Psychology of Men & Masculinity
2017, Vol. 18, No. 3, 208–214

1524-9220/17/$12.00 http://dx.doi.org/10.1037/men0000116

SPECIAL ISSUE: HEALTH IMPLICATIONS OF MASCULINITY WITHIN MILITARY POPULATIONS

The Direct and Indirect Self-Harm Inventory (DISH): A New Measure for Assessing High-Risk and Self-Harm Behaviors Among Military Veterans

Jonathan D. Green
Veterans Affairs Boston Healthcare System, Boston, Massachusetts, and Boston University School of Medicine

Christina Hatgis
Veterans Affairs Central and Western Massachusetts Healthcare System, Northampton, Massachusetts

Jaclyn C. Kearns
Veterans Affairs Boston Healthcare System, Boston, Massachusetts

Matthew K. Nock
Harvard University

Brian P. Marx
National Center for PTSD at the Veterans Affairs Boston Healthcare System, Boston, Massachusetts, and Boston University School of Medicine

Screeners in use at the Department of Veterans Affairs (VA) do not query high-risk and self-harm behaviors that are thought to be more common among veterans, especially male veterans, and may use stigmatizing language to query self-harm behaviors, resulting in underreporting. As such, many veteran's high-risk and self-harm behaviors may go undetected. The present study outlines the development and initial validation of the Direct and Indirect Self-Harm Inventory (DISH), a measure designed to detect high-risk and self-harm behaviors thought to be more common among veterans and to avoid the use of stigmatizing language. We also examined whether, and to what degree, novel behaviors assessed on the DISH longitudinally predict future suicide-related outcomes. Seventy-eight veterans enrolled in VA care and presenting with varying degrees of suicide risk completed the DISH as part of a larger study. Participants also completed the Self-Injurious Thoughts and Behaviors Interview (SITBI; Nock, Holmberg, Photos, & Michel, 2007), a well-validated assessment of self-harm behaviors. The DISH demonstrated good convergent validity with overlapping items on the SITBI (percent agreement ranged from 66.7% to 88.9%). Participants were more likely to report high-risk and indirect self-harm behaviors, but not direct self-harm behaviors, on the DISH than on the SITBI. None of the behaviors assessed on the DISH