals at an emotional and personal level (2012).

Previous studies have shown how stories can have positive influences on advertising services and in health communication (Mattila, 2000; Shen et al., 2015). Mattila’s results indicated that participants who were not familiar with a service domain preferred to receive information through stories rather than lists of service attributes. However, participants who were highly familiar with the service, did not appear to be effected as much with regards to the format information was presented in (e.g., story, list of service attributes). In a meta-analysis done by Shen and colleagues (2015), researchers wanted to examine the effects of stories on persuasion for health communication. Specifically they measured the effects of narratives on persuasion through changes in attitudes, intentions, and behaviours. From the 25 studies they examined, the results demonstrate that stories had a small impact on persuasion ($r = .063, p < .01$). Significant effects were found in stories presented in an audio and video format, whereas no significant effects were found in print-based stories.
Research Purpose

In 2019, the Government of Canada initiated a national Action Plan; *Supporting Canada’s Public Safety Personnel: An Action Plan on Posttraumatic Stress Injuries*. Through this initiative, the Government invested resources in the development and piloting of ICBT to provide greater access to care and treatment for PSP, especially in rural and remote areas. To aid in this work, it is helpful to understand perceptions of ICBT among PSP generally as these perceptions could impact use and outcomes of ICBT and also inform efforts to increase uptake of ICBT.

The present study aimed to explore PSP perceptions of ICBT and to identify demographic (e.g., type of PSP, length of time being a PSP) and clinical variables (e.g., scores on very brief measures of anxiety, depression, posttraumatic stress) that predicted ratings of acceptability, adherence, credibility, and expectancy of ICBT. Furthermore, the study aimed to examine the impact of an educational poster regarding ICBT compared to a poster that also included a client story. All participants received information about ICBT on a poster. Half were then randomly assigned to receive a client story of an individual’s experience with ICBT. Analysis was conducted to explore whether the group of participants who were exposed to the client story resulted in higher ratings of perceptions of ICBT compared to the group without the story.

The study provided important insight into the perceptions and attitudes of ICBT for PSP. As individuals may have neutral or negative attitudes towards ICBT for a variety of reasons, understanding attitudes and perceptions could help clinicians address client concerns about ICBT and reduce attrition rates in the future. Furthermore, it is helpful for clinicians to understand demographic and clinical predictors of high and low interest of ICBT. A goal of this study was to
gain information that could inform researchers and clinicians how to promote and deliver ICBT for PSP that meets their perceived needs. In addition, the comparison between those who read a client story and those who did not, was intended to inform the value of client stories in engaging PSP in ICBT. After reading the poster or poster/story we asked participants to list any questions they had about ICBT in order to understand how we can better explain ICBT to those who may be unfamiliar with it. In this study there were three main research questions addressed:

1. What are the general perceptions of ICBT among PSP?
2. Are there certain demographic or clinical characteristics that predict perceptions of ICBT?
3. Do participants who learn about ICBT from a poster and story have different attitudes than those who learn about ICBT from a poster?

Based on existing literature related to educating people about ICBT, it was hypothesized that this sample should have relatively positive perceptions on ICBT due to the educational poster and story they receive. Further, it was also hypothesized that the group who received the poster and story would have increased positive perceptions about ICBT compared to the group of participants who only received the poster. Exploratory analyses were used to determine correlations between participant’s characteristics and attitudes toward ICBT. As the Government has supported the development and testing of ICBT tailored to the needs of PSP, it is essential to understand if a PSP’s gender, age, occupation, education status, and symptom severity relate to how they view ICBT.

**Methods**

**Participants**
Participants were recruited through email announcements sent to various PSP organizations across Saskatchewan (refer to appendix F). Specifically, we recruited our sample from six sectors of PSP: border security officers, correctional officers, communication/dispatch workers, emergency medical services, firefighters, and police officers. Invitations were also given in the form of unpaid advertisements on Facebook. Additionally, we requested PSP to forward the invitation to other PSP who may have also been interested in participating. Initially we sought to obtain 2% of PSP in Saskatchewan, ideally with 25 participants per group to allow for comparison of the six sectors, with the exception of dispatch where it was recognized that they had a smaller member base from which to draw from. In general, there are an estimated 4667 PSP in Saskatchewan, with 2090 police (44.8%), 515 corrections (11%), 909 firefighters (not counting volunteers; 19.5%), 909 EMS/paramedics (19.5%), 30 dispatch communications workers (.64%), and 212 border security (4.5%) according to Public Safety Canada (2019).

A total of 150 participants provided their consent to the survey. However, 18 participants were excluded from data analysis for several reasons. These reasons included previous experience with ICBT, self-identified as a non-PSP, duplicate entry, and nonresponse to questions required to assign participant to experimental conditions. A total of 132 participants were included in the analyses. The distribution of PSP sectors who completed the survey were: border security (n = 10, 7.5%), corrections (n = 18, 13.6%), dispatch/communications (n = 8, 6.1%), fire (n = 20, 15.2%), EMS/paramedic (n = 41, 31.1%), and police (n = 35, 26.5%).

Procedure

To begin the survey, participants completed questions regarding demographics, and questions about depression/anxiety (Patient Health Questionnaire; PHQ-4), trauma (PCL-2) and previous mental health care. Participants were then randomly assigned into two groups: group
one was administered a poster with the description of ICBT; group two received the same information along with a client story about a PSP using ICBT. Both groups were then asked if they had any questions about ICBT based on the information. The group receiving the story was asked if they had any comments about the story, and how much they related to the story. All participants completed a battery of questionnaires, including measures of the acceptability (Treatment and Acceptability Scale; TAAS) and credibility (Credibility and Expectancy Questionnaire; CEQ) of ICBT and general help seeking (General Help Seeking Questionnaire; GHSQ). Additional questions pertaining to their perceptions of ICBT were given (e.g., preferences for level of therapist support, general likes, dislikes). At the end of the survey, participants were given the option to terminate the survey or click a link to pspnet.ca if they wanted to learn more about ICBT for PSP. 72 (55%) participants ended up clicking the link.

**Measures**

**Demographics Information.** Participants answered questions regarding age, gender, education level, relationship status, size of community they live in, ethnicity, employment, years of experience, medication, mental health treatment, and knowledge and experience of ICBT.

**Patient Health Questionnaire 4-Item (PHQ-4; Lowe, Wahl, Rose, Spitzer, Glaesmer & Brahler, 2010).** The PHQ-4 is a modified and shortened version of the original PHQ-9-item. It is a 4-item self-report measure of depression and anxiety, which entails a 2-item anxiety scale (GAD-2), and a 2-item depression scale (PHQ-2). Participants use a four-point Likert scale from “0” to “3”, respectively corresponding to “not at all” to “nearly every day” regarding issues related to depression and anxiety (e.g., feeling nervous, worrying, feeling hopeless, little interest in doing things). The total of GAD-2 and PHQ-2 sum scores range from 0 to 6, and the combined PHQ-4 total score ranges from 0 to 12. For the GAD-2 and PHQ-2, scale scores equal to, or
more than 3 is said to be clinically significant. PHQ-4 is shown to have good internal consistency and construct validity (Lowe et al., 2010). In addition, it is considered an efficient measure in situations where there is limited time (2010). Cronbach’s alpha for the PHQ-4 was 0.87 in this study.

**PTSD Checklist for DSM-5 (PCL-2; DuHamel, Ostrof, Ashman, Winkel, Mundy…& Chhabra, 2004).** The PCL is a self-report measure for posttraumatic stress disorder (PTSD), which corresponds with the symptoms list from the DSM-5. This is mostly administered to trauma or combat populations. The original version is a 17-item measure, but due to time constraints and to shorten our research design, the PCL utilized in this study contained only 2-items. Participants were asked how bothered they have been in the last month when it comes to “Repeated, disturbing memories, thoughts, or images of a stressful experience from the past” and “feeling very upset when something reminded you of a stressful experience from the past”. Respondents used a 5-point Likert scale ranging from “1” meaning “not at all”, to “5” meaning “extremely”. It is described to have good specificity and sensitivity (DuHamel et al., 2004). A score of 4 or greater is said to be clinically significant (Lang & Stein, 2005). Cronbach’s alpha for the PCL-2 in this study was 0.88.

**Story Relatability.** Prior to conducting additional analyses, the relatability of the story was examined. On average, participants in the poster and story condition reported finding Sam’s story to be 49.9% similar to their own experiences ($SD = 30.09\%$) and 72.8% similar to the experiences of another PSP they knew ($SD = 27.99\%$). As a follow-up analysis and in order to examine how the story was perceived, a series of Pearson $r$ correlations showed that participants with higher PHQ-4 scores tended to rate the story as more similar to their own experiences, $r(70) = .508$, $p < .001$ as well as the experiences of other PSP they know, $r(69) = .330$, $p < .001$. 
Likewise, participants with higher PCL-2 scores tended to rate the story as more similar to their own experiences, $r(70) = .438, p < .001$ and the experiences of other PSP they know, $r(69) = .318, p < .001$.

**Treatment Acceptability and Adherence Scale (TAAS; Milosevic, Levy, Alcolado & Radomsky, 2015).** TAAS is a self-report measure assessing treatment acceptability and adherence in response to treatment. It is designed to be administered after participants acquire information regarding treatment. TAAS is composed of ten questions; assessing the extent to which respondents agree/disagree with a statement regarding treatment. A 7-point Likert scale is used with “1” being “disagree strongly” and 7 being “agree strongly”. The items are summed with scores varying from 10-70 with higher scores meaning increased acceptability and adherence to the given treatment (Milosevic, 2015). Cronbach’s alpha for the TAAS was 0.86 in this study.

**General Health Seeking Questionnaire (GHSQ; Wilson, Deane, Ciarrochi & Rickwood, 2005).** GHSQ is used to assess respondent’s intentions in regards to seeking formal and informal sources of help in response to certain scenarios. It is found to have good reliability and validity, and can be utilized in a range of contexts as a result of it being a flexible measure for help-seeking intentions (Wilson et al., 2005). The typical layout is, “If you were having [problem-type], how likely is it that you would seek help from the following people”. In this study, we examined PSP intentions with regards to seeking help for mental health concerns.

