Stigma and Stereotyping of Veterans who May Benefit from a Psychiatric Service Dog: A Test of the Stereotype Content Model and Weiner's Attribution-Affect-Action Model

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ABSTRACT

Among veterans with posttraumatic stress disorder (PTSD) and comorbid substance use disorder (SUD), stigma has been identified as a frequent barrier to help-seeking and treatment. Stigma can also lead to the activation of stereotypes and discrimination. Increasingly, veterans are relying on psychiatric service dogs (PSDs) to aid in managing their PTSD and comorbid SUD. Consumer demand currently exceeds the availability of PSDs in Canada, and very few individuals can afford a PSD independently. This study examined the stigma and stereotyping of Canadian veterans needing a PSD using two theoretical models of stereotyping and stigma. Hypotheses were mostly supported. The veteran with PTSD was positively stereotyped by participants and was considered part of the normative social "in-group." Participants were more willing to support these individuals in their acquisition of a PSD. In contrast, a veteran with SUD was more negatively stereotyped and stigmatized. Societal perceptions of veterans with PTSD may be more positive than previous research findings. However, an accompanying SUD may counteract this and result in stigma, negative stereotyping, and decreased civilian support for veterans accessing PSDs. Future research on these issues is warranted, including the development and testing of interventions aimed at addressing beliefs about SUD and increasing empathy and compassion for individuals with SUD.

Operational stress injuries (OSIs) among veterans are a major public health concern in Canada (Veterans Affairs Canada [VAC], 2006). OSIs are considered "any persistent psychological difficulty resulting from operational duties performed while serving in the Canadian Forces (CF) or as a member of the Royal Canadian Mounted Police" (RCMP; VAC, 2006, p. 1). Posttraumatic stress disorder (PTSD) is a common OSI among military or policing veterans and is recognized as a "psychological response to the experience of intense traumatic events, particularly ones that are life-threatening" (American Psychiatric Association [APA], 2013; VAC, 2017a). PTSD symptoms fall into one of four categories: (a) intrusive thoughts (e.g., flashbacks and nightmares); (b) avoiding reminders/numbing (e.g., avoiding events or places); (c) negative thoughts and feelings (e.g., pessimism, detachment, or flat affect); and (d) arousal/reactivity (e.g., hypervigilance and sleep problems; APA, 2013). Development of PTSD may be the result of exposure to potentially psychologically traumatic events (PPTE), such as direct combat duties or being in dangerous war zones, or can occur due to PPTE exposures prior to or after service (e.g., violent crime victimization, surviving an accident, etc.) and may be compounded with service scenarios (Carleton et al., 2020). An estimated 15,000 Canadian war service veterans and members of peacekeeping forces have been diagnosed with PTSD (Rebeira et al., 2017).

Veterans with PTSD are at an increased risk for developing a wide range of physical and mental health issues, including anxiety, depression, relational problems, employment difficulties, and homelessness (Whitworth et al., 2019; Yarborough et al., 2017), as well as substance use disorder (Banducci et al., 2016; Bowe & Rosenhack, 2015). Substance use disorder (SUD) is considered "a medical illness caused by repeated misuse of a substance or substances, characterized by clinically significant impairments in health, social function, and impaired control over substance use and are diagnosed through assessing cognitive, behavioral, and psychological symptoms" [Substance Abuse and Mental Health Services Administration (SAMHSA), 2020, p. 4]. Immediate and long-term health and social consequences of SUD can include chronic illness (e.g., heart disease, stroke), decreased workplace productivity, inability to manage commitments, relationship problems, financial problems, and mental health problems (McLellan, 2017). From a public health perspective, SUD can lead to healthcare costs, lost workplace productivity, and criminal justice costs, estimated to be in the millions [Canadian Centre on Substance Use and Addiction (CCSA), 2020].

More than 50% of male and 25% of female Canadian veterans reportedly use alcohol and substances to cope with PTSD symptoms (VAC, 2017a). The comorbidity of PTSD with SUD among veterans has been explained by high rates of prescribed medication use/misuse (e.g., opioids) and use of other licit (e.g., alcohol) and illicit (e.g., cocaine) substances as a means of coping with PTSD symptoms (Butler & Taylor, 2015; Harnish et al., 2016). For example, veterans with PTSD have a high likelihood of being prescribed opioids and experiencing negative health outcomes from opioid use (Bohnert et al., 2014; Macey et al., 2011; Seal et al., 2012). Increased cannabis use/misuse has also been reported among veterans to cope with their PTSD symptoms (Bonn-Miller et al., 2012; Browne et al., 2021). There are also reports of alcohol use being embedded within Canadian military culture, which might also explain veterans' problematic substance use following service (Fetzner et al., 2013; Neighbours et al., 2014; Richer et al., 2016). Results of the 2016 Life After Service Survey indicated that 27% of veterans identified as heavy drinkers (i.e., five or more drinks per occasion; VAC, 2017b). Despite the high rates of PTSD and comorbid substance use disorder, veterans are hesitant to access mental health or addiction services (Gibson et al., 2021; Hoge et al., 2014). Among veterans with PTSD and comorbid SUD, stigma has been identified as a frequent barrier to help-seeking and treatment (Dell et al., 2017; Gibson et al., 2021; Hoge et al., 2014).

Stigma refers to a discrediting, norm-violating, and generally undesirable attribute an individual may possess (Goffman, 1963). Stigmatizing attributes may be visible/invisible, controllable/uncontrollable, and linked to appearance (e.g., physical deformity), behavior (e.g., child abuser), or group membership (e.g., LGBTQ community; Goffman, 1963). People or groups who possess a stigmatizing attribute may experience social disapproval, negative evaluations, exclusion, avoidance, prejudice, and discrimination from those without the attribute (Goffman, 1963; Major & Eccleston, 2004; Major & O'Brien, 2005). Link and Phelan (2001) outlined the following process for how stigma can result in discrimination: (a) distinctions based on characteristics are created and labels are assigned; (b) certain characteristics are deemed undesirable based on cultural norms; (c) labeled individuals are separated from non-labeled individuals, resulting in us/them dichotomy; (d) justifications for stigmatizing labeled individuals based on their perceived "otherness" are created; and (e) existing power differentials afford more powerful groups the ability to stigmatize a devalued labeled group.

Stigma can also activate stereotypes (Major & O'Brien, 2005). Stereotypes are defined as beliefs or generalizations about the characteristics of group members (Lyons & Kashima, 2001; Stangor, 2009) and are frequently accompanied by bias, prejudicial judgments, or discrimination (Bigler & Liben, 2006; Mills et al., 2007). Belief in stereotypes about a stigmatized attribute can subsequently trigger affective/emotional and behavioral

reactions towards a person or group (Bos et al., 2013). Affective and behavioral reactions can vary based on whether an attribute is perceived as within a person's control, the severity of the attribute, the perceived dangerousness of the attribute, and the perceived norm violation (Bos et al., 2013). Attributes perceived as controllable, low in severity, dangerous, and in violation of a social norm can trigger negative affective reactions, social censure (severe disapproval), fear, avoidance, anger, lack of sympathy, social exclusion, and social sanctioning such as facing a penalty (Dijker & Koomen, 2003; Feldman & Crandall, 2007; Weiner et al., 1988). Stigma can impact individuals via discrimination (i.e., enacted stigma), the experience or anticipation of being stigmatized (i.e., perceived stigma), and through psychological distress, shame, and reduced self-worth including internalized stigma (Herek, 2009).

Increasingly, veterans are relying on psychiatric service dogs (PSDs) to aid in managing their PTSD symptoms and comorbid SUD when traditional treatment modes are insufficient (Dell et al., 2022; LaFollette et al., 2019; Whitworth et al., 2019; Williamson et al., 2021). A PSD is encapsulated by the umbrella term assistance animal, defined as,

> an animal who performs at least one identifiable task or behavior (not including any form of protection, comfort, or personal defense) to help a person with a disability to mitigate the impacts of that disability, and who is trained to a high standard of behavior and hygiene appropriate to access public spaces that are prohibited to most animals.
>
> (Howell et al., 2022, p. 6)

PSDs appear to serve as a complement to, rather than a replacement for, traditional PTSD and substance use treatment models (e.g., therapy, prescription medication; Rodriguez et al., 2020; Williamson et al., 2021; Williamson et al., 2022). In many ways PSDs seem to provide a holistic model of care and treatment by supporting veterans with their mental, physical, and social health (Williamson et al., 2022). Indeed, PSDs are specifically trained to meet the varying health needs of individuals with whom they are paired, including physical, sensory, neurological, and developmental/cognitive impairment (LaFollette et al., 2019). For example, PSDs can intervene when a veteran is experiencing a PTSD-driven flashback or nightmare by nudging or climbing onto them to guide them back to the present moment (Williamson et al., 2021). Further, PSDs can offer non-judgemental comfort, support, and companionship (Williamson et al., 2022).

Despite this being an emerging research area faced with criticisms (Herzog, 2014b; van Houtert et al., 2018), there is a growing evidence base that veterans with PTSD and comorbid substance use can experience symptom relief by working with a PSD (van Houtert et al., 2022; Williamson et al., 2021). Veterans have reported experiencing decreased PTSD symptoms such as nightmares, hyperarousal, hypervigilance, and anxiety, as well as improved sleep, quality of life, emotional health, interpersonal relationships, and increased physical activity (Husband et al., 2020; O'Haire & Rodriguez, 2018; van Houtert et al., 2022; Vincent et al., 2017; Vincent et al., 2018; Yarborough et al., 2017). Some studies have also shown that while working with a PSD, veterans can decrease their prescription medication use (Husband et al., 2020; Vincent et al., 2018), decrease their overall substance use (Dell et al., 2022), and engage in harm reduction practices related to their substance use (e.g., replace opioid prescriptions for medical cannabis to manage PTSD-related symptoms; Gibson et al., 2021; Williamson et al., 2021).