**Credibility and Expectations Questionnaire (CEQ; Devilly & Borkovec, 2000; Thompson-Hollands et al., 2014)** CEQ is self-report questionnaire assessing respondent’s perceived credibility of a treatment and expectancy of outcomes. It uses 6 items that are rated on a 9-point Likert scale with “1’ being “not at all useful” and “9” being “very useful”. The CEQ is scored
according to two-factor structure; first being treatment credibility, and second being treatment expectancy (Devilly, 2000). Overall credibility of treatment is measured by combining the means of the first three items: 1) At this point, how logical does the treatment seem to you?, 2) How successful do you think this treatment would be in reducing symptoms of anxiety, depression and posttraumatic stress?, 3) How confident would you be in recommending this treatment to a friend who experiences anxiety, depression and posttraumatic stress? Item 6 (e.g., by the end this treatment, how much improvement in symptoms of anxiety, depression and posttraumatic stress do you feel would occur?) is used to measure expectancy of treatment with a 1-100% scale (Thompson-Hollands et al., 2014).

Both factors have an internal consistency of α's>.85 and alpha in this study was 0.86.

**ICBT Treatment Support Preference Questionnaire.** This questionnaire consists of 2 items regarding ICBT treatment support preference. The first item states “If you used Internet-delivered cognitive behaviour therapy, how often would you like to have a therapist email you to respond to your questions or check-in on your progress?”. The second question states “If you used Internet-delivered cognitive behaviour therapy, how often would you like to send emails to a therapist?”. Participants answered both questions with the given responses: “never”, “only if I request it”, “once a week”, “twice a week”.

**Treatment Preference.** The treatment preference question asks respondents to list the top five treatment options, in order of priority, of which type of treatment they would prefer if they were dealing with depression, anxiety or PTSD. “1” would indicate “most likely to receive for anxiety, depression, and posttraumatic stress” and “5” indicating “least likely to receive for anxiety, depression, and posttraumatic stress”. Respondents were given 13 options to choose from (e.g., ICBT with therapist support, ICBT with no therapist, online counseling, psychologist,
social worker, counselor, doctor/GP, nurse practitioner, psychiatrist, self-help book, website information, I would not seek help from anyone, and other (please specify)).

**ICBT Likes and Dislikes Questionnaire.** This questionnaire consisted of four questions. The first two questions are open-ended and asked the respondent what they liked/disliked about using ICBT for mental health concerns. The last two questions asked the participant what they consider the advantages and disadvantages are of using ICBT. Moreover, the third and fourth questions have 19 items to choose from, and there are no limits to how many items they can specify.

**E-therapy Assessment Measure (ETAM).** ETAM consists of three items regarding e-therapy in comparison to face-to-face treatment. The first item states “ICBT is as effective as conventional face-to-face therapy” and respondents rated the item on a 5-point Likert measure from “0” indicating “disagree strongly” to “4” indicating “agree strongly”. This response is used for all questions. Item two states, “ICBT is an appropriate alternative to face-to-face therapy”, and item three is “I would prefer ICBT over face-to-face therapy”. Negative attitudes are assigned for values smaller than 1.5, scores between 1.5 and 2.5 are neutral, and positive attitudes toward Internet-based therapies are scores of 2.5 and greater (Apolinário-Hagen et al., 2017).

**Analysis**

All data were inputted into Statistical Package for the Social Sciences (SSPS) version 23 computer software. To begin, we used descriptive statistics to understand the characteristics of the sample in terms of age, gender, education level, relationship status, size of community they lived in, ethnicity, employment, years of experience, medication, mental health treatment, depression, anxiety and trauma symptoms, and knowledge and experience of ICBT. After
viewing information about ICBT, descriptive statistics were used to examine overall perceptions of ICBT in terms of how logical the treatment seems and how much improvement PSP thought would result from ICBT.

Next, to understand general perceptions of the materials prepared for the study, qualitative comments were analyzed to understand general questions PSP have about ICBT based on the poster/story. With respect to the story, descriptive statistics were used to understand the extent to which the story was perceived as being relevant to PSP. After these initial background analyses were formed, ANOVAs were then used to examine whether perceptions of ICBT differ between groups who receive the poster or the poster plus story in terms of scores on measures of credibility, expectations, general help seeking and ETAM items. A linear regression model was used to examined treatment credibility and acceptability related to ICBT. Predictors inputted into the regression analyses included: age, gender, size of community they lived in, PSP employment, years of experience, education level, familiarity of ICBT, relationship status, medication, mental health treatment, and PHQ-4 and PCL-2 scores.

Finally, descriptive statistics were also used to examine how ICBT ranked in terms of top treatment preferences as well as how PSP preferred to receive treatment. Open-ended question responses about the likes and dislikes were examined using thematic analysis (Braun & Clarke, 2006). The primary researcher reviewed PSP responses to the open-ended questions and developed a coding guide for the different likes and dislikes of ICBT. Initially, the primary researcher reviewed all participant responses regarding the ICBT poster and story. After familiarizing himself with the data, a coding guide was established for different perceived likes (e.g., accessibility, privacy) and dislikes (e.g., impersonal, concerns about effectiveness) of ICBT. Next, the primary researcher and a secondary researcher reviewed the initial coding guide
and further modified it. A third coder was brought in, and was responsible to assist in finalizing
the coding guide for further analysis due to her background knowledge and experience with
qualitative data and coding.

Results

Descriptive Statistics

Demographics. A total of 150 participants provided informed consent and started the
survey. Of these, 18 were excluded from data analysis for several reasons including: 1) previous
experience with ICBT (n = 7); 2) self-identified as a nurse (n = 1); 3) duplicate entry (n = 1); and
4) nonresponse to questions required to assign participant to experimental condition (n = 9). A
total of 132 participants were included in the analyses. Participants had an average age of 39.9
(SD = 9.5) years. The male to female gender ratio was relatively evenly split between male and
female (male n = 68; 51.5%; female n = 47; 62%; and non-binary n = 2; 1.5%. In regards to the
community population participants lived in, it was fairly split; over 100,000 (n = 70, 53%). Over
half of PSP were married (n = 89, 67%), and attained a post-secondary degree (n = 85, 64.4%),
while majority of participants were white (n = 119, 90.2%). Regarding employment, only 5 (4%)
reporting not being employed at the time of survey completion, and most had 10 or more years of
experience (n = 86, 65.2%). The distribution of PSP sectors completing the survey was: border
security (n = 10, 7.5%), corrections (n = 18, 13.6%), dispatch/communications (n = 8, 6.1%), fire
(n = 20, 15.2%), EMS/paramedic (n = 41, 31.1%), and police (n = 35, 26.5%).

About a quarter of participants stated they had received medication for their mental
health (e.g., anxiety, depression, posttraumatic stress disorder) (n = 32, 24.2%), and close to half
received professional help for a mental health problem in the past 12 months (n = 59, 44.7%).
For those who received professional help, the options that were mentioned were physician/family
doctor/nurse practitioner (n = 30, 22.7%), psychiatrist (n = 18, 13.6%), and mental health professional (n = 44, 33.3%). When participants were asked how familiar they were with ICBT, a significant percentage of participants were familiar with the intervention (n = 56, 42.4%).

In reference to symptoms of depression and anxiety, PHQ-4 $M$=3.4 ($SD$ = 3.0), clinically significant scores were found in more than half of the sample (n = 73, 55.3%). Additionally, PCL-2 $M$=4.25 ($SD$ = 2.01) and with significant scores found in more than half of the sample (n = 81, 61.4%) as well.

The two conditions were compared on all demographic and clinical characteristics reported above using chi-square analyses and $t$-tests. No differences were found between conditions ($p$’s > .05). These characteristics are summarized in Table 1.

A follow up $t$-test was conducted, which found that participants who reported clinically significant PHQ-4 scores found the PSP story to be more similar to their own experiences ($M$ = 54.18%, $SD$ = 24.86%) than participants who did not report clinically significant PHQ-4 scores, ($M$ = 33.06%, $SD$ = 27.13%), $t(68) = -5.01$, $p < .001$. Likewise, participants who reported clinically significant symptoms on the PHQ-4 found the story to be more similar to the experiences of other PSP they knew ($M$ = 79.61%, $SD$ = 18.11%) than those who did not report clinically significant symptoms ($M$ = 63.32%, $SD$ = 34.95%), $t(42.92) = -2.35$, $p = .023$ (equal variances not assumed due to significant result of Levene’s test for equality of variances).
Table 1

*Combined Participant Background Information*

<table>
<thead>
<tr>
<th></th>
<th>All participants (N = 132)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (SD)</td>
</tr>
<tr>
<td>Age</td>
<td>39 (9.54)</td>
</tr>
<tr>
<td>PHQ-4 total score</td>
<td>3.5 (3.05)</td>
</tr>
<tr>
<td>PCL-2 total score</td>
<td>4.26 (2.02)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>68 (51.5)</td>
</tr>
<tr>
<td>Female</td>
<td>62 (47.0)</td>
</tr>
<tr>
<td>Non-binary</td>
<td>2 (1.5)</td>
</tr>
<tr>
<td>Community size</td>
<td></td>
</tr>
<tr>
<td>&lt;100,000</td>
<td>62 (47)</td>
</tr>
<tr>
<td>&gt;100,000</td>
<td>70 (53)</td>
</tr>
<tr>
<td>Relationship status</td>
<td></td>
</tr>
<tr>
<td>Not married/partnered</td>
<td>43 (32.6)</td>
</tr>
<tr>
<td>Married/partnered</td>
<td>89 (67.4)</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
</tr>
<tr>
<td>Ethnic minority</td>
<td>13 (9.8)</td>
</tr>
<tr>
<td>White</td>
<td>119 (90.2)</td>
</tr>
<tr>
<td>Employment status</td>
<td></td>
</tr>
<tr>
<td>Not working</td>
<td>5 (4)</td>
</tr>
<tr>
<td>Working</td>
<td>126 (94)</td>
</tr>
<tr>
<td>Years of PSP experience</td>
<td></td>
</tr>
<tr>
<td>0-10 years</td>
<td>45 (34.1)</td>
</tr>
<tr>
<td>10+ years</td>
<td>86 (65.2)</td>
</tr>
<tr>
<td>Highest level of education</td>
<td></td>
</tr>
<tr>
<td>No degree</td>
<td>47 (35.6)</td>
</tr>
<tr>
<td>Degree</td>
<td>85 (65.2)</td>
</tr>
<tr>
<td>PSP sector currently employed in</td>
<td></td>
</tr>
<tr>
<td>Border security</td>
<td>10 (7.6)</td>
</tr>
<tr>
<td>Corrections</td>
<td>18 (13.6)</td>
</tr>
<tr>
<td>Dispatch/communications</td>
<td>8 (6.1)</td>
</tr>
<tr>
<td>Fire</td>
<td>20 (15.2)</td>
</tr>
<tr>
<td>EMS/Paramedic</td>
<td>41 (31.1)</td>
</tr>
<tr>
<td>Police</td>
<td>35 (26.5)</td>
</tr>
<tr>
<td>Medication for mental health in last 12 months</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>32 (24.2)</td>
</tr>
<tr>
<td>No</td>
<td>100 (75.8)</td>
</tr>
</tbody>
</table>
Table 1 (continued).