Currently, PSDs are not regulated by the Canadian public sector [Canadian Foundation for Animal-Assisted Support Services (CFAS), 2021] or standardized through Standards Council Canada (SCC; Graham et al., 2022). As such, training models and certification protocols vary across provinces/ territories and service dog organizations within Canada [Canadian Association of Professional Dog Trainers (CAPDT), 2021]. A key component of training and working with a PSD involves accessing public spaces, particularly in cases where veterans have isolated themselves because of their PTSD (Dell et al., 2022; Rodriguez et al., 2020). The presence of PSDs in public spaces can be confusing, though, particularly when they are mistaken for other types of working animals, such as therapy or emotional support dogs (i.e., companion animals who are not specifically task-trained; Graham et al., 2022). There are also cases of "fake service dogs" that are considered by many as dogs that are inadequately task-trained to meet the disability needs of their handler and appropriately engage in public spaces or cases where a person does not have a disability but has their companion dog wear a service dog vest so they are granted access to public spaces, which can tarnish the public's perception of PSDs overall (CFAS, 2021; Herzog, 2014a; Mills, 2017).

Given that PTSD and problematic substance use are "invisible illnesses," a PSD can often bring undesired attention to a veteran's mental health. Veterans have reported experiencing various iterations of stereotyping and stigma related to their mental health and partnership with a PSD, including people assuming they are not afflicted with PTSD, do not require a PSD, and therefore should not be allowed to bring their dogs into public spaces (Mills, 2017; Williamson et al., 2022). While PSDs may help decrease the isolation practices of veterans, being in public spaces with them and feeling stigmatized can ultimately exacerbate mental health symptoms (Williamson et al., 2022).

Stigma and stereotype activation can also negatively impact public support, including requests for tax increases and personal donations (Williamson & Lawson, 2021). Consumer demand currently exceeds the availability of PSDs in Canada**,** and very few individuals can afford a PSD on their own (CFAS, 2020). The cost of purchasing a fully trained PSD is estimated to be between \$10,00–\$30,000 CDN (CAPDT, 2021). The Canadian House of Commons Standing Committee on Veterans Affairs recently published a recommendation to create a PSD program for veterans and encouraged VAC to introduce a pilot project examining the impact of rigorously trained PSDs on veterans with PTSD (Committee on Veterans Affairs, 2022). In the meantime, many veterans are paying for PSDs out of pocket, training dogs on their own, relying on nonprofit programs to donate trained PSDs or training support, and requesting community donations via websites such as GoFundMe (CAPDT, 2021; CFAS, 2020). Because stigma can lead to stereotype activation and subsequent affective/emotional and behavioral reactions (e.g., discrimination) towards a person or group who possess a stigmatized attribute, examining the role of stigma and stereotyping in veterans' requests for support in acquiring a PSD to help manage their PTSD and comorbid SUD is warranted.

Disclosure of mental illness can result in individuals being negatively treated due to stereotypes of their condition (Hipes et al., 2016). Mental illness labels generally evoke stereotypes of incompetence, dangerousness, uncleanliness, worthlessness, unpredictability, weakness, and ignorance (Link et al., 1999; Phelan & Link, 2004). Mental illness labels can also lead to negative treatment in social interactions, avoidance by others, and discrimination in housing, employment, and healthcare (Hipes et al., 2014). Individuals with SUD, specifically, have been stereotyped as dangerous, unpredictable, incompetent, weak-willed, dirty/unkempt, and responsible for their condition (Corrigan & Kleinlein, 2005; Corrigan et al., 2009; Crisp et al., 2000; Room et al., 2001; Sattler et al., 2017; Schomerus et al., 2011; Zwick et al., 2020). Studies have also found that people are more likely to social distance from individuals with SUD and are more willing to discriminate against them in terms of employment, housing, and governmental policy (Barry et al., 2014; Parcesepe & Cabassa, 2013; Pescosolido et al., 1999). While veterans might possess social capital and prestige based on their cultural value and societal desire to "support the troops" (MacLean & Kleykamp, 2014), research has shown that veterans with PTSD can be perceived by civilians as low in status, dangerous, incompetent, and unstable (Hipes & Gemoets, 2018; Hipes et al., 2014; Schreger & Kimle, 2017). Another study found that the top five assumptions or labels ascribed to veterans with PTSD were depressed, distant, unstable, angry, and on

guard (Roscoe & Anderson, 2019). However, other studies have found that veterans with PTSD elicited more pity and were viewed as less in control of their mental health condition (Weiner et al., 1988; Wilson et al., 2011).

RESEARCH QUESTIONS AND HYPOTHESES

While researchers have examined the stigma and stereotyping of individuals with SUD and veterans with PTSD, an examination of the stigma and stereotyping of veterans with SUD has not yet been undertaken. Additionally, the subsequent social censure and sanctioning projected onto veterans needing a service dog to aid with their mental health have not yet been examined. The purpose of the current line of research was to examine how Canadian veterans in need of a PSD are perceived by the Canadian public/civilians by exploring the stigmatization and stereotyping surrounding these individuals as well as the subsequent social censure and sanctioning projected on them.

The overarching research questions are: (a) What are the dominant societal perceptions of different categories of Canadian veterans needing a PSD? (b) What are the affective reactions elicited by each category? (c) What are the potential social sanctions placed on each category? To address these questions, the attributions associated with various groups of veterans in need of a PSD, as well as affective reactions to the groups, were examined. Further, (d) it was queried whether people would offer different modes of support to aid veterans in accessing a PSD to assist them with their mental health? The Stereotype Content Model (SCM; Fiske et al., 2002) and Weiner's Attribution-Affect-Action (AAA) model of helping behavior (Schmidt & Weiner, 1988; Weiner, 1980) were adopted as theoretical frameworks to guide this project and address the dearth of atheoretical research on this topic.

The SCM posits that there are both positive and negative stereotypes (Fiske et al., 2002; Fiske, 2018). Within the SCM, groups are distinguished by the amount of competence and warmth they exude, resulting in four distinct stereotype categories (see Figure 1 below): admiration (high competence, high warmth); paternalistic (low competence, high warmth); contemptuous (low competence, low warmth); and envious (high competence, high warmth) (Fiske et al., 2002; Fiske, 2018). Competence, or the ability to be successful at tasks, and warmth, or the ability to comfort and support others, are often associated with higher-status groups and denied to lower-status ones (Cuddy et al., 2009; Fiske et al., 2002). Each SCM category elicits accompanying emotional reactions (Fiske et al., 2002). Specifically, groups

assigned to the admiration stereotype category are considered in-groups, elicit feelings of pride and admiration, are seen as deserving of help, protection, and facilitation, and are seen as responsible for their positive outcomes (Fiske, 2012; Weiner, 1985). Groups in the paternalistic category tend to elicit pity, are seen as in need of help and protection, but are often neglected and demeaned, and are viewed as not responsible for their unfortunate situations (Cuddy et al., 2004; Fiske, 2012; Weiner, 1985; Weiner et al., 1988). Groups allotted to the contemptuous category tend to generate disgust, anger, and resentment, are viewed as cold, incapable, untrustworthy, and unfriendly, are often recipients of attacks, harm, and neglect, and are considered responsible for their personal choices (Cuddy et

al., 2004; Fiske, 2012; Weiner, 1985). Finally, groups in the envious category can evoke envy, are viewed as worthy of respect and in control of their social standing, but are not well-liked and considered threatening, which can trigger hostility and resentment from others (Cuddy et al., 2004; Fiske, 2012; Fiske et al., 2002).

Weiner's AAA model (Schmidt & Weiner, 1988; Weiner, 1980) proposes that when someone is "in need" we consciously or unconsciously make a causal assumption (attribution) about their situation, which elicits an emotional response for us regarding that person (affect) as well as our subsequent response (action) to them (see Figure 2 below). When we believe a person is in need due to factors outside of their control, we sympathize with them

	Competence	
Warmth	Low	High
High	**Quadrant 2** **Paternalistic prejudice** low status, not competitive pity, sympathy e.g., elderly and disabled people, housewives	**Quadrant 1** **Admiration** high status, not competitive pride, admiration e.g., in-group, close allies
Low	**Quadrant 3** **Contemptuous prejudice** low status, competitive contempt, disgust, anger, resentment e.g., welfare recipients, poor people	**Quadrant 4** **Envious prejudice** high status, competitive envy, jealousy e.g., rich people, feminists

Figure 1 Stereotype Content Model (SCM).

Note: Figure 1 recreated by the authors from Fiske and colleagues (2002).
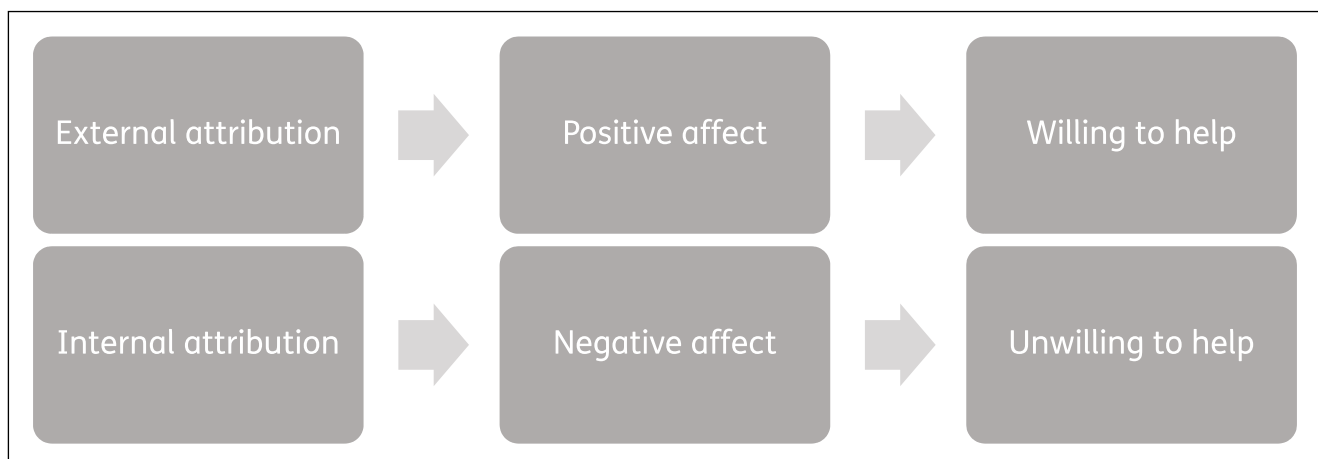
Figure 2 A Representation of Weiner's Attribution-Affect-Action Model.

and want to help. In contrast, when we believe a person's situation is under their control, we feel anger or contempt towards them and are less likely to offer help (Schmidt & Weiner, 1988; Weiner, 1980; Weiner et al., 1988). Neither the SCM nor the AAA model has been applied to the domain of veterans in need of a PSD. However, the SCM has been supported across various social and health issues (e.g., infertility; Williamson, 2019), and the AAA model has been supported within the domain of mental health stigma (Corrigan & Kleinlein, 2005).

Hypotheses based on the SCM were posed:

- H_1: the individuals described in each vignette were expected to vary in terms of participant ratings of competence and warmth. These ratings will result in individuals falling into a distinct SCM quadrant.
- H_2: Each quadrant should elicit distinct affective reactions.
  - H_{2a}: Quadrant 1 will elicit more admiration compared to the other quadrants;
  - H_{2b}: Quadrant 2 will elicit more pity/sympathy compared to the other quadrants;
  - H_{2c}: Quadrant 3 will elicit more contempt compared to the other quadrants; and
  - H_{2d}: Quadrant 4 will elicit more envy compared to the other quadrants.

Hypotheses based on the AAA model are as follows:

- H_3: attributions of responsibility will be negatively correlated with the elicitation of sympathy, and both ratings of responsibility and sympathy will be positively correlated with support/helping behavior.
- H_4: the SCM quadrants will receive differential ratings of support/helping behavior.
  - H_{4a}: Quadrants 3 and 4 will receive lower ratings of support/helping behavior relative to the other quadrants.
  - H_{4b}: Quadrants 1 and 2 will receive higher ratings of support/helping behavior relative to the other quadrants.

METHODS

PROCEDURE
Approval for this study was acquired by the authors' institutional research ethics board (Beh-2898). Participants were recruited via a Canadian-based third-party research vendor and platform that offers research participant recruitment products and management (Ekos/Probit). We requested that Ekos/Probit obtain a random, stratified sample by province/territory of English and French-speaking participants who were 18 years or older. French responses were translated into English by a third-party translator, and linguistic validation was achieved via reverse translation using an online neural translation service (www.deepl.com). Ekos/Probit emailed all subscribed members that advertised the study. Participation in this study was voluntary and participants received no remuneration.

After reading the consent form and providing consent, participants were randomly assigned to read one of four vignettes describing a veteran differentiated by the underlying need for a PSD (Appendix A). After reading their assigned vignette, participants completed an online questionnaire hosted by a Canadian-owned and managed company whose data is securely stored in Canada (Voxco). The questionnaire took, on average, 20 minutes to complete. Participants were directed to the debriefing form upon completing the questionnaire to explain the study rationale.

PARTICIPANTS
A total of 485 individuals (n = 212 men, n = 253 women) completed the online questionnaire and were included in the present analyses (n = 412 English version, n = 73 French version). The average age of participants was 49.90 (SD = 16.33), with a range of 19 to 86 years. Most participants were born in Canada (n = 423; 87.2%), identified as Canadian (n = 462; 95.3%), and identified as White or European (n = 405; 83.5%). Participants were primarily located in Ontario (n = 195; 40.2%), Quebec (n = 101; 20.8%), British Columbia (n = 69; 14.2%), and Alberta (n = 48; 9.9%). Regarding veteran and military identification, 26 participants identified as a veteran, seven identified as a member of the Canadian Armed Forces, and 12 identified as First Responders. Most participants had no personal experience with PTSD (n = 401; 83.4%), SUD (n = 455; 94.6%), or PML (n = 388; 80.7%).

With respect to experiences with dogs and other animals, most of the sample reported growing up with pets (n = 379; 78.1%) and currently having pets (n = 277; 57.1%), specifically dogs or cats. Forty (8.2%) participants reported working professionally with dogs, and 26 (5.4%) reported working professionally with other animals. A sizeable proportion of participants reported being bitten by a dog (n = 173; 35.7%), with fewer reporting having allergies to dogs (n = 92; 19.0%) and being fearful of dogs (n = 63; 13.0%). Very few participants had ever worked with their own service dog (n = 8; 1.7%) and less than a third of the sample personally knew someone working with a service dog (n = 140; 28.9%), but most would consider working with their own service dog if they ever needed one (n = 360; 74.5%).

MEASURES

Vignettes were developed using best practice recommendations for vignette design (Aguinis & Bradley, 2014), and questionnaire items were developed based on the SCM and AAA models. The vignettes and questionnaire were pilot tested by a sample of veterans and researchers advising the overall research project.

Vignettes

Each vignette described an individual named Alex who required a PSD. Two of the vignettes described a Canadian Armed Forces veteran who required a PSD to aid with either their PTSD or SUD, which were the primary focus of the current study. To account for general stigma and stereotyping related to veterans needing a PSD, the third vignette described a Canadian Armed Forces veteran with a physical mobility limitation (PML). To account for the potential stigma and stereotyping of veterans, one of the four vignettes described an emergency medical technician (EMT) with PTSD. Alex's pronouns were kept ambiguous to measure sex/gender stereotypes related to veterans and EMTs. Participants were asked to report on Alex's presumed gender (i.e., man, woman, or neither). A manipulation check was also performed to ensure participants read the vignette and understood the reason Alex required a PSD. Specifically, participants were asked three multiple-choice response questions: How many years did Alex serve in the Canadian Armed Forces/as an EMT? How long has Alex been retired from the Canadian Armed Forces/as an EMT? What is the reason Alex is considering acquiring a PSD? Participants who did not correctly identify why Alex required a PSD were removed from subsequent analyses ($n = 9$).

Attribution Items

Using a 5-point scale (1 = not at all to 5 = extremely), participants rated Alex in terms of how confident, competent, capable, efficient, intelligent, skillful, sincere, warm, well-intentioned, trustworthy, good-natured, and friendly they perceived them to be. Composites were created for both competence (confident + competent + capable + efficient + intelligent + skillful /6) and warmth (sincere + warm + well-intentioned + trustworthy + good-natured + friendly /6). Cronbach's alpha for the competence composite was $\alpha = .86$ and $\alpha = .90$ for warmth, both of which are considered good (DeVellis, 2003).

Using a five-point scale (1 = not at all to 5 = extremely), participants rated the extent to which they thought Alex was:

1. Responsible for their PTSD, SUD, or PML
2. To blame for their PTSD, SUD, or PML
3. At fault for their PTSD, SUD, or PML, and
4. Personally accountable for their PTSD, SUD, or PLM.

Cronbach's alpha for the responsibility composite for each vignette condition was $\alpha = .78$ (PTSD), $\alpha = .88$ (SUD), and $\alpha = .85$ (PML).

Affective Reaction Items

On a scale of 1 (not at all) to 5 (extremely), participants rated the extent to which Alex made them feel proud, inspired, fond, admiring, respectful, accepting, angry, irritated, uneasy, disgusted, frustrated, hateful, envious, jealous, resentful, discontented, begrudging, anxious, pity, sympathy, compassionate, charitable, supportive, and kindness. Composites were created for admiration (proud + inspired + fond + admiring + respectful + accepting/6), contempt (angry + irritated + uneasy + disgusted + frustrated + hateful/6), envy (envious + jealous + resentful + discontented + begrudging + anxious/6), and pity/sympathy (pity + sympathy + compassionate + charitable + supportive + kindness/6). Cronbach's alpha for each composite variable is as follows: $\alpha = .92$ for admiration, $\alpha = .93$ for contempt, $\alpha = .91$ for envy, and $\alpha = .85$ for pity/sympathy.

Action/Support Items and Composites

Participants were asked to indicate the extent to which they agreed Alex should have access to a PSD (1 = strongly disagree to 5 = strongly agree); how deserving Alex was of receiving a PSD (1 = very undeserving to 5 = very deserving); the extent to which they agreed that the cost of Alex's PSD should be covered under Canada's universal healthcare net (1 = strongly disagree to 5 = strongly agree); and, how supportive they would be if part of their current yearly taxes were allocated to ensure the cost of a PSD for Alex could be covered under Canada's universal healthcare net (five-point scale, 1 = very unsupportive to 5 = very supportive). A "general support" composite variable was created with these items ($\alpha = 0.88$).

Participants were also asked to indicate how supportive they would be of an increase to their yearly taxes to ensure the cost of a PSD for Alex could be covered under Canada's universal healthcare net (5-point scale, 1 = very unsupportive to 5 = very supportive); how supportive they would be of an increase to their yearly taxes to provide additional funding to VAC to cover the costs of a PSD for a veteran (5-point scale, 1 = very unsupportive to 5 = very supportive); how willing they would be to donate money to Alex if they were to personally raise money through online means (e.g., GoFundMe) to acquire a PSD (5-point scale, 1 = very unwilling to 5 = very willing); how willing they would be to volunteer time to a nonprofit PSD organization to help with their daily operations (5-point scale, 1 = very unwilling to 5 = very willing); and, how willing they would be to donate money to a non-profit PSD organization in order for a veteran to receive a trained dog at no cost to them

(five-point scale, 1 = very unwilling to 5 = very willing). A "charitable support" composite variable was created with these items ($\alpha = 0.72$).

Finally, participants were asked the extent to which they agreed private Canadian insurance companies should fully cover the cost of a PSD (5-point scale, 1 = strongly disagree to 5 = strongly agree) and the extent to which they agreed on places of employment should offer extended medical coverage to employees for them to acquire a PSD (5-point scale, 1 = strongly disagree to 5 = strongly agree). These two items were combined to create a "corporate support" composite ($r = 0.67$).