*Combined Participant Background Information*

<table>
<thead>
<tr>
<th>Professional help for mental health in last 12 months</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>59 (44.7)</td>
<td>73 (55.3)</td>
</tr>
<tr>
<td>Physician/GP/Family doctor/Nurse practitioner</td>
<td>30 (22.7)</td>
<td></td>
</tr>
<tr>
<td>Psychiatrist</td>
<td>18 (13.6)</td>
<td></td>
</tr>
<tr>
<td>Mental health professional</td>
<td>44 (33.3)</td>
<td></td>
</tr>
<tr>
<td>Other (e.g. priest)</td>
<td>3 (2.3)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Familiarity with ICBT</th>
<th>Not familiar</th>
<th>Familiar</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>76 (57.6)</td>
<td>56 (42.4)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PHQ-4</th>
<th>Not clinically significant (&lt;X)</th>
<th>Clinically significant (&gt;X)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>59 (44.7)</td>
<td>73 (55.3)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PCL-2</th>
<th>Not clinically significant (&lt;X)</th>
<th>Clinically significant (&gt;X)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>51 (38.6)</td>
<td>81 (61.4)</td>
</tr>
</tbody>
</table>

*Note: M = mean; SD = standard deviation*
Quantitative Results. ANOVAS were used to compare conditions on attitudes towards ICBT and indicated there was no difference in the expectancy subscale of the CEQ, $F(1, 130) = .198, p = .657$, the credibility subscale of the CEQ, $F(1,130) = .406, p = .525$, or the ETAM, $F(1, 130) = .001, p = .979$. When it came to general health seeking behavior, participants were asked, “If you were dealing with mental health issues, how likely is it that you would seek help from the following sources?” Differences between the two conditions were only observed for the item, “I would not seek help from anyone”, $F(1, 128) = 5.553, p = .020$. Specifically, participants in the poster and story condition were more likely to not seek help from anyone. Given the fact that credibility and expectancy, and e-therapy measure scores did not differ across conditions, both conditions were collapsed for the remainder of the analyses (i.e., all analyses discussed below).

ANOVAS were used to explore differences among PSP sectors and there were two significant findings in the GHSQ in item 4 (e.g., online counselling), $F(5, 126) = 2.643, p = .026$, and item 5 (psychologist) $F(5, 126) = 2.33, p = .014$. A posthoc analysis was conducted using Tukey’s HSD which allowed us to examine the significant differences. On the GHSQ, correctional officers rated online counselling higher than border security officers did, and police rated psychologists higher than EMS/paramedics did.

Regression analyses were conducted to explore 12 potential clinical (e.g., PHQ-4, PCL-2) and demographic (e.g., age, gender, education level, relationship status, size of community they live in, ethnicity, employment, years of experience, medication, mental health treatment, and knowledge and experience of ICBT) predictors of treatment credibility and acceptability related to ICBT. These variables did not significantly predict scores on the expectancy subscale of the CEQ, $R^2 = .10, F(13, 113) = .98, p = .48$. A second regression significantly predicted scores on
the credibility subscale of the CEQ, $R^2 = .20$, $F(13, 113) = .2.19$, $p = .014$. This second regression showed that identifying as female predicted higher scores on the credibility subscale of the CEQ, $\beta = .29$, $t(113) = 3.26$, $p = .001$. The eleven other demographic and clinical characteristics did not predict scores on the credibility subscale of the CEQ.

Participants were also asked to rank their top treatment preferences. The four treatments that were included in participants’ top four choices most frequently were psychologists ($n = 77$), ICBT with therapist assistance ($n = 68$), counsellors ($n = 50$), and doctor ($n=47$). See Table 3 for details.

Regarding the ICBT Therapist Support Preferences Questionnaire, results indicated that most participants would access ICBT support if they needed help ($n = 123$, 93.9%), and many preferred to have a trained provider to check in on their progress by email once a week ($n = 84$, 63.6%). In addition, about half of our participants responded that they would only email a trained provider “if they felt like it” ($n = 66$, 50%), followed by “once a week” ($n = 52$, 39.4%). When asked about overall therapist interaction in regards to check-ins, progress, and responding to questions, participants identified that having a therapist check in on them once a week by email or phone calls was preferred ($n = 55$, 41.7%) followed by no regular check-ins but an option to get a response within 2-3 business days ($n = 42$, 31.8%), and therapist checking in twice a week ($n = 31$, 23.5%).
Table 2

Mean Scores of all Measures

<table>
<thead>
<tr>
<th>Measure</th>
<th>All participants (N = 132)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (SD)</td>
</tr>
<tr>
<td>PHQ-4 total score</td>
<td>3.4 (3.0)</td>
</tr>
<tr>
<td>PCL-2 total score</td>
<td>4.3 (2.0)</td>
</tr>
<tr>
<td>TAAS total score</td>
<td>51.9 (9.4)</td>
</tr>
<tr>
<td>CEQ total score</td>
<td>18.5 (4.9)</td>
</tr>
<tr>
<td>ETAM total score</td>
<td>9.2 (3.9)</td>
</tr>
</tbody>
</table>

Note. PHQ-4 = Patient Health Questionnaire-4; PCL-2 = Posttraumatic Stress Disorder Checklist-2; TAAS = Treatment Acceptability and Adherence Scale; CEQ = Credibility and Expectations Questionnaire; ETAM = E-therapy Assessment Measure
### Table 3

*PSP Mental Health Treatment Preferences*

<table>
<thead>
<tr>
<th>Treatment Preference</th>
<th>Item Chosen n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Psychologist</strong></td>
<td></td>
</tr>
<tr>
<td>First choice</td>
<td>45 (21)</td>
</tr>
<tr>
<td>Second choice</td>
<td>22</td>
</tr>
<tr>
<td>Third choice</td>
<td>10</td>
</tr>
<tr>
<td><strong>ICBT with therapist assistance</strong></td>
<td></td>
</tr>
<tr>
<td>First choice</td>
<td>20 (18)</td>
</tr>
<tr>
<td>Second choice</td>
<td>19</td>
</tr>
<tr>
<td>Third choice</td>
<td>29</td>
</tr>
<tr>
<td><strong>Counsellor</strong></td>
<td></td>
</tr>
<tr>
<td>First choice</td>
<td>17 (14)</td>
</tr>
<tr>
<td>Second choice</td>
<td>15</td>
</tr>
<tr>
<td>Third choice</td>
<td>18</td>
</tr>
<tr>
<td><strong>Doctor</strong></td>
<td></td>
</tr>
<tr>
<td>First choice</td>
<td>12 (13)</td>
</tr>
<tr>
<td>Second choice</td>
<td>15</td>
</tr>
<tr>
<td>Third choice</td>
<td>20</td>
</tr>
<tr>
<td><strong>Psychiatrist</strong></td>
<td></td>
</tr>
<tr>
<td>First choice</td>
<td>17 (8)</td>
</tr>
<tr>
<td>Second choice</td>
<td>15</td>
</tr>
<tr>
<td>Third choice</td>
<td>8</td>
</tr>
<tr>
<td><strong>ICBT with no therapist assistance</strong></td>
<td></td>
</tr>
<tr>
<td>First choice</td>
<td>7 (7)</td>
</tr>
<tr>
<td>Second choice</td>
<td>11</td>
</tr>
<tr>
<td>Third choice</td>
<td>7</td>
</tr>
<tr>
<td><strong>Online counselling</strong></td>
<td></td>
</tr>
<tr>
<td>First choice</td>
<td>2 (6)</td>
</tr>
<tr>
<td>Second choice</td>
<td>9</td>
</tr>
<tr>
<td>Third choice</td>
<td>10</td>
</tr>
<tr>
<td><strong>Self-help book</strong></td>
<td></td>
</tr>
<tr>
<td>First choice</td>
<td>2 (4)</td>
</tr>
<tr>
<td>Second choice</td>
<td>5</td>
</tr>
<tr>
<td>Third choice</td>
<td>9</td>
</tr>
<tr>
<td><strong>Website Information</strong></td>
<td></td>
</tr>
<tr>
<td>First choice</td>
<td>3 (6)</td>
</tr>
<tr>
<td>Second choice</td>
<td>5</td>
</tr>
<tr>
<td>Third choice</td>
<td>5</td>
</tr>
<tr>
<td><strong>Other (e.g., priest, significant other)</strong></td>
<td></td>
</tr>
<tr>
<td>First choice</td>
<td>6 (2)</td>
</tr>
<tr>
<td>Second choice</td>
<td>2</td>
</tr>
<tr>
<td>Third choice</td>
<td>1</td>
</tr>
<tr>
<td><strong>Social Worker</strong></td>
<td></td>
</tr>
<tr>
<td>First choice</td>
<td>1 (2)</td>
</tr>
<tr>
<td>Second choice</td>
<td>4</td>
</tr>
<tr>
<td>Third choice</td>
<td>2</td>
</tr>
<tr>
<td><strong>Nurse Practitioner</strong></td>
<td></td>
</tr>
<tr>
<td>First choice</td>
<td>1 (2)</td>
</tr>
<tr>
<td>Second choice</td>
<td>2</td>
</tr>
<tr>
<td>Third choice</td>
<td>3</td>
</tr>
</tbody>
</table>
Qualitative Results. When participants \((n = 132, 100\%)\) were invited to ask questions about ICBT, several participants asked logistical questions \((n = 7, 5\%)\). For example, participants asked what would happen if users did not complete therapy, how many sessions users typically complete per week, and how long it takes to complete the program. Participants also asked questions about anonymity \((n = 1, 1\%)\) and costs \((n = 1, 1\%)\).

Likes. The most common ‘like’ identified with ICBT was accessibility \((n = 111, 66.4\%)\). The theme of accessibility was further subcategorized into seven categories, as presented in Table 3. The most frequently endorsed subcategories were convenience \((n = 25, 14.9\%)\), and the time-flexible nature of ICBT \((n = 37, 22.1\%)\). The two most common likes after accessibility were anonymity/privacy \((n = 16, 9.5\%)\), and information/techniques/advice \((n = 14, 8.3\%, \text{e.g., “covers a large range of issues”, “beneficial tool and I would utilize it”})\). 21 \((15.9\%)\) participants did not identify any likes about ICBT.

Dislikes. Many participants did not identify any dislikes \((n = 46, 35.6\%)\). The most common ‘dislike’ was the lack of face-to-face interaction with a therapist or the belief that ICBT would feel impersonal \((n = 41, 31.7\%)\). Other participants expressed concerns about the effectiveness of ICBT \((n = 11, 8.3\%)\) or the issue of accountability and motivation \((n = 14, 10.6\%, \text{e.g., “I may find it hard to stay motivated when I do not have anyone forcing me to do it”})\).
**Table 4**

*PSP Perceptions of ICBT*

<table>
<thead>
<tr>
<th>Likes</th>
<th>Poster Only</th>
<th>Poster &amp; Story</th>
<th>Total, n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accessibility (general reference)</td>
<td>5</td>
<td>5</td>
<td>10 (6)</td>
</tr>
<tr>
<td>Comfort with technology</td>
<td>4</td>
<td>6</td>
<td>10 (6)</td>
</tr>
<tr>
<td>Convenience</td>
<td>8</td>
<td>17</td>
<td>25 (15)</td>
</tr>
<tr>
<td>Enable more people to seek help</td>
<td>5</td>
<td>1</td>
<td>6 (4)</td>
</tr>
<tr>
<td>No need to schedule or wait for an appointment</td>
<td>3</td>
<td>4</td>
<td>7 (4)</td>
</tr>
<tr>
<td>No transportation required</td>
<td>8</td>
<td>12</td>
<td>16 (10)</td>
</tr>
<tr>
<td>Time flexible</td>
<td>16</td>
<td>21</td>
<td>37 (22)</td>
</tr>
<tr>
<td>Anonymity/Privacy</td>
<td>11</td>
<td>5</td>
<td>16 (10)</td>
</tr>
<tr>
<td>Breadth of Course</td>
<td>1</td>
<td>0</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Brief</td>
<td>0</td>
<td>2</td>
<td>2 (1)</td>
</tr>
<tr>
<td>Complements existing treatments</td>
<td>0</td>
<td>4</td>
<td>4 (2)</td>
</tr>
<tr>
<td>Did not identify any likes</td>
<td>7</td>
<td>1</td>
<td>8 (5)</td>
</tr>
<tr>
<td>Effective</td>
<td>0</td>
<td>3</td>
<td>3 (2)</td>
</tr>
<tr>
<td>Information/techniques/advice</td>
<td>8</td>
<td>6</td>
<td>14 (8)</td>
</tr>
<tr>
<td>Interesting</td>
<td>0</td>
<td>1</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Low Cost/no cost</td>
<td>1</td>
<td>1</td>
<td>2 (1)</td>
</tr>
<tr>
<td>Tailored to PSP</td>
<td>1</td>
<td>0</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Team Review Approach</td>
<td>0</td>
<td>1</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Therapist Guidance</td>
<td>2</td>
<td>1</td>
<td>3 (2)</td>
</tr>
</tbody>
</table>
### Table 3 (continued).

**PSP Perceptions of ICBT**

<table>
<thead>
<tr>
<th>Concerns about</th>
<th>Number 1</th>
<th>Number 2</th>
<th>Number 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effectiveness</td>
<td>8</td>
<td>3</td>
<td>11 (9)</td>
</tr>
<tr>
<td>Accountability and motivation</td>
<td>5</td>
<td>9</td>
<td>14 (11)</td>
</tr>
<tr>
<td>Confidentiality</td>
<td>1</td>
<td>0</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Crisis support</td>
<td>1</td>
<td>1</td>
<td>2 (2)</td>
</tr>
<tr>
<td>Demands of treatment tasks</td>
<td>1</td>
<td>4</td>
<td>5 (4)</td>
</tr>
<tr>
<td>Eligibility</td>
<td>2</td>
<td>0</td>
<td>2 (2)</td>
</tr>
<tr>
<td>Triggers</td>
<td>0</td>
<td>1</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Did not identify any dislikes</td>
<td>23</td>
<td>23</td>
<td>46 (36)</td>
</tr>
<tr>
<td>Distrust of online therapist</td>
<td>0</td>
<td>1</td>
<td>1 (1)</td>
</tr>
<tr>
<td>No face-to-face/impersonal</td>
<td>20</td>
<td>21</td>
<td>41 (32)</td>
</tr>
<tr>
<td>Too standardized</td>
<td>5</td>
<td>0</td>
<td>5 (4)</td>
</tr>
</tbody>
</table>
Discussion

**Principle Findings.** The purpose of this study was to provide insight into the perceptions of and attitudes toward ICBT among PSP. The study had three main research questions:

1. What are the general perceptions of ICBT among PSP?
2. Are there certain demographic or clinical characteristics that predict perceptions of ICBT?
3. Do participants who learn about ICBT from a story have different attitudes than those who learn about ICBT from a poster?

Regarding the first research goal, perceptions of ICBT among PSP were relatively positive. Across conditions, when asked about the credibility of ICBT (i.e., on the CEQ), participants’ mean score was a six out of nine, meaning they perceived ICBT as ‘somewhat credible’. Additionally, participant’s average response was that they perceived ICBT to have a 50% expectancy of treating symptoms. In regard to the TAAS, the mean score was 51.9 (out of 70), indicating PSP found ICBT somewhat acceptable and would adhere to the treatment.

When participants were given a number of treatment preferences for mental health, ICBT with therapist assistance ranked second in treatment options \( n = 68, 18\% \), following psychologists as the number one treatment option \( n = 77, 21\% \). Few participants indicated ICBT with no therapist as a preferential treatment option \( n = 25, 7\% \). It is important to highlight that out of 13 treatment options, ICBT with therapist support was the second top preference. This contrasts with recent studies in which preferences for ICBT over other treatments are markedly low (e.g., Musiat et al., 2014; March et al., 2018; Wallin et al., 2016).

In reference to Musiat and colleagues (2014) study, participants were asked about their expectations for mental health concerns in a variety of domains (e.g., helpful, credibility,
anonymous, convenient time). Participants were asked about the acceptability of 4 interventions (e.g., face-to-face therapy, web-based therapy, self-help book, and smartphone application) and how it measured in terms of their initial expectations for mental health concerns. Authors developed their own measure and scoring criteria for intervention preferences. Results of their study found that perceived helpfulness of an intervention was the most important factor influencing the likelihood of use, which web-based therapy scored low in. Overall, web-based therapy was found to have low likelihood of use in the future, and did not meet many of the expectations of mental health concerns deemed important by the participants (Musiat et al., 2014).

Likewise, inquiry conducted by March and colleagues. Wallin and colleagues (2016) study also identified low preferences for ICBT. Two samples (e.g., occupational setting, previously treated cancer patients) were obtained in examining mental health treatment preferences. When participants were given three treatment options to choose from, which included face-to-face therapy, Internet-based therapy, and both options to equal extent, preferences to use Internet-based therapy in both samples was low in both Sample 1 (6.5%) and Sample 2 (2.6%) respectively. However, March and colleagues (2018) used a single item to determine preferences of mental health services. The 3 options included were: face-to-face therapy, Internet-based therapy with therapist support, and Internet-based therapy with no therapist support. Majority of participants (85.7%, n = 274) preferred face-to-face therapy over the other two options. Participants were then asked about their intentions to use internet-based therapy in the future, and a fair amount (39.6%, n = 122) suggested they would.

Overall, the majority of participants (93.9%) in our study indicated that if they needed help with mental health concerns, they would access ICBT. These results are similar to previous
experiments that have indicated participants’ intentions to access ICBT were also high (March et al., 2018). Additionally, results showed that most PSP (63.6%) preferred to have online therapists monitor their progress at least once a week. As it stands, the results suggest many PSP have positive perceptions of ICBT and would be willing to use it if needed. Regarding therapist interaction, PSP perceived the intervention to be more advantageous when accompanied by an online therapist, as opposed to going through the treatment alone with no guidance and feedback. In relation, these findings support previous research showing that the general public prefers ICBT with therapist support over ICBT with none at all (e.g., Apolinario-Hagen et al., 2018).

With regards to demographic and clinical predictors of ICBT, there was only one significant finding; female participants found ICBT more credible than male participants. This is not a surprise as this finding is aligned with previous literature that females are more likely to report positive perceptions of psychotherapy (Eisenberg et al., 2007). However, other studies that have examined participant attitudes of ICBT did not find gender to be a factor in predicting attitudes (e.g., Schröder et al., 2017; Soucy & Hadjistavropoulos, 2017).

Based on previous literature, there have been a number of different demographic variables that have predicted attitudes towards ICBT. In one recent study, results found that older individuals, having previous experience with Internet-based therapy, as with confidence with computers, technology and the Internet, were correlated with intentions to use Internet-based therapy in the future (March et al., 2018). In another study, ethnicity was found to predict perceptions towards mental health services. Fung and Wong (2007) study indicated that Asian Americans held negative views towards mental health services and experienced lower rates of use. Asian Americans who self-identified as having religious beliefs were more inclined to have
negative views, than Asian Americans who adopted a Western stress model based on empirical science (Fung & Wong., 2007).