RESULTS

Participant responses did not differ based on demographics across vignettes (e.g., age, gender, and province). Most participants presumed Alex was a man ($n = 287$; 59.2%) or neither a man nor woman ($n = 133$; 27.4%), with relatively fewer assuming Alex was a woman ($n = 12$; 2.5%), nonbinary, transgender, genderqueer, or gender fluid ($n = 16$; 3.3%).

H$_1$: DETERMINING SCM QUADRANT ALLOCATION

Competence and warmth ratings for the veterans and EMTs described in the vignettes were averaged across participants. The mean for competence and warmth for the veterans and EMTs exceeded the scale midpoint, but

the mean for competence was below the midpoint only for the veteran with SUD.

Grouping Based on a Median Split

After calculating the means for competence and warmth, median splits were calculated. The median value for each variable was 3.00, which was then used to create the SCM quadrant boundaries. Using the competence and warmth means, the veterans and EMTs were then arrayed on a two-dimensional Competence × Warmth space (see Figure 3 below). The veteran with SUD (V+SUD) was allocated to Quadrant 2 (paternalistic) based on their competence and warmth means. Based on their competence and warmth mean values, the other veterans and EMTs (V+PTSD, V+PML, EMT+PTSD) were all allocated to Quadrant 1 (admiration, in-group). No groups were allocated to Quadrant 3 (contemptuous) or Quadrant 4 (envious).

Confirming the Separation of the Groups

Statistical confirmation of the separation of the veterans and EMT into the SCM quadrants was achieved using independent samples t-tests with competence and warmth as the dependent variables. Results suggested a significant difference between the quadrants for both competence and warmth, whereby Quadrant 1 (admiration) was rated statistically higher in competence compared to Quadrant 2 (paternalistic), $t(459) = 6.86$, $p < 0.001$, $d = 0.72$, and Quadrant 2 was rated statistically lower in warmth compared to Quadrant 1, $t(467) = 6.21$, $p < 0.001$, $d = 0.66$
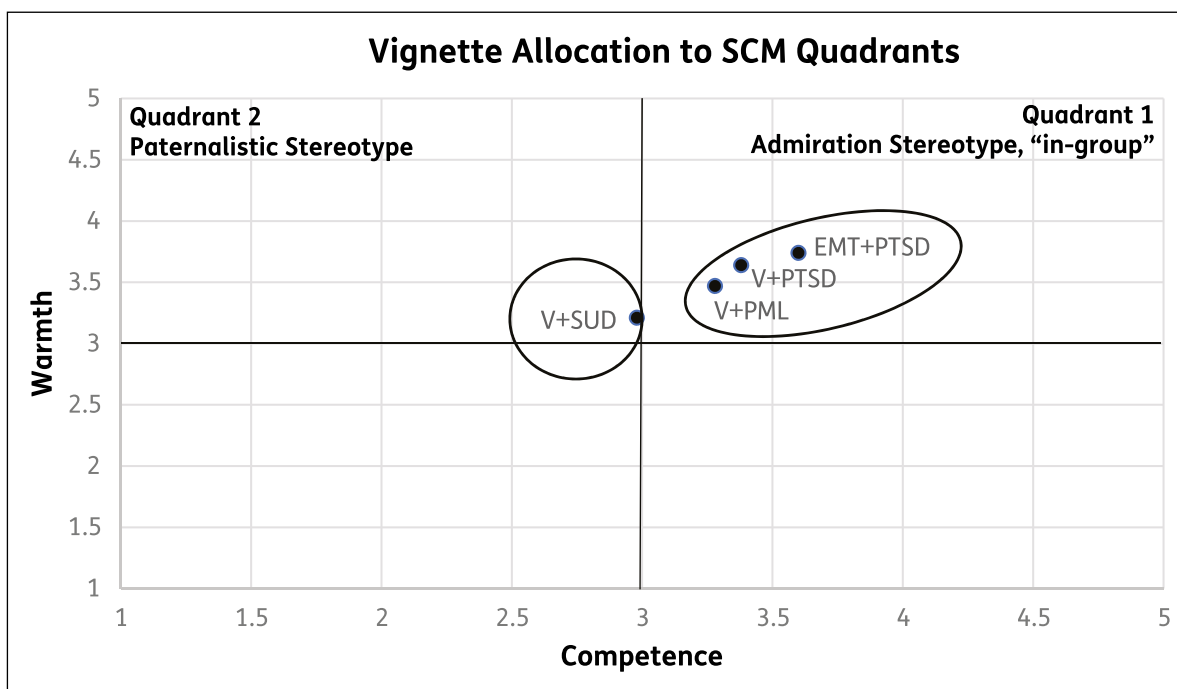
Figure 3 Two-dimensional Depiction of Mean Ratings for Warmth and Competence for the Veterans and EMTs Separated by Median Splits of the Variables.

(means in Table 1 above). These results supported the use of a median split for differentiating the veterans and EMTs into the SCM quadrants, supporting H_1.

H_2: ELICITATION OF AFFECTIVE REACTIONS

According to the SCM, each quadrant is expected to elicit distinct affective reactions. To test this assumption, the affective reaction means were calculated for each quadrant (see Table 2 below), and independent samples *t*-tests were calculated to statistically compare the means. The quadrants significantly differed in participant ratings of admiration, contempt, and envy, whereby Quadrant 1 was rated significantly higher on admiration compared to Quadrant 2, $t(465) = 5.29$, $p < .001$, $d = 0.56$, while Quadrant 2 was rated significantly higher on contempt, $t(466) = -4.05$, $p < .001$, $d = 0.42$, and envy, $t(463) = -2.25$, $p < .05$, $d = 0.22$. There was no significant difference between the quadrants on ratings of pity/sympathy, $t(462) = 0.16$, $p = ns$. As no groups were allocated to Quadrants 3 and 4, effective reaction-related hypotheses were not tested for them. As such, H_2 was only partially supported.

H_3: TESTING WEINER'S MODEL

Aligned with the AAA model and H_3, ratings of responsibility were negatively correlated with sympathy, positively correlated with elicited contempt, and negatively correlated with all the support/action variables (see Table 3 below).

Attributions of Responsibility

Mean ratings for the "responsible for mental or physical health issue" variable was below the scale midpoint for the veterans, EMTs, and quadrants (see Table 4 below). There was a significant effect of vignette on the mean ratings for responsibility, $F(3,475) = 85.36$, $p < 0.001$, $f = 0.74$, with post hoc analysis revealing that the veteran with SUD was perceived as statistically more responsible for their health issues relative to the other individuals in need of a SD ($p < 0.05$). An independent t-test confirmed Quadrant 2 was rated significantly more responsible than Quadrant 1, $t(474) = -15.87$, $p < 0.001$, $d = 1.48$.

Affective Reactions

Affective reaction means for the vignettes and quadrants are presented in Table 3 (above). With respect to contempt, a significant one-way ANOVA, $F(3,467) = 5.68$, $p = 0.001$, $f = 0.19$, and subsequent post hoc analyses indicated that the Veteran with SUD elicited the most contempt ($p < 0.05$). The contempt ratings for the other three vignettes did not significantly differ from one another. An independent samples *t*-test comparing the quadrants showed a statistical difference for contempt, $t(474) = -15.87$, $p <$

	COMPETENCE	WARMTH
Veteran with PTSD (*n* = 129)	3.38 (0.59)	3.64 (0.62)
Veteran with SUD (*n* = 113)	2.98 (0.64)	3.21 (0.65)
Veteran with mobility limitation (*n* = 96)	3.28 (0.55)	3.47 (0.60)
First Responder with PTSD (*n* = 123)	3.60 (0.61)	3.74 (0.64)
Quadrant 1 (admired) (*n* = 415)	3.43 (0.60)	3.63 (0.63)
Quadrant 2 (paternalistic) (*n* = 118)	2.98 (0.64)	3.21 (0.65)

Table 1 Competence and Warmth Mean Values for the Veterans, First Responder, and Quadrant.

Note: A 5-point response scale was used (1 = *not at all* to 5 = *extremely*).

	ADMIRATION	CONTEMPT	ENVY	PITY/ SYMPATHY
Quadrant 1 (admired)	3.45 (0.93)	1.61 (0.90)	1.41 (0.68)	3.44 (0.81)
Quadrant 2 (paternalistic)	2.92 (0.96)	2.00 (0.98)	1.58 (0.82)	3.42 (0.85)

Table 2 Affective Reaction Means and Standard Deviations for Each Stereotype Quadrant.

Note: A 5-point response scale was used (1 = not at all to 5 = extremely).

	RESPONSIBILITY	SYMPATHY	CONTEMPT
Sympathy	−0.25**		
Contempt	0.26**	−0.01	
Deserve access SD	−0.50**	0.37**	−0.13**
Deserve to receive SD	−0.40**	0.40**	−0.14**
Healthcare coverage	−0.41**	0.32**	−0.18**
Support tax coverage	−0.35**	0.30**	−0.12**
Support tax increase	−0.29**	0.23**	−0.10*
Donate funds	−0.18**	0.28**	−0.05
Volunteer SD non-profit	−0.18**	0.19**	−0.08
Donate money to SD non-profit	−0.22**	0.26**	−0.03
Support insurance coverage	−0.17**	0.20**	−0.09*
Support employer coverage	−0.24**	0.23**	−0.07
Support tax increase for VAC	−0.24**	0.19**	−0.04

Table 3 Attribution-Affect-Action Correlations.

Note: ** = Correlation is significant at the 0.01 level (2-tailed); * = Significant at the 0.05 level (2-tailed).