In relation to our third research goal, results of the study did not support our hypothesis that receiving ICBT information in the form of a story would result in more positive perceptions of ICBT compared to the group that only received an ICBT poster. Due to no significant results found between conditions (e.g., poster, and poster/story), we collapsed both conditions in further analyses. However, it is important to note that participants’ clinical characteristics were related to their attitudes toward the story. Higher scores on the PHQ-4 and PCL-2 positively correlated with the perceived relatability of the stories to participants and to others they knew in a PSP occupation. Participants who had clinically significant scores of the PHQ-4 and PCL-2 found the story more relatable than those without clinically significant scores.

In reference to the qualitative data, participants were asked if they had any further questions about ICBT, and to state what they liked and disliked about ICBT. Most of the participant questions regarding ICBT were logistical questions, some of which were noted in the poster. These included questions about the timeframe of the program, recommended sessions of programming per week, consequences if the program was not completed, anonymity, and costs. For future reference, it should be important to address these concerns when educating the public about ICBT. The most common perceived advantages of ICBT were accessibility, convenience, the time-flexible nature of ICBT, and anonymity/privacy. As seen in previous studies, similar results showed participants found ICBT to address common barriers to accessing therapy such as time, location, and anonymity (e.g., Musiat et al., 2014). On the other hand, the most common perceived dislikes of ICBT were the lack of face-to-face interaction with a therapist, and ICBT feeling impersonal. Other participants expressed concerns about the effectiveness of ICBT or the
issue of accountability and motivation (e.g., “I may find it hard to stay motivated when I do not have anyone forcing me to do it”). Once again, these are common disadvantages mentioned before in past studies (e.g., Wallin et al., 2016). From our findings, it does not appear that PSP have any particular or critical concerns that differ when compared to the general population.

**Limitations and Strengths.** There were several limitations of the present study. For one, it is possible that attitudes are different among those who did not respond to the questionnaire. Perhaps those who were interested decided to participate and as such, actual perceptions in the population of PSP are lower. As previously mentioned in the results section of this paper, the total number of participants was 150. However, due to a variety of reasons (e.g., duplicate entries, prior experience with ICBT), complete data was only acquired from 132 participants. Moreover, it is worthwhile to mention that there may have also been significant differences between conditions if there were a higher number of participants, which would then produce greater statistical power. In terms of the story presented, the decision was made to add the story to the poster as it was felt that the story could not be presented without basic information of ICBT. It is quite possible that differences would be found had we used a more powerful method of presenting a story (e.g., video).

In relation to this, PSP sectors were not proportionately represented thus it made it difficult to determine if attitudes varied by sector. EMS/Paramedics were the largest accounted sector with a total of 41 participants, and the lower number sectors being dispatch/communications ($N = 8$) and border security ($N = 10$). Although conditions were given by the way of random assignment, there were 61 participants assigned to the poster only condition and 71 participants assigned to the poster and story condition. This unequal distribution may have contributed to finding less significant differences between the groups (e.g.,
visible minorities, PSP who were not working). Although the questionnaire was extensive, it is possible that there may have been additional factors that were not measured that could have contributed to participant perceptions and preferences (e.g., confidence in using technology, religious/spiritual perspectives). Another limitation was the extent of ICBT information on the poster and story. It can be argued that there was insufficient information and not enough for the participants to gain a comprehensive understanding of ICBT. Participants had a number of logistical questions (e.g., anonymity, costs, time-frame), so it is evident that there was insufficient information or the information was not presented in a manner that was easily understood by PSP. Although few participants (6%) asked questions, specific questions about anonymity, costs, and time-frame were the most frequently occurring, suggesting that information addressing these questions should be made clear when distributing educational information regarding ICBT. Moreover, the actual use of ICBT was not assessed. Perceptions and attitudes were reported by collecting participant’s views of ICBT by perceived credibility, expectancy, acceptability, ability to adhere to it, treatment preferences, and perceived likes and dislikes about ICBT. Participants’ perceptions were mainly based on the ICBT poster and story, not the actual treatment itself. Future research may include assessing PSP perceptions and attitudes pre and post-treatment of the intervention.

Despite a number of limitations in this study, it is noteworthy to acknowledge its strengths. First and foremost, this study is unique, as it is one of the first to study PSP perceptions and attitudes of ICBT. The study was able to collect an extensive amount of data analyzing PSP and their perceptions of ICBT. Particularly, many of our participants did have mental health concerns and we were able to obtain perceptions from those most likely to be interested in ICBT. Our sample was diverse (e.g., rural, varying levels of education, age,
relationship status) which provided a certain degree of representation of the PSP population within Saskatchewan. In regards to our measures, all measures used were validated measures that have been previously used in many other studies. Since we did not develop any of our own measures, the application of validated measures allows for researchers to compare across studies.

In addition, the study was also able to collect PSP demographics, clinical characteristics, help-seeking behaviors, and treatment preferences. Researchers also studied the effects of learning ICBT from a story, and from a poster, and if there were differences in perceptions after reading the poster and/or story. Although there were no differences in perceptions between the conditions, it is a strength that all participants were able to learn about ICBT through different ICBT information formats (e.g., poster, story). Lastly, it was beneficial to have received qualitative data from participants, as it does not restrict participants to choosing pre-existing responses. It allowed researchers to gain valuable insight of participant perceptions of ICBT, and adds to the previous literature on the perceived advantages and disadvantages of ICBT.

**Future Research and Directions.** The results of this study provide a number of options for future research. As mentioned before, this study is unique as it is one of the first to study PSP perceptions of ICBT. PSP participants were gathered via emailing stakeholders and through social media only within the province of Saskatchewan so additional data from other provinces or a nation-wide population could be collected in future studies to represent a greater number of PSP within Canada. Past research shows that ICBT is efficacious in research trials but being able to put research into practice requires understanding of how the intervention will be received. This research would suggest that ICBT would be well received even when informed by a poster and a simple story. Additionally, researchers were able to extract participant questions and concerns about ICBT, which will help to inform future distribution of ICBT information (e.g.,
promotional materials, research efforts) to provide greater clarity. Our research in fact suggests that that audience is more receptive than expected and data provides ideas about how to improve the poster and also the features that are particularly attractive to users. In addition, it also provides ideas about what concerns may exist and how we could work to overcome them.

In terms of future research, it would be beneficial to obtain a larger sample. Instead of recruiting participants through online surveys where only individuals interested in ICBT would respond, it may be important to identify alternative recruiting methods to include participants who may have less favourable views on ICBT. A potential option would be to collaborate with various PSP departments and make the survey mandatory.

In relation, findings from this study can and should improve implementation efforts to increase ICBT service utilization in PSP. Additionally, we now have information about how potential PSP users may view ICBT, and how researchers could increase PSP perceptions. As previous literature has documented, positive perceptions and attitudes of treatment are associated with better treatment results (Constantino et al., 2011). In our study, males in particular had lower perceptions so this suggests this is a concern to be addressed. Future research should also examine PSP attitudes of ICBT pre and post ICBT treatment. This would provide even greater insight as PSP would have actually taken part in the therapy itself. As such, other previous research has assessed acceptability by post-intervention measures, such as completion rates (Palacios et al., 2018).

Lastly, the data in our study showed that 63.6% of participants preferred to have a trained provider check in on their progress by email at least once a week. In addition, 50% mentioned they would only email the accompanying online therapist if they felt like it, and 39.4% would email the online therapist once a week. This is important to keep in mind in PSP ICBT utilization
for researchers, therapists, and users. For researchers, this is important because this information may help address attrition rates for ICBT in PSP populations. Previous studies have found that client treatment preferences can significantly influence attrition rates, adherence, satisfaction and outcomes (Preference Collaborative Review Group, 2008). For therapists, they should establish whether the intervention will be offered in a guided or unguided format at the beginning of the intervention so as not to be confused if the ICBT user does not reply to emails, which could be misinterpreted as non-compliance or satisfaction of the ICBT user.

**Conclusion.** In sum, results of the study indicated that PSP had relatively positive attitudes and perceptions of ICBT. Females found ICBT to be more credible than males, and there was no difference in perceptions between participants who received ICBT information from a poster, and ICBT information from a poster and story. Both conditions showed sufficient information for ICBT but some concerns needed to be addressed. Additionally, participants who had higher scores and clinically significant symptoms were shown to find the ICBT story more relatable among themselves, and other known individuals who were employed in PSP occupations. As of now, ICBT utilization among PSP has just begun in Saskatchewan and will eventually be offered in Quebec. This study provides additional information about the research regarding ICBT among the PSP population. These findings should help address the concerns of future ICBT implementation and how to help increase positive perceptions for PSP in order for more PSP to use ICBT as a treatment option for their mental health concerns.
References


Gratzer, D., & Khalid-Khan, F. (2016). Internet-delivered cognitive behavioural therapy in the


amongst a student population. *Behavioural and Cognitive Psychotherapy*, 35(4), 421-430. doi: 10.1017/s1352465807003700


10.1002/14651858.cd011565.pub2


## Appendix A

### Information for Potential Participants & Consent Form

**Project Title:** Perceptions of Internet-Delivered Cognitive Behaviour Therapy (ICBT) among Public Safety Personnel (PSP) including First Responders

**Researcher(s):**
- Angelo Sison, Undergraduate Student, Department of Psychology, University of Regina
- Phone: 306-529-5787
- Email: sison72a@uregina.ca

**Supervisors:**
- Heather Hadjistavropoulos, Ph.D., Professor, Department of Psychology, Principal Investigator, PSPNET, Executive Director, Online Therapy Unit, University of Regina, Phone: 306-585-5133, Email: heather.hadjistavropoulos@uregina.ca
- Jody Burnett, Ph.D., Adjunct Professor, Department of Psychology, Clinical Research Associate, PSPNET, University of Regina, Phone: 306-337-7233, Email: jody.burnett@uregina.ca