VIGNETTE/QUADRANT	RESPONSIBILITY	CONTEMPT	SYMPATHY
Veteran + PTSD	1.38 (0.50)	1.63 (0.91)	3.51 (0.79)
Veteran + PML	1.52 (0.73)	1.66 (0.89)	3.40 (0.80)
First Responder + PTSD	1.35 (0.65)	1.56 (0.88)	3.39 (0.83)
Quadrant 1	1.41 (0.63)	1.61 (0.89)	3.44 (0.81)
Veteran + SUD/Q2	2.64 (1.00)	2.00 (0.98)	3.42 (0.85)
VIGNETTE/QUADRANT	**GENERAL SUPPORT**	**CHARITABLE SUPPORT**	**CORPORATE SUPPORT**
Veteran + PTSD	4.39 (0.67)	3.48 (0.72)	3.95 (0.85)
Veteran + PML	4.40 (0.68)	3.55 (0.71)	4.07 (0.98)
First Responder + PTSD	4.19 (0.85)	3.48 (0.78)	4.13 (0.93)
Quadrant 1	4.32 (0.74)	3.50 (0.74)	4.04 (0.92)
Veteran + SUD/Q2	3.94 (0.90)	3.32 (0.82)	3.95 (0.92)

Table 4 Means and Standard Deviations for Responsibility, Contempt, Sympathy, and Support Variables.

Note: A 5-point response scale was used for all variables; Q2 = Quadrant 2.

0.001, d = 1.48, with Quadrant 2 eliciting more contempt compared to Quadrant 1. There was no significant difference for sympathy across the vignettes, $F(3,463)$ = 0.39, p = *ns*, or Quadrants, $t(462)$ = 0.16, p = *ns*.

H$_4$: SUPPORT VARIABLES

A 4 (vignette) × 3 (support type) mixed-design ANOVA with ratings of support categories as the dependent variable (see Table 4 above for means) was conducted. There was a significant main effect of the support category, $F(2, 940)$ = 231.58, p < 0.001, f = 0.33, with participants most highly endorsing general support, followed by corporate support, and providing the least endorsement for charitable support (all at p < 0.001). A significant interaction between the vignette and support category emerged, $F(6, 940)$ = 4.43, p < 0.05, f = 0.03. Post hoc tests indicated that participants were least supportive of each category of support for the veteran with SUD/Quadrant 2 compared to Quadrant 1 with the veteran with PTSD, a veteran with PML, and the EMT with PTSD (all at p < 0.05). Overall, H$_4$ was partially supported.

DISCUSSION

This study was designed to examine the stigma and stereotyping of Canadian veterans in need of a PSD as well as the social censure and sanctioning projected on them. Research questions and hypotheses focused on determining the dominant societal perceptions of different categories of Canadian veterans needing a PSD, the affective reactions elicited by each category, and the potential social sanctions placed on each category. H$_1$ (varying competence and warmth levels) and 3 (correlations among Weiner's constructs) were fully supported, while H$_2$ (elicited affective reactions) and 4 (differential ratings of support/helping behavior) were only partially supported. Overall, the veterans with PTSD and a PML, as well as the EMTs with PTSD, were all positively stereotyped by participants, receiving high ratings of competence, warmth, admiration, and sympathy, thus rendering them part of the normative social "in-group" (Fiske, 2018; Fiske et al., 2002). Participants were more willing to support these individuals in acquiring a PSD. In contrast, the veteran with SUD was more negatively stereotyped and stigmatized. Specifically, they received low ratings of competence and admiration and relatively lower ratings of warmth, which resulted in them being allocated to the paternalistic stereotype quadrant (Fiske, 2018; Fiske et al., 2002). Participants were also more likely to endorse general and corporate support for PSD access than charitable support.

Findings that the veteran with SUD was perceived as less warm and competent relative to the other individuals and not considered a member of the "in-group" relates to past research on common stereotypes of individuals who use substances, including that they are incompetent and bad (Committee on the Science of Changing Behavioral Health Social Norms et al., 2016; Corrigan & Kleinlein, 2005; Corrigan et al., 2009; Crisp et al., 2000; Room et al., 2001; Sattler et al., 2017; Schomerus et al., 2011; Yang et al., 2017; Zwick et al., 2020). Further, participants rated the veteran with a SUD as relatively more responsible for substance use health concerns than the others, which may be due to beliefs that substance use is more of a personal or moral failing (Adams & Volkow, 2020). Indeed, PTSD and PML may be viewed as conditions that happen to a person rather than something they choose, like using

substances to cope with PTSD symptoms or pain from physical injuries. However, the mean rating of responsibility for the veteran with SUD was below the scale midpoint, and they received comparable ratings of pity/sympathy as the other conditions, which contrasts the common stereotype that they are responsible for their condition (Corrigan & Kleinlein, 2005; Corrigan et al., 2009; Crisp et al., 2000; Room et al., 2001; Sattler et al., 2017; Schomerus et al., 2011; Zwick et al., 2020). While individuals may choose to enter potentially dangerous contexts, such as serving in the military, they cannot necessarily control the situations they ultimately encounter, which may lead to the development of PTSD or SUD. This reasoning is also applicable, for example, considering the high rates of opioids and other addictive substances prescribed to veterans with PTSD and other OSIs (Seal et al., 2012).

Contrary to past literature that veterans with PTSD are stereotyped by civilians as low in status, dangerous, incompetent, and unstable (Hipes et al., 2014; Hipes & Gemoets, 2018; Schreger & Kimle, 2017) as well as experiences of the perceived stigma of PTSD among veterans (Cascalheira & Smith, 2018; Hipes & Gemoets, 2018), current findings suggest that stigma and stereotypes of PTSD have become more positive. Veterans with PTSD reportedly fear they will be perceived as dangerous, violent, crazy, troubled, and responsible for having PTSD (Kleykamp & Hipes, 2015; Mittal et al., 2013). However, in the current study, the veteran with PTSD was considered warm, competent, part of the "in-group," not responsible for their condition, and elicited pity/sympathy, which suggests that civilian perceptions do not reflect veterans' concerns about being negatively stereotyped and stigmatized. Another encouraging finding was that participants were willing to provide various modes of support to each individual in the vignettes, regardless of the reason they needed to access a PSD. Increased knowledge and awareness of PTSD, mental health, trauma, and the benefits of PSDs among the general Canadian population may have created more positive stereotypes of veterans seeking a PSD, less stigma, and less discriminatory responses. The disability community has similarly raised awareness and developed a movement towards acceptance of people with PMLs and working with PSDs (Septian & Hadi, 2021; Yaghmaian et al., 2019). These findings may comfort veterans with PTSD who fear being negatively stereotyped and stigmatized for their mental health and working with a PSD in public.

STUDY STRENGTHS AND LIMITATIONS

The current study yielded causal conclusions using a true experimental design, including random sampling and random assignment to conditions (Shadish et al., 2002). The use of an online questionnaire offered participant anonymity, limiting social desirability responses (Joinson, 1999). Generalizability was enhanced by recruiting a Canadian sample, stratified by province/territory, and offering questionnaires in both official languages (English and French) (Kukull & Ganguli, 2012). Finally, testing two theoretical models provided greater insight into the stigma and stereotyping of veterans (Collins & Stockton, 2018).

Eliciting personal views rather than assumptions about what others might think may have resulted in more positive participant responses (Heider et al., 2013). While internal validity was enhanced by constructing the study vignettes using best practices (Aguinis & Bradley, 2014; Hughes & Huby, 2004) and a manipulation check was employed to ensure participants effectively engaged with them, external validity may have been compromised with the creation of artificial scenarios (McCutcheon, 2018). Future research in this area may benefit from refining and further testing vignettes describing veterans in need of support. Despite the appropriateness of the SCM and AAA model for examining the stigma and stereotyping of veterans, these theories do not examine the qualities or personality characteristics of study participants. Further, neither model can predict actual support or helping behavior, and the current study asked participants to consider hypothetical scenarios that can lower external validity (Kukull & Ganguli, 2012). Finally, the SCM and AAA models are limited in terms of the stereotypes and stigmatized attributes they measure. As such, future research may benefit from examining a wider range of variables.

CONCLUSION

This study contributes to the literature on the stigma and stereotyping of Canadian veterans with PTSD and SUD using two unique theoretical models. There are implications from the findings for the Canadian PSD industry, VAC, and Canadian healthcare policies regarding PTSD, SUD, veterans, and PSDs. While societal perceptions of veterans with PTSD may be more positive compared to previous research findings (e.g., Hipes & Gemoets, 2018), an accompanying SUD may counteract and result in stigma, negative stereotyping, and decreased civilian support for veterans accessing PSDs. Future research on these issues is warranted, including the development and testing of interventions aimed at addressing public knowledge and behavior about veterans with invisible illnesses, beliefs about SUD, and increasing empathy and compassion for individuals with SUD. In the meantime, veterans with PTSD may find comfort in the results of this study, knowing that stereotypes regarding them have become more positive and less stigmatizing over time.

APPENDIX A: VIGNETTES

VIGNETTE 1: VETERAN + SD + PTSD

Alex is a veteran who served in the Canadian Armed Forces for 21 years. They have been honourably discharged for 15 years now. As a result of their role with the Canadian Armed Forces, Alex developed posttraumatic stress disorder (PTSD; i.e., a psychological response to the experience of intense traumatic events, particularly ones that are life threatening with symptoms ranging from negative thoughts and feelings to involuntary flashbacks and memories). Recently, Alex's family physician suggested they acquire a service dog to help manage their PTSD. Acquiring a fully trained service dog from a reputable organization can be expensive (i.e., typically more than $15,000 CDN) and there are often 2 to 3-year minimum waitlists. Alex may not be able to afford the price of a trained service dog and is not able to train a dog at home on their own.

VIGNETTE 2: VETERAN + SD + SUBSTANCE USE

Alex is a veteran who served in the Canadian Armed Forces for 21 years. They have been honourably discharged for 15 years now. As a result of their role with the Canadian Armed Forces, Alex developed substance use disorder (SUD; i.e., patterns of symptoms resulting from the use of a substance that you continue to take despite experiencing physical, mental, emotional, and social problems as a result). Recently, Alex's family physician suggested they acquire a Service Dog to help manage their SUD. Acquiring a fully trained service dog from a reputable organization can be expensive (i.e., typically more than $15,000 CDN) and there are often 2 to 3-year minimum waitlists. Alex may not be able to afford the price of a trained service dog and is not able to train a dog at home on their own.