**Research Team:**
- Amelie Fournier, Ph.D., Clinical Research Associate, PSPNET, University of Regina, Phone: 306-337-8873, Email: amelie.fournier@uregina.ca
- Curtis Hart, MSW, Clinical Research Associate, PSPNET, University of Regina, Phone: 306-337-7233, Email: pspnet@uregina.ca
- Janine Beahm, MA, Research Associate, PSPNET, University of Regina, Phone: 306-337-3188, Email: janine.beahm@uregina.ca
- Hugh McCall, BSc, Research Assistant, PSPNET, University of Regina, Phone: 306-337-7233, Email: hugh.mccall@uregina.ca
- Shimona Sekhar, Project Manager, PSPNET, University of Regina, Phone: 306-337-3188, Email: shimona.sekhar@uregina.ca
- Katie Schutz, Community Engagement & Event Coordinator, University of Regina, Phone: 306-337-8418, Email: katie.schutz@uregina.ca
Jirayu (Jane) Uttaranakorn  
Web and Social Media Specialist  
University of Regina  
Phone: 306-337-8411  
Email: jirayu.uttaranakorn@uregina.ca  

Vanessa Peynenburg  
Graduate Student  
University of Regina  
Phone: 306-585-5369  
Email: vanessa.peynenburg@uregina.ca  

Nicholas Carleton, PhD  
Consultation & Co-Investigator  
University of Regina  
Phone: 306-585-4595  
Email: nick.carleton@uregina.ca  

**Purpose(s) and Objective(s) of the Research:**

We have developed an Internet-delivered cognitive behaviour therapy (ICBT) program for Public Safety Personnel (PSP) including first responders. PSP in Saskatchewan include, but are not necessarily limited to, border security personnel, correctional officers, firefighters, paramedics, police officers, and public safety communications officials (e.g., call center operators/dispatchers). Results from a recent survey with a large Canadian PSP sample showed 44.5% screened positive for one or more mental health disorders, which is much higher than the 10.1% diagnostic rate among the Canadian general public. For many Canadian PSP, access to in-person evidence-based care is challenging for several reasons, including geographic barriers, logistical barriers, stigma, and limited resources. Access to cognitive behaviour therapy (CBT), which is known to be effective for treating depression, anxiety, and trauma can be particularly challenging.

The present study is designed to provide Saskatchewan’s PSP, including first responders with background information on ICBT, and then seek their perceptions of ICBT. Our primary purpose of this study is to understand perceptions of ICBT after PSP review information about ICBT. We will also examine whether certain demographic or clinical characteristics predict perceptions of ICBT. We are interested in gaining information from a wide variety of PSP, holding various positions. In conducting this study, we also intend to raise awareness of ICBT as an alternative treatment compared to other forms such as medication and cognitive behaviour therapy in person. By understanding both negative and positive perceptions of ICBT we will be in a better position to improve ICBT for PSP (e.g., be aware of and able to address any client concerns). The data collected will be analyzed and used for the completion of an Honours thesis in Psychology. Findings from this study may also be published in peer-reviewed journal articles and/or presented at conferences.

**Procedures:**

Interested participants will click a link to an online survey that has been developed using Qualtrics web-based survey software. The entire survey is expected to take 15-20 minutes to complete. The survey begins with questions designed to understand the demographic and clinical characteristics of participants. Participants will then be presented with information about ICBT and will be asked a series of questions about their perceptions of ICBT.
Potential Risks:
Participants will be asked to respond to six questions about their symptoms of anxiety and depression. This may cause temporary distress, as it may increase the individual’s attention to and awareness of their symptoms. There are no additional known or anticipated risks to you by participating in this research (e.g., legal repercussions, social repercussions, or risk of physical harm). If you experience distress and are interested in a list of resources to assist you with distress, please visit www.pspnet.ca for a list of mental health resources.

Potential Benefits:
By participating in this study you are provided with the opportunity to share your perceptions of ICBT, which could help with development of ICBT for PSP (e.g., we will be in a position to modify ICBT to address concerns you may raise).

Confidentiality:
Participants will not be asked their name as part of this survey. The primary investigator and other members of the research team will not have access to any identifying information (e.g., emails) that could be linked to survey responses. We will only have access to the raw survey data provided by the Qualtrics website.

Research information will be used to help us understand perceptions of ICBT. Our intent is to prepare publications and presentations that will be shared with others who have an interest in ICBT for PSP, such as PSP themselves, providers, researchers, or government. You will not be personally identified in any publication or presentation. Scores from any questionnaires you respond to will be summarized across all participants so that individual responses will not be linked to a specific person in any publication or presentation.

Storage of Data:
Research data will be stored on a password protected electronic hard drive at the University of Regina. File deletion software (e.g., filesheeder) will be used to securely delete the data at the end of the 7-year storage. In addition, the survey responses will be deleted from Qualtrics by April 31, 2020.

Right to Withdraw:
Your participation is voluntary and you can answer only those questions that you are comfortable with. You may withdraw from the research project for any reason, at any time without explanation. Your right to withdraw data from the study will apply until you submit your survey responses. You can withdraw from the study by exiting the survey link at any time before submission of the survey responses. Because the responses are anonymous, you will not have the opportunity to withdraw from the study after you have submitted your online survey.

Follow up:
To obtain results from the study, please visit the www.pspnet.ca website or contact one of the investigators listed at the top of this consent form. We will post results of the study by April 31, 2020.
Questions or Concerns:
Contact the researcher(s) using the information at the top of page 1.
This project has been approved on ethical grounds by the UofR Research Ethics Board on December, 4\textsuperscript{th}, 2019. Any questions regarding your rights as a participant may be addressed to the committee at (306-585-4775 or research.ethics@uregina.ca). Out of town participants may call collect. Any questions regarding your rights as a participant may be addressed to that committee through the Research Ethics Office (Toll Free: 866-966-2975).

Consent
By completing and submitting the questionnaire, YOUR FREE AND INFORMED CONSENT IS IMPLIED and indicates that you understand the above conditions of participation in this study. We encourage you to print this consent form for your own records.
APPENDIX B

1) What is your age? (Specify exact age)

2) What gender do you identify with?
   - Female
   - Male
   - Transgender Female
   - Transgender Male
   - Trans/Non-Binary
   - Not listed: _____

3) How would you describe the community where you live?
   - Farm or Acreage
   - Village or Hamlet (~1 - 200 citizens)
   - Small Town (~200 - 800 citizens)
   - Town (~800 - 7,000 citizens)
   - Big Town (~7,000 - 20,000 citizens)
   - Small City (~20,000 - 100,000 citizens)
   - City (~100,000 - 300,000 citizens)
   - Large City (~300,000+ citizens)
   - First Nation community
   - Other (Please specify) ____________________

4) What is your relationship status? (check primary category)
   - Single
   - Dating
• Married/ Partnered/ Common Law
• Separated
• Divorced
• Widowed

5) Which of the following represents your primary ethnic origin? (check primary category)
• Asian
• Black
• First Nations, Inuit and Métis
• Latin American
• Middle Eastern
• South Asian
• White
• Other

6) What is your current employment status as a first responder or other public safety personnel? (check primary category)
• Employed full-time
• Employed part-time
• Casual employment
• Short-term disability
• Long-term disability
• Retired
• Volunteer
• Other (please specify)
7) Which first responder or other public safety personnel sector do you currently work in?
   - Police
   - Dispatch/Communications
   - Corrections
   - Fire
   - Paramedic
   - Border Security
   - Other (please specify)

8) How many years have you worked as a first responder or other public safety personnel overall even if outside the current sector?

9) What is your highest level of education?
   - Less than high school
   - High school diploma
   - Some college or university
   - College diploma – 2 to 3 year
   - University undergraduate degree
   - University professional degree (e.g. MD)
   - University graduate degree (e.g. MA, PhD)

10) Please indicate which professionals (if any) you have visited for mental health reasons in the past 12 months:
    - Physician/GP/Family Doctor/Nurse Practitioner
    - Psychiatrist
• Mental health professional (e.g., psychologist, social worker, counselor)

11) Have you taken medication for any mental health problems in the past 12 months (e.g., anxiety, depression, posttraumatic stress disorder)?

• Yes
• No

12) Have you ever participated in Internet-delivered cognitive behaviour therapy in the past?

• Yes, I have experience with Internet-delivered cognitive behaviour
• No, I have no experience with Internet-delivered cognitive behaviour

13) How familiar are you with Internet-delivered cognitive behaviour therapy?

• No knowledge 1
• A little knowledge 2
• Moderate knowledge 3
• Quite a bit of knowledge 4
• Significant knowledge 5

13b) Follow-up question: To participants who indicated they have prior knowledge on Internet-delivered cognitive behaviour therapy, where did you receive this?

PHQ-4

<table>
<thead>
<tr>
<th>Over the last 2 weeks, how often have you been bothered by the following problems?</th>
<th>Not at all</th>
<th>Several days</th>
<th>More than half the days</th>
<th>Nearly every day</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Use “✔” to indicate your answer)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Below is a list of problems and complaints that people sometimes have in response to stressful life experiences. Please read each one carefully and pick the answer that indicates how much you have been bothered by that problem in the last month.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Not at all</th>
<th>A little bit</th>
<th>Moderately</th>
<th>Quite a Bit</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repeated, disturbing memories, thoughts, or images of a stressful experience from the past?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Feeling very upset when something reminded you of a stressful experience from the past?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Before proceeding, do you have any questions about Internet-delivered cognitive behaviour therapy based on the material you reviewed? Was something unclear in the material you reviewed?

Overall, do you have any comments about this story (e.g., likes/dislikes)?

Do you feel Sam’s experience are similar at all to your own?

Do you feel Sam’s experience are similar to any first responders/Public Safety Personnel you know?

With the above information in mind, please answer the following questions

TAAS

Please respond to the questions below with Internet-delivered cognitive behavior therapy in mind, by indicating your agreement with each of the below statements.