VIGNETTE 3: VETERAN + SD + PHYSICAL MOBILITY LIMITATION

Alex is a veteran who served in the Canadian Armed Forces for 21 years. They have been honourably discharged for 15 years now. As a result of their role with the Canadian Armed Forces, Alex developed a physical mobility limitation (i.e., a disabling condition which requires use of mobility aids such as canes, crutches, wheelchairs, or artificial limbs). Recently, Alex's family physician suggested they acquire a service dog to help manage their physical mobility limitation. Acquiring a fully trained service dog from a reputable organization can be expensive (i.e., typically more than $15,000 CDN) and there are often 2 to 3-year minimum waitlists. Alex may not be able to afford the price of a trained service dog and is not able to train a dog at home on their own.

VIGNETTE 4: CIVILIAN + SD + PTSD

Alex was an Emergency Medical Technician (i.e., Ambulance Technician/Paramedic) for 21 years. They have been retired for 15 years now. As a result of their role as an Emergency Medical Technician, Alex developed posttraumatic stress disorder (PTSD; i.e., a psychological response to the experience of intense traumatic events, particularly ones that are life threatening with symptoms ranging from negative thoughts and feelings to involuntary flashbacks and memories). Recently, Alex's family physician suggested they acquire a service dog to help manage their PTSD. Acquiring a fully trained service dog from a reputable organization can be expensive (i.e., typically more than $15,000 CDN) and there are often 2 to 3-year minimum waitlists. Alex may not be able to afford the price of a trained service dog and is not able to train a dog at home on their own.

COMPETING INTERESTS

The authors have no competing interests to declare.

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REFERENCES

Adams, J. M., & **Volkow, N. D.** (2020). Ethical imperatives to overcome stigma against people with substance use disorders. *AMA Journal of Ethics: Illuminating the Art of Medicine, 22*(8), 702–708. DOI: https://doi.org/10.1001/amajethics.2020.702

Aguinis, H., & Bradley, K. J. (2014). Best practice recommendations for designing and implementing experimental vignette methodology studies. *Organizational Research Methods, 17*(4), 351–371. DOI: https://doi.org/10.1177/1094428114547952

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). DOI: https://doi.org/10.1176/appi.books.9780890425596

Banducci, A. N., Bujarski, S. J., Bonn-Miller, M. O., Patel, A., & Connolly, K. M. (2016). The impact of intolerance of emotional distress and uncertainty on veterans with co-occurring PTSD and substance use disorders. *Journal of Anxiety Disorders, 41*, 73–81. DOI: https://doi.org/10.1016/j.janxdis.2016.03.003

Barry, C. L., McGinty, E. E., Pescosolido, B. A., & Goldman, H. H. (2014). Stigma, discrimination, treatment effectiveness, and policy: Public views about drug addiction and mental illness. *Psychiatric Services, 65*(10), 1269–1272. DOI: https://doi.org/10.1176/appi.ps.201400140

Bigler, R. S., & Liben, L. S. (2006). A developmental intergroup theory of social stereotypes and prejudice. *Advances in Child Development and Behavior, 34*, 39–89. DOI: https://doi.org/10.1016/s0065-2407(06)80004-2

Bohnert, A. S., Ilgen, M. A., Trafton, J. D., Kerns, R. C., Eisenberg, A., Ganoczy, D., & Blow, F. (2014). Trends and regional variation in opioid overdose mortality among Veterans Health Administration patients, fiscal year 2001 to 2009. *Clinical Journal of Pain, 30*(7), 605–612. DOI: https://doi.org/10.1097/AJP.0000000000000011

Bonn-Miller, M. O., Harris, A. H., & Trafton, J. A. (2012). Prevalence of cannabis use disorder diagnoses among veterans in 2002, 2008, and 2009. *Psychological Services, 9*(4), 404–416. DOI: https://doi.org/10.1037/a0027622

Bos, A. E. R., Pryor, J. B., Reeder, G. D., & Stutterheim, S. E. (2013). Stigma: Advances in theory and research. *Basic and Applied Social Psychology, 35*(1), 1–9. DOI: https://doi.org/10.1080/01973533.2012.746147

Bowe, A., & Rosenheck, R. (2015). PTSD and substance use disorder among veterans: Characteristics, service utilization, and pharmacotherapy. *Journal of Dual Diagnosis, 11*(1), 22–32. DOI: https://doi.org/10.1080/15504263.2014.989653

Browne, K. C., Stohl, M., Bohnert, K. M., Saxon, A., Fink, D. S., Olfson, M., Cerda, M., Sherman, S., Gradus, J. L., Martins, S. S., & Hasin, D. S. (2022). Prevalence and correlates of cannabis use and cannabis use disorder among US veterans: Results from the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC-III). *American Journal of Psychiatry, 179*(1), 26–35. DOI: https://doi.org/10.1176/appi.ajp.2021.20081202

Butler, R., & Taylor, O. (2015). Substance abuse and posttraumatic stress disorder in war veterans. *Journal of Human Behavior in the Social Environment: Contemporary Substance Use Research, 25*(4), 344–350. DOI: https://doi.org/10.1080/10911359.2014.974426

Canadian Association of Professional Dog Trainers. (2021, March 28). *Considerations for the use and training of service dogs in Canada*: *Information for dog trainers and people with disabiliies, including their support teams and service/care providers.* https://capdt.ca/wp-content/uploads/2021/05/Draft-Report-to-CAPDT-on-Service-Dogs-March-29-2021.pdf

Canadian Centre on Substance Use and Addiction. (2020). *Canadian substance use costs and harms, 2015–2017.* https://csuch.ca/publications/CSUCH-Canadian-Substance-Use-Costs-Harms-Report-2020-en.pdf

Canadian Foundation for Animal-Assisted Support Services. (2020). *A Canadian service dog industry and marketplace study: Unleashing potential Phase 1.* https://www.cf4aass.ca/application/files/1816/7708/7255/cnd_service_dog_industry_study_nov_2020.pdf

Canadian Foundation for Animal-Assisted Support Services (CFAS). (2021). *National Standards of Canada (NSC) in the animal assisted services (AAS) sector.* https://www.cf4aass.ca/resource-two

Carleton, R. N., Afifi, T. O., Taillieu, T., Turner, S., Mason, J. E., Ricciardelli, R., McCreary, D. R., Vaughan, A. D., Anderson, G. S., Krakauer, R. L., Donnelly, E. A., Camp II, R. D., Groll, D., Cramm, H. A., MacPhee, R. S., & Donnelly, E. A. (2020). Assessing the relative impact of diverse stressors among public safety personnel. *International Journal of Environmental Research and Public Health, 17*(4), Article 1234. DOI: https://doi.org/10.3390/ijerph17041234

Cascalheira, C. J., & Smith, B. (2018). Implications of stigma as a barrier to PTSD care. *Annals of Psychiatry and Mental Health, 6*(2), Article 1131.

Collins, C. S., & Stockton, C. M. (2018). The central role of theory in qualitative research. *International Journal of Qualitative Methods, 17*, 1–10. DOI: https://doi.org/10.1177/1609406918797475

Committee on the Science of Changing Behavioral Health Social Norms, Board on Behavioral, Cognitive, and Sensory Sciences, Division of Behavioral and Social Sciences and Education, & National Academies of Sciences, Engineering, and Medicine. (2016). *Ending discrimination against people with mental and substance use disorders: The evidence for stigma change.* National Academies Press.

Committee on Veterans Affairs. (2022). *Veterans Affairs Committee recommends creating a psychiatric service dog program for veterans.* https://www.ourcommons.ca/DocumentViewer/en/44-1/ACVA/news-release/11876856

Corrigan, P. W., & Kleinlein, P. (2005). The impact of mental illness stigma. In P. W. Corrigan, (Ed.), *On the stigma of mental illness: Practical strategies for research and social change* (pp. 186–199). American Psychological Association. DOI: https://doi.org/10.1037/10887-001

Corrigan, P. W., Kuwabara, S. A., & O'Shaughnessy, J. (2009). The public stigma of mental illness and drug addiction: Findings from a stratified random sample. *The Journal of Social Work, 9*(2), 139–147. DOI: https://doi.org/10.1177/1468017308101818

Crisp, A. H., Gelder, M. G., Rix, S., Meltzer, H. I., & Rowlands, O. J. (2000). Stigmatisation of people with mental illnesses. *The British Journal of Psychiatry, 177*, 4–7. DOI: https://doi.org/10.1192/bjp.177.1.4

Cuddy, A. J. C., Fiske, S. T., & Glick, P. (2004). When professionals become mothers, warmth doesn't cute the ice. *Journal of Social Issues, 60*(4), 701–718. DOI: https://doi.org/10.1111/j.0022-4537.2004.00381.x

Cuddy, A. J. C., Fiske, S. T., Kwan, V. S. Y., Glick, P., Demoulin, S., Leyens, J., Bond, M. H., Croziet, J.-C., Ellemers, N., Sleebos, E., Htun, T. T., Kim, H.-J., Maio, G., Perry, J., Petkova, K., Todrov, V., Rodrigues-Ballon, R., Morales, E., Moya, M., Palacios, M., Smith, V., Perez, R., Vala, J., & Ziegler, R. (2009). Stereotype content model across cultures: Towards universal similarities and some differences. *British Journal of Social Psychology, 48*, 1–33. DOI: https://doi.org/10.1348/014466608X314935

Dell, C. A., Arratoon, C., Lapointe, M., & Lohnes, C. (2017). *Impact of service dogs for veterans with PTSD and substance abuse.* Canadian Vet, September/October 12.

Dell, C. A., Kosteniuk, B., & Bentley, E. (2022). Benefits and challenges of having a service dog among veterans in recovery from substance use harms. *Anthrozoos,* 1–15. DOI: https://doi.org/10.1080/08927936.2022.2074190

DeVellis, R. (2003). *Scale development: Theory and applications.* Sage.

Dijker, A. J., & Koomen, W. (2003). Extending Weiner's attribution-emotion model of stigmatization of ill persons. *Basic and Applied Social Psychology, 25*(1), 51–68. DOI: https://doi.org/10.1207/S15324834BASP2501_4

Feldman, D. B., & Crandall, C. S. (2007). Dimensions of mental illness stigma: What about mental illness causes social rejection? *Journal of Social and Clinical Psychology, 26*(2), 137–154. DOI: https://doi.org/10.1521/jscp.2007.26.2.137

Fetzner, M. G., Abrams, M. P., & Asmundson, G. J. G. (2013). Symptoms of posttraumatic stress disorder and depression in relation to alcohol-use and alcohol-related problems among Canadian forces veterans. *The Canadian Journal of Psychiatry, 58*(7), 417–425. DOI: https://doi.org/10.1177/070674371305800707

Fiske, S. T. (2012). Warmth and competence: Stereotype content issues for clinicians and researchers. *Canadian Psychology, 53*(1), 14–20. DOI: https://doi.org/10.1037/a0026054

Fiske, S. T. (2018). Stereotype content: Warmth and competence endure. *Current Directions in Psychological Science, 27*(2), 67–73. DOI: https://doi.org/10.1177/0963721417738825

Fiske, S. T., Cuddy, A. J. C., Glick, P., & Xu, J. (2002). A model of (often mixed) stereotype content: Competence and warmth, respectively follow from perceived status and competition. *Journal of Personality and Social Psychology, 82*, 878–902. DOI: https://doi.org/10.1037/0022-3514.82.6.878

Gibson, M., Williamson, L., Henwood, G., Chalmers, D., & Dell, C. A. (2021). Perceptions and use of alcohol and medical cannabis among Canadian military veterans living with PTSD. *Journal of Veterans Studies, 7*(1), 59–70. DOI: https://doi.org/10.21061/jvs.v7i1.200

Goffman, E. (1963). *Stigma: Notes on the Management of Spoiled Identity.* Englewood Cliffs, NJ: Prentice Hall.

Graham, T. M., Lucyk, K., Diep, L., & Rock, M. J. (2022). Discrimination towards people partnered with assistance dogs in Canada: Implications for policy and practice. *Society & Animals, 30*(2), 210–245. DOI: https://doi.org/10.1163/15685306-12341556

Harnish, A., Corrigan, P., Byrne, T., Pinals, D., Rodrigues, S., & Smelson, D. (2016). Substance use and mental health stigma in veterans with co-occurring disorders. *Journal of Dual Diagnosis, 12*(3–4), 238–243. DOI: https://doi.org/10.1080/15504263.2016.1245066

Heider, J. D., Scherer, C. R., & Edlund, J. E. (2013). Cultural stereotypes and personal beliefs about individuals with dwarfism. *The Journal of Social Psychology, 153*, 80–97. DOI: https://doi.org/10.1080/00224545.2012.711379

Herek, G. M. (2009). Sexual prejudice. In T. Nelson (Ed.), *Handbook of Prejudice*. Mahwah, NJ: L. Erlbaum Associates.

Herzog, H. (2014a, June). *Service animal scams: A growing problem.* Psychology Today. https://www.psychologytoday.com/ca/blog/animals-and-us/201406/service-animal-scams-growing-problem

Herzog, H. (2014b, November). *Does animal-assisted therapy really work. What clinical trials reveal about the effectiveness of four-legged therapists.* Psychology Today. www.psychologytoday.com/blog/animals-and-us/201411/does-animal-assisted-therapy-really-work

Hipes, C., & Gemoets, D. (2018). Stigmatization of war veterans with posttraumatic stress disorder (PTSD): Stereotyping and social distance findings. *Society and Mental Health, 9*(2), 243–258. DOI: https://doi.org/10.1177/2156869318801889

Hipes, C., Lucas, J., Phelan, J. C., & White, R. C. (2016). The stigma of mental illness in the labor market. *Social Science Research, 56*, 16–25. DOI: https://doi.org/10.1016/j.ssresearch.2015.12.001

Hipes, C., Lucas, J. W., & Kleykamp, M. (2014). Status- and stigma-related consequences of military service and PTSD: Evidence from a laboratory experiment. *Armed Forces & Society, 41*(3), 477–495. DOI: https://doi.org/10.1177/0095327X14536710

Hoge, C. W., Grossman, S. H., Auchterlonie, J. L., Riviere, L. A., Milliken, C. S., & Wilk, J. E. (2014). PTSD treatment for soldiers after combat deployment: Low utilization of mental health care and reasons for dropout. *Psychiatric Services, 65*(8), 997–1004. DOI: https://doi.org/10.1176/appi.ps.201300307

Howell, T. J., Nierforth, L., Thomas-Pino, C., Samet, L., Agbonika, S., Cuevas-Pavincich, F., Fry, N. E., Hill, K., Jegatheesan, B., Kakinuma, M., MacNamara, M., Mattila-Rautianinen, S., Perry, A., Tardif-Williams, C. Y., Walsh, E. A., Winkle, M., Yamamoto, M., … Bennet, P. (2022). Defining terms used for animals working in support roles for people with support needs. *Animals, 12*(15), 1975. DOI: https://doi.org/10.3390/ani12151975

Hughes, R., & Huby, M. (2004). The construction and interpretation of vignettes in social research. *Social Work and Social Sciences Review, 11*(1), 36–51. DOI: https://doi.org/10.1921/17466105.11.1.36

Husband, A., Ahmed, A., & Dell, C. A. (2020). An exploratory case study of the impact of psychiatric service dogs on problematic substance use among PTSD-diagnosed veterans. *Journal of Substance Use, 25*(2), 113–117. DOI: https://doi.org/10.1080/14659891.2019.1664663

Joinson, A. (1999). Social desirability, anonymity, and Internet-based questionnaires. *Behavior Research Methods, Instruments, and Computers, 31*(3), 433–438. DOI: https://doi.org/10.3758/BF03200723

Kleykamp, M., & Hipes, C. (2015). Coverage of veterans of the wars in Iraq and Afghanistan in the US media. *Sociological Forum, 30*(2), 348–68. DOI: https://doi.org/10.1111/socf.12166

Kukull, W. A., & Ganguli, M. (2012). Generalizability. *Neurology, 78*(23), 1886–1891. DOI: https://doi.org/10.1212/WNL.0b013e318258f812

LaFollette, M. R., Rodriguez, K. E., Ogata, N., & O'Haire, M. E. (2019). Military veterans and their PTSD service dogs: Associations between training methods, PTSD severity, dog behavior, and the human-animal bond. *Frontiers in Veterinary Science, 6*(23), 1–11. DOI: https://doi.org/10.3389/fvets.2019.00023

Link, B. C., & Phelan, J. C. (2001). Conceptualizing stigma. *Annual Review of Sociology, 27*(1), 363–438. DOI: https://doi.org/10.1146/annurev.soc.27.1.363

Link, B. G., Phelan, J. C., Bresnahan, M., Stueve, A., & Pescosolido, B. A. (1999). Public conceptions of mental illness: Labels, causes, dangerousness, and social distance. *American Journal of Public Health, 89*(9), 1328–1333. DOI: https://doi.org/10.2105/AJPH.89.9.1328

Lyons, A., & Kashima, Y. (2001). The reproduction of culture: Communication processes tend to maintain cultural stereotypes. *Social Cognition, 19*, 372–394. DOI: https://doi.org/10.1521/soco.19.3.372.21470

Macey, T. A., Morasco, B. J., Duckart, J. P., & Dobscha, S. K. (2011). Patterns and correlates of prescription opioid use in OEF/OIF veterans with chronic noncancer pain. *Pain Medicine, 12*(10), 1502–1509. DOI: https://doi.org/10.1111/j.1526-4637.2011.01226.x

MacLean, A., & Kleykamp, M. (2014). Coming home: Attitudes toward US veterans returning from Iraq. *Social Problems, 61*(1), 131–154. DOI: https://doi.org/10.1525/sp.2013.12074

Major, B., & Eccleston, C. P. (2004). Stigma and social exclusion. In D. Abrams, J. Marques, & M. A. Hogg (Eds.), *Social Psychology of Inclusion and Exclusion* (pp. 63–87). New York: Psychology Press.

Major, B., & O'Brien, L. T. (2005). The social psychology of stigma. *Annual Review of Psychology, 56*, 393–421. DOI: https://doi.org/10.1146/annurev.psych.56.091103.070137

McCutcheon, J. (2018). Reviewing pronatalism: A summary and critical analysis of prior research examining attitudes towards women without children. *Journal of Family Studies*, 489–510. DOI: https://doi.org/10.1080/13229400.2018.1426033

McLellan, A. T. (2017). Substance misuse and substance use disorders: Why do they matter in healthcare? *Transactions of the American Clinical and Climatological Association, 128*, 112–130.

Mills, M. L. (2017). Invisible disabilities, visible service dogs: The discrimination of service dog handlers. *Disability & Society, 32*(5), 635–656. DOI: https://doi.org/10.1080/09687599.2017.1307718

Mittal, D., Drummond, K. L., Blevins, D., Curran, G., Corrigan, P., & Sullivan, G. (2013). Stigma associated with PTSD: Perceptions of treatment seeking combat veterans. *Psychiatric Rehabilitation Journal, 36*(2), 86–92. DOI: https://doi.org/10.1037/h0094976

Neighbors, C., Walker, D., Rodriguez, L., Walton, T., Mbilinyi, L., Kaysen, D., & Roffman, R. (2014). Normative misperceptions of alcohol use among substance abusing army personnel. *Military Behavioral Health, 2*(2), 203–209. DOI: https://doi.org/10.1080/21635781.2014.890883

O'Haire, M. E., & Rodriguez, K. E. (2018). Preliminary efficacy of service dogs as a complementary treatment for posttraumatic stress disorder in military members and veterans. *Journal of Consulting and Clinical Psychology, 86*(2), 179. DOI: https://doi.org/10.1037/ccp0000267

Parcesepe, A. M., & Cabassa, L. J. (2013). Public stigma of mental illness in the United States: A systematic literature review. *Administration and Policy in Mental Health, 40*, 384–399. DOI: https://doi.org/10.1007/s10488-012-0430-z