1. If I began this, I would be able to complete it.

   1  2  3  4  5  6  7

   Disagree strongly   Neither agree nor disagree   Agree strongly

2. If I participated in this treatment, I would be able to adhere to its requirements.

   1  2  3  4  5  6  7

   Disagree strongly   Neither agree nor disagree   Agree strongly

3. I would find this treatment exhausting.

   1  2  3  4  5  6  7
4.  It would be distressing to me to participate in this treatment.

1  2  3  4  5  6  7
Disagree strongly  Neither agree nor disagree  Agree strongly

5.  Overall, I would find this treatment intrusive.

1  2  3  4  5  6  7
Disagree strongly  Neither agree nor disagree  Agree strongly

6.  This treatment would provide effective ways to help me cope with anxiety, depression and posttraumatic stress.

1  2  3  4  5  6  7
Disagree strongly  Neither agree nor disagree  Agree strongly

7.  I would prefer to try another type of psychological treatment instead of this one.

1  2  3  4  5  6  7
Disagree strongly  Neither agree nor disagree  Agree strongly

8.  I would prefer to receive medication for my anxiety, depression and posttraumatic stress instead of this treatment.

1  2  3  4  5  6  7
Disagree strongly  Neither agree nor disagree  Agree strongly
9. I would recommend this treatment to a friend with a similar problem (e.g. anxiety, depression and posttraumatic stress).

1  2  3  4  5  6  7
Disagree strongly Neither agree nor disagree Agree strongly

10. If I began this treatment, I would likely drop out.

1  2  3  4  5  6  7
Disagree strongly Neither agree nor disagree Agree strongly

CEQ

We would like you to indicate below how much you believe, right now, that internet-delivered cognitive behaviour therapy would help to reduce symptoms of anxiety, depression and posttraumatic stress. Belief usually has two aspects to it: (1) what one thinks will happen; and (2) what one feels will happen. Sometimes these are similar; sometimes they are different. Please answer the questions below. In the first set, answer in terms of what you think. In the second set answer in terms of what you really and truly feel.

1. At this point, how logical does the treatment seem to you?

1  2  3  4  5  6  7  8  9
not at all somewhat very logical logical
2. At this point, how successful do you think this treatment would be in reducing symptoms of anxiety, depression and posttraumatic stress?

1 2 3 4 5 6 7 8 9
not at somewhat very
all somewhat successful successful
unsuccessful

3. How confident would you be in recommending this treatment to a friend who experiences anxiety, depression and posttraumatic stress?

1 2 3 4 5 6 7 8 9
not at somewhat very
all somewhat confident confident
unconfident

4. By the end of this treatment, how much improvement in symptoms of anxiety, depression and posttraumatic stress do you think would occur?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
For this set, close your eyes for a few moments, and try to identify what you really feel about the treatment and its likely success. Then answer the following questions.

1. At this point, how much do you really feel that the treatment will help to reduce symptoms of anxiety, depression and posttraumatic stress?

1 2 3 4 5 6 7 8 9
not at all somewhat logical
all logical

2. By the end this treatment, how much improvement in symptoms of anxiety, depression and posttraumatic stress do you feel would occur?

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

GHSQ

If you were dealing with mental health issues, how likely is it that you would seek help from the following people? Please indicate your response by identifying the number that best describes your intention to seek help from each help source that is listed.

1 = Extremely Unlikely 3 = Unlikely 5 = Likely 7 = Extremely Likely
Based on the information provided here, if you needed treatment right now and you could access any of the services below, please list the top 5 treatment options in order of preference as an intervention for anxiety, depression and posttraumatic stress from 1 (“Most likely to receive for anxiety, depression and posttraumatic stress”) to 5 (“Least likely to receive to receive for anxiety, depression and posttraumatic stress”).

- Internet-delivered cognitive behaviour therapy with therapist assistance
- Internet-delivered cognitive behaviour therapy self-directed with no therapist assistance
- Online counseling
- Psychologist
- Social worker
- Counselor
- Doctor/General practitioner
- Nurse Practitioner
- Psychiatrist
- Self-help book
- Website Information
- I would not seek help from anyone
- Other (please specify):

Treatment Preference
- Online counseling
- Psychologist
- Social worker
- Counselor
- Doctor/GP
- Nurse Practitioner
- Psychiatrist
- Self-help book
- Website Information
- I would not seek help from anyone
- Other (please specify):

### ETAM (E-therapy Assessment Measure)

Internet-delivered cognitive behaviour therapy is as effective as conventional face-to-face therapies

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Disagree strongly</td>
<td>Neither agree nor disagree</td>
<td>Agree strongly</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Internet-delivered cognitive behaviour therapy is an appropriate alternative to conventional face-to-face therapies

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Disagree strongly</td>
<td>Neither agree nor disagree</td>
<td>Agree strongly</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
I would prefer Internet-delivered cognitive behaviour therapy over face-to-face therapy

0 1 2 3 4
Disagree strongly Neither agree nor disagree Agree strongly

Internet-delivered Cognitive Behaviour Therapy Therapist Support Preference Questionnaire

1. If you used Internet-delivered cognitive behaviour therapy, how often would you like to have a therapist email you to respond to your questions or check-in on your progress?

Please select from the following:

- Never
- Only if I request it
- Once a week
- Twice a week

2. If you used Internet-delivered cognitive behaviour therapy, how often would you like to send emails to a therapist? Please select from the following:

- Daily
- Never
- Only if I feel like it
- Once a week
- Twice a week
Likes and Dislikes

1. What do you like about the idea of Internet-delivered cognitive behaviour therapy for mental health concerns?

2. What do you dislike about the idea of Internet-delivered cognitive behaviour therapy for mental health concerns?

What do you consider to be the advantages of Internet-delivered cognitive behaviour therapy?

[ Tick each box you think applies ]

- Private;
- Accessible
- No Cost (in Saskatchewan at this time)
- Familiarity with Technology
- No transportation required
- Flexible time and place
- No need to schedule appointment
- Time-saving
- Convenient
- Additional form of care available to me
- Greater control of how involved I am in therapy
- Non-judgement
- Opportunity to help self
- Distraction from depression
- Diagnosis/problem recognition
• Information/techniques/advice
• Effective
• Writing messages to therapists helps sort out thoughts
• None

What do you consider to be the disadvantages of Internet-delivered cognitive behaviour therapy?

[Tick each box you think applies]

• Impersonal,
• Isolation
• Talking helps
• Takes commitment to complete
• Less monitoring
• Less opportunity to clarify concerns
• Less confidence in approach
• Could feel worse
• Possible misinformation
• Too little information or general information
• Too standardized
• Cynicism
• Boring
• Dislike reading
• Difficulty communicating thoughts over email or phone
• Confidentiality concerns
• Could experience computer issues
Thanks for participating and completing the survey. With this information, our intent is to analyze the general perceptions of Internet-delivered cognitive behaviour therapy, whether certain demographics or clinical characteristics predict perceptions of Internet-delivered cognitive behaviour therapy, and whether participants who learn about Internet-delivered cognitive behaviour therapy from a story have different attitudes than those who learn about ICBT from a poster.

We will use the information to help us better understand and address any concerns about Internet-delivered cognitive behaviour therapy and to improve how we inform first responders and Public Safety Personnel about ICBT.

At this point, if you would like to visit the PSPNET website to learn more about how to access ICBT, please click the following link:

Link to www.pspnet.ca

Would you like to visit www.pspnet.ca to complete the online screening for Internet-delivered cognitive behaviour therapy at this time?
APPENDIX C

Research Ethics Board
Certificate of Approval

**Principal Investigator**
Angela Sison

**Department**
Department of Psychology

**REB#**
2019-178

**Supervisors:** Dr. Heather Hadjistavropoulos & Dr. Jody Burnett

**Title**
Perceptions of internet-delivered cognitive behaviour therapy among first responders and public safety personnel

**Approved On**
December 4, 2019

**Renewal Date**
December 4, 2020

**Approval Of**
- Application for Behavioural Research Ethics Review
- Invitation Letter
- Consent Form
- Contact List
- PSPNET Testimonial
- Questionnaire

**Full Board Meeting** □
**Delegated Review** ☑

The University of Regina Research Ethics Board has reviewed the above-named research project. The proposal was found to be acceptable on ethical grounds. The principal investigator has the responsibility for any other administrative or regulatory approvals that may pertain to this research project, and for ensuring that the authorized research is carried out according to the conditions outlined in the original protocol submitted for ethics review. This Certificate of Approval is valid for the above time period provided there is no change in experimental protocol, or related documents.

Any significant changes to your proposed method, procedures or related documents should be reported to the Chair for Research Ethics Board consideration in advance of its implementation.

**Ongoing Review Requirements**
In order to receive annual renewal, a status report must be submitted to the REB Chair for Board consideration within one month of the current expiry date each year the study remains open, and upon study completion. Please refer to the following website for the renewal and closure forms:
https://www.uregina.ca/research/for-faculty-staff/ethics-compliance/human/ethicsforms.html

Chris Street PhD
REB Chair
University of Regina

---

Please send all correspondence to:
Research Office
University of Regina
Research and Innovation Centre 109
Regina, SK S4S 0A2
Telephone: (306) 585-4775
Fax: (306) 585-4893
research.ethics@uregina.ca
PSPNET is excited to announce the development of an Internet-delivered Cognitive Behaviour Therapy (ICBT) program specifically tailored for PSP including first responders, called the PSP Wellbeing Course.

What is the ICBT PSP Wellbeing Course?

- Evidenced-based treatment delivered over the Internet that provides the same content as face-to-face cognitive behaviour therapy and has been found effective for treating symptoms of depression, anxiety and posttraumatic stress.
- Consists of 5 core lessons delivered through a secure website that clients typically complete over 8 weeks in a location and at a time that is convenient for them.
- Involves learning strategies to identify and manage feelings, thoughts, behaviours and physical sensations that can contribute to distress and difficulties with functioning.
- Includes online text and images that have been tailored to PSP. The information in each lesson can be downloaded and accessed at a later date.
- Clients receive suggested activities to facilitate learning after each lesson.
- Additional resources are available (e.g., for sleep, relationship problems).
- Clients receive automated emails as reminders to complete the program.
- Clients are assigned a designated trained therapist who is available by secure email or phone, one to two times per week as needed.
- Clients complete questionnaires during and after treatment to monitor improvements and evaluate outcomes.

Who is PSPNET?

- The Public Safety Personnel Internet-delivered Cognitive Behaviour Therapy (PSPNET) team is located at the University of Regina and part of the Canadian Institute of Public Safety Research and Treatment (CIPSRT) funded by Public Safety Canada.
- The PSPNET team is led by Dr. Heather Hadjistavropoulos, one of Canada’s foremost leaders on ICBT.
- The team consists of both clinicians and researchers who have received training in ICBT for PSP.

Who can access PSPNET services?

- PSP including first responders
- Live in Saskatchewan
- Are 18 years of age or older
- Have access to a computer with Internet
- Are experiencing symptoms of anxiety, depression or post-traumatic stress injuries
- Are not seeking emergency services
- Are willing to periodically answer questionnaires (during treatment and at 8, 16, 36, and 52 weeks) to help the PSPNET team evaluate the PSP Wellbeing Course

How can I learn more?

- Visit www.pspnet.ca and complete the online screening
- Call 306-357-7233

This study has been approved by the University of Regina Research Ethics Board.

Funded by Public Safety Canada.
About Me ...

Hi, my name is Sam. I recently completed an Internet-delivered cognitive behaviour therapy program. I heard about the program through work. I wasn’t sure this program would help, but thought it wouldn’t hurt to give it a try. It seemed convenient. I could work on it from home when I had time, and it just felt like I had more control than if I went to see a face-to-face therapist. Looking back, I think it was a big step for me to enter the program. I always tried to manage things on my own, not really talking much to family and friends—about the stress of my job especially. Over the past several months, I started to notice things about myself that were not normal for me. When I got home from work, I wasn’t interested in socializing or really doing anything. I wasn’t interested in hanging out with my friends from outside of work because I felt like we had lost our connection. I found myself judging my friends and even my family when they would complain about little things. I preferred to come home, have a couple of drinks, and do my best to get my mind off of what I had seen that day. I was definitely more irritable, having trouble shutting off my thoughts at night and waking up after a few hours, and then I couldn’t get back to sleep. I felt constantly on alert. Yes, I had to be alert at work, but I couldn’t seem to come out of that mindset once work ended. It was exhausting.

My spouse noticed a change in me as well. I was snapping at her and naturally she was snapping right back. She quit asking me to do things with her. I noticed myself resenting that she didn’t understand what my day was like and expected me to walk in the door and be “happy”. At first, I thought I could just push through it, but things at home were getting progressively worse. In my line of work, I see and deal with some really messed up things - things that everyone else only reads about or sees on television. I’m not exactly sure when my attitude about people and life started to change. It was a gradual decline. I certainly remember coming into the field with enthusiasm and optimism. It wasn’t just one call that pushed me to feel this way. It was an accumulation of calls over time. I just felt burdened, bitter, and run down. I could sense this at work too—some guys I had known for a long time were becoming jaded and negative. It was really all around me. I could sense this at work too—some guys I had known for a long time were becoming jaded and negative. It was really all around me.

About the course ...

To get into the course, I first completed an online screening and then a telephone screening. There were quite a few questions during the screening process, but I got the sense that my issues were being taken seriously, and that I was being heard and understood. Upon entering the program, I was given a username and password to access the online lessons. Each lesson contained pretty easy to read information, with suggested strategies to work on between lessons. There were also stories about other people who have jobs like mine and how they used the strategies. Some of their stories were similar to mine and some were different. There were also extra resources that I found helpful, for example on problem solving and sleep.

Once I started the program, I was immediately connected with an e-therapist. I wasn’t sure how much I would use the e-therapist, but I ended up finding it really helpful to be able to write up an email to her when I had some thoughts—even if it was at 4am—it allowed me to work on things whenever I had time, knowing she would respond to messages two times each week. When I didn’t email, she still reached out by email and provided encouragement. I liked knowing the therapist was there when I had questions or needed to share my thoughts. Some weeks we exchanged emails and a few times we talked by phone especially early in the program when I was having a harder time. I worked through all the materials in about 8 weeks but stayed connected with the therapist for another 4 weeks after that just to keep working on things.
What I took away ...

This course really helped me to realize that anxiety and depression are normal experiences in life, but when they start to significantly impact your day-to-day, there are things you can and should do to manage them. I have seen and experienced a lot in my line of work—stuff that I’ve never talked about with anyone—stuff I’d rather just ignore. Over time, it really started to wear me down and impact my mood. Working through the lessons made me feel like there wasn’t anything “wrong” with me, and that I needed some time to take time to apply tools to help manage with the

Learning to break down my feelings into separate thoughts, physical sensations, and behaviour was an important first step. Breaking things down, made it a big more manageable. Learning how to be self-aware and use these tools in a practical way was tough for me. Lesson 2, talked about working through unhelpful thoughts and how to challenge them, which was difficult for me because I have always liked to push my thoughts away—I was able to work through my discomfort though, being provided tools to help me slow down my thoughts, and to learn how to challenge the negative things rolling through my mind. It especially took me a while to work on through my thoughts about needing to do more/better at work. When I have these thoughts now, I find myself asking “Is this feasible?” “Is this really in my control?” or “what would be my colleagues actually say?”

It was also really helpful to think more about how my mind and body are connected. Terms like “under-arousal” and “over-arousal” both rung true for me. Knowing how I could manage both of these through different techniques was helpful. For example, I read stories from past clients who talked about how symptoms of under-arousal led them to withdraw from their social life. I knew I hadn’t seen my friends in months, but I didn’t really connect that to my depression before the course. I decided to use the activity scheduling tool from this course to help me be work on adding in activities to my life, especially to maintain connection with my friends and family. It may seem odd, but in addition to working on managing “under-arousal” I also at other times had to work on managing “over-arousal” like when coming off a crazy shift. Controlled breathing and grounding were two really simple but beneficial techniques I worked on and found so helpful that I wish I had known about them sooner.

Learning about unhelpful behaviours, I realized how my angry outbursts at my spouse were actually an avoidance behaviour. For example, when I snapped at her, she backed off and I would be left alone to zone out from my emotions. An activity in the course involving making a ‘graded exposure ladder’, intended to help me develop a plan to gradually introduce activities I had been avoiding to control my emotions. I started by writing down the things I was avoiding: various people, places, activities. One thing I was definitely avoiding was talking about my feelings. I know I can’t talk to my spouse about everything I see on the job. But I also know I could be more open with her about what is going on and letting her know how she can support me without sharing all of the details. It took me a long time to make it to the top of the exposure ladder, and some days I still avoid things. At the same time, being aware of what I’m avoiding and realizing how that avoidance contributes to longer-term problems is critical.

Where I am now ...

By the end of the course, I was feeling way better than before. Although were still a lot of days when I felt “off” or when my symptoms flared up, I felt better able to manage these hard days. The final lesson in the course talked about how I shouldn’t expect my symptoms to completely go away, that they can go up and down depending on what is happening in my life. That lesson also talked about how common relapses are and the typical causes of them, such as being run-down or tired, or even when you stop using the skills you learned. It gave me the heads up that the conditions of my job could easily expose me to relapse. However, having the awareness and tools to manage and address my thoughts and actions gives me hope - hope that I can deal with all life throws at me in a new and healthier way.

I really encourage everyone who experiences stress, anxiety, depression, irritability, post-traumatic stress to consider taking it. The only cost for taking the course is a few hours of your time each week, so if you’re unsure about taking it (like I was), give it a try – what’s there to lose?
# APPENDIX F

Public Safety Personnel Contact List

<table>
<thead>
<tr>
<th>Sector</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire</td>
<td>IAFF Regina (Union)</td>
</tr>
<tr>
<td></td>
<td>IAFF Prince Albert</td>
</tr>
<tr>
<td></td>
<td>CISM Team Regina Fire</td>
</tr>
<tr>
<td></td>
<td>Regina Fire Chief</td>
</tr>
<tr>
<td></td>
<td>Volunteer Fire (individuals)</td>
</tr>
<tr>
<td>Police</td>
<td>Moose Jaw Police Service</td>
</tr>
<tr>
<td></td>
<td>Saskatoon Police Service</td>
</tr>
<tr>
<td></td>
<td>Regina Police Service</td>
</tr>
<tr>
<td></td>
<td>Saskatchewan Federation of Police</td>
</tr>
<tr>
<td></td>
<td>Saskatchewan Police College</td>
</tr>
<tr>
<td></td>
<td>RCMP</td>
</tr>
<tr>
<td></td>
<td>Saskatchewan Association of Chiefs of Police</td>
</tr>
<tr>
<td></td>
<td>Estevan Police Service</td>
</tr>
<tr>
<td></td>
<td>File Hills FN Police Service</td>
</tr>
<tr>
<td>EMS</td>
<td>Saskatchewan EMS Services</td>
</tr>
<tr>
<td></td>
<td>Medavie Health Services West</td>
</tr>
<tr>
<td></td>
<td>Saskatchewan College of Paramedics</td>
</tr>
<tr>
<td></td>
<td>Volunteer EMS (individuals)</td>
</tr>
<tr>
<td>Corrections</td>
<td>Ministry of Corrections and Policing – Policing and Community Safety Services</td>
</tr>
<tr>
<td></td>
<td>Community Corrections</td>
</tr>
<tr>
<td></td>
<td>ADM Corporate Services</td>
</tr>
<tr>
<td>CBSA</td>
<td>CBSA western Canada</td>
</tr>
<tr>
<td>Dispatch/Communications</td>
<td>RCMP</td>
</tr>
<tr>
<td></td>
<td>Regina Police Service</td>
</tr>
<tr>
<td></td>
<td>Saskatoon Police Service</td>
</tr>
<tr>
<td></td>
<td>Moose Jaw Police Service</td>
</tr>
<tr>
<td></td>
<td>EMS</td>
</tr>
<tr>
<td></td>
<td>Volunteer Fire/EMS</td>
</tr>
<tr>
<td>----------------</td>
<td>--------------------</td>
</tr>
<tr>
<td><strong>Coroner</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Saskatchewan Coroner's Office</td>
</tr>
</tbody>
</table>