Pescosolido, B. A., Monahan, J., Link, B. G., Stueve, A., & Kikuzawa, S. (1999). The public's view of the competence, dangerousness, and need for legal coercion of persons with mental health problems. *American Journal of Public Health, 89*, 1339–1345. DOI: https://doi.org/10.2105/AJPH.89.9.1339

Phelan, J. C., & Link, B. G. (2004). Fear of people with mental illness: The role of personal and impersonal contact and exposure to threat or harm. *Journal of Health and Social Behavior, 45*, 68–80. DOI: https://doi.org/10.1177/002214650404500105

Rebeira, M., Grootendorst, P., & Coyte, P. (2017). Factors associated with mental health in Canadian veterans. *Journal of Military, Veteran and Family Health, 19*, 110–116. DOI: https://doi.org/10.3138/jmvfh.4098

Richer, I., Lee, J. E. C., & Born, J. (2016). Patterns of alcohol use among Canadian military personnel and their associations with health and well-being. *Health Psychology, 35*(7), 685–694. DOI: https://doi.org/10.1037/hea0000328

Rodriguez, K. E., LaFollette, M. R., Hediger, K., Ogata, N., & O'Haire, M. E. (2020). Defining the PTSD service dog intervention: Perceived importance, usage, and symptom specificity of psychiatric service dogs for military veterans. *Frontiers in Psychology, 11*, 1638. DOI: https://doi.org/10.3389/fpsyg.2020.01638

Room, R., Rehm, J., Trotter, R. T., Paglia, A., & Ustun, T. B. (2001). Cross-cultural views on stigma, valuation, parity and societal values towards disability. In T. B. Ustun, S. Chatterji, J. E. Bickenbach, R. T. Trotter II, R. Room, J. Rehm & S. Saxena (Eds.), *Disability and culture: Universalism and diversity* (pp. 247–291). Hogrefe & Huber.

Roscoe, R., & Anderson, J. (2019). Civilian and veteran perceptions of communicated stigma about veterans with PTSD. *Discourse: The Journal of the SCASD, 5*(1). https://openprairie.sdstate.edu/discoursejournal/vol5/iss1/1

Sattler, S., Escande, A., Racine, E., & Goritz, A. S. (2017). Public stigma toward people with drug addiction: A factorial survey. *Journal of Studies on Alcohol and Drugs, 78*(3), 415–425. DOI: https://doi.org/10.15288/jsad.2017.78.415

Schmidt, G., & Weiner, B. (1988). An attribution-affect-action theory of behaviour: Replications of judgments of help-giving. *Personality and Social Psychology Bulletin, 14*, 610–621. DOI: https://doi.org/10.1177/0146167288143021

Schomerus, G., Lucht, M., Holzinger, A., Matschinger, H., Carta, M. G., & Angermeyer, M. C. (2011). The stigma of alcohol dependence compared with other mental disorders: A review of population studies. *Alcohol and Alcoholism, 46*(2), 105–112. DOI: https://doi.org/10.1093/alcalc/agq089

Schreger, C., & Kimle, M. (2017). Assessing civilian perceptions of combat veterans: An IAT study. *Psychological Trauma, 9*(Suppl 1), 12–18. DOI: https://doi.org/10.1037/tra0000191

Seal, K. H., Shi, Y., Cohen, G., Cohen, B. E., Maguen, S., Krebs, E. E., & Neylan, T. C. (2012). Association of mental health disorders with prescription opioids and high-risk opioid use in US veterans of Iraq and Afghanistan. *The Journal of the American Medical Association, 307*(9), 940–947. DOI: https://doi.org/10.1001/jama.2012.234

Septian, E. R., & Hadi, E. N. (2021). Reducing stigma of people with disabilities: A systematic review. *Journal of Medical and Health Studies, 2*(2), 31–37. DOI: https://doi.org/10.32996/jmhs.2021.2.2.3

Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference.* Houghton Mifflin.

Stangor, C. (2009). *The study of stereotyping, prejudice, and discrimination within social psychology.* Handbook of Prejudice, Stereotyping, and Discrimination.

Substance Abuse and Mental Health Services Administration. (2020). *Substance use disorder treatment for people with co-occurring disorders.* https://store.samhsa.gov/sites/default/files/SAMHSA_Digital_Download/PEP20-02-01-004_Final_508.pdf

van Houtert, E. A., Endenburg, N., Wijnker, J. J., Rodenburg, B., & Vermetten, E. (2018). The study of service dogs for veterans with post-traumatic stress disorder: A scoping literature review. *European Journal of Psychotraumatology, 9*(Suppl. 3), 1503–1523. DOI: https://doi.org/10.1080/20008198.2018.1503523

van Houtert, E. A., Rodenburg, T. B., Vermetten, E., & Endenburg, N. (2022). The impact of service dogs on military veterans and (ex) first aid responders with post-traumatic stress disorder. *Frontiers in Psychology, 13*, 1–9. DOI: https://doi.org/10.3389/fpsyt.2022.834291

Veterans Affairs Canada. (2006). *The new veterans charter for CF veterans and their families.* https://www.veterans.gc.ca/public/pages/publications/system-pdfs/what_is_OSI_e.pdf

Veterans Affairs Canada. (2017a). *Post-traumatic stress disorder (PTSD) and war-related stress.* https://www.veterans.gc.ca/eng/health-support/mental-health-and-wellness/understanding-mental-health/ptsd-warstress

Veterans Affairs Canada. (2017b). *Well-being of Canadian regular force veterans, findings from LASS 2016 survey.* https://cimvhr.ca/vac-reports/data/reports/VanTil%20 2017_Well-Being%20of%20CAF%20Veterans%20LASS%20 2016.pdf

Vincent, C., Belleville, G., Gagnon, D. H., Dumont, F., Auger, E., Lavoie, V., Besemann, M., Champagne, N., & Lessart, G. (2017). Effectiveness of service dogs for veterans with PTSD: Preliminary outcomes. *Studies in Health Technology and Informatics, 242*, 130–136.

Vincent, C., Dumont, F., Gagnon, D. H., Belleville, G., & Auger, E. (2018). Potential effectiveness of psychiatric service dogs used by veterans with post-traumatic stress disorder (PTSD) in Canada. *Mental Health and Prevention, 10*, 42–49. DOI: https://doi.org/10.1016/j.mhp.2018.01.002

Weiner, B. (1980). A cognitive (attribution) emotion-action model of motivated behavior: An analysis of judgements of help-giving. *Journal of Personality and Social Psychology, 39*, 186–200. DOI: https://doi.org/10.1037/0022-3514.39.2.186

Weiner, B. (1985). An attributional theory of achievement motivation and emotion. *Psychological Review, 92*, 548–573. DOI: https://doi.org/10.1037/0033-295X.92.4.548

Weiner, B., Perry, R. B. & Magnusson, J. (1988). An attributional analysis of reactions to stigmas. *Journal of Personality and Social Psychology, 55*, 738–748. DOI: https://doi.org/10.1037//0022-3514.55.5.738

Whitworth, J. D., Scotland-Coogan, D., & Wharton, T. (2019). Service dog training programs for veterans with PTSD: Results of a pilot-controlled study. *Social Work in Health Care, 58*(4), 412–430. DOI: https://doi.org/10.1080/00981389.2019.1580238

Williamson, L. (2019). *Examining the stigma and stereotyping related to involuntary childless women using the Stereotype Content Model and Weiner's Attribution affect Action Model* [Unpublished doctoral dissertation]. https://harvest. usask.ca/bitstream/handle/10388/12248/WILLIAMSON-DISSERTATION-2019.pdf?sequence=1&isAllowed=y

Williamson, L., Dell, C. A., Osgood, N., Chalmers, D., Lohnes, C., Carleton, N., & **Asmundson, G.** (2021). Examining changes in posttraumatic stress disorder symptoms and substance use among a sample of Canadian veterans working with service dogs: An exploratory patient-oriented longitudinal study. *Journal of Veterans Studies, 7*(1), 1–13. DOI: https://doi. org/10.21061/jvs.v7i1.194

Williamson, L. E., Dell, C. A., Chalmers, D., Cruz, M., & **De Groot, P.** (2022). Strengthening zooeyia: Understanding the human-animal bond between veterans living with comorbid substance use and posttraumatic stress disorder and their service dogs. *Human-Animal Interaction Bulletin, 10*(2), 20–47. DOI: https://doi.org/10.1079/hai.2022.0018

Williamson, L. E., & **Lawson, K. L.** (2020). Canadian support for IVF access and use. *Journal of Obstetrics and Gynaecology Canada, 43*(2), 175–181. DOI: https://doi.org/10.1016/j. jogc.2020.09.020

Wilson, J. K., Brodsky, S. L., Neal, T., & **Cramer, R. J.** (2011). Prosecutor pretrial attitudes and plea-bargaining behavior toward veterans with posttraumatic stress disorder. *Psychological Services, 8*(4), 319–331. DOI: https://doi. org/10.1037/a0025330

Yaghmaian, R., Iwanaga, K., Wu, J.-R., Chen, X., Umucu, E., Tao, J., Livneh, H., & **Chan, F.** (2019). Reducing prejudice toward people with disabilities. In D. S. Dunn (Ed.), *Understanding the experience of disability: Perspectives from social and rehabilitation psychology* (pp. 52–73). Oxford University Press.

Yang, L. H., Wong, L. Y., Grivel, M. M., & **Hasin, D. S.** (2017). Stigma and substance use disorders: an international phenomenon. *Current Opinion in Psychiatry, 30*(5), 378–388. DOI: https://doi.org/10.1097/YCO.0000000000000351

Yarborough, B. J. H., Owen-Smith, A. A., Stumbo, S. P., Yarborough, M. T., Perrin, N. A., & **Green, C. A.** (2017). An observational study of service dogs for veterans with posttraumatic stress disorder. *Psychiatric Services, 68*(7), 730–734. DOI: https://doi.org/10.1176/appi.ps.201500383

Zwick, J., Appleseth, H., & **Arndt, S.** (2020). Stigma: How it affects the substance use disorder patient. *Substance Abuse Treatment, Prevention, and Policy, 15*, 1–4. DOI: https://doi. org/10.1186/s13011-020-00288-0

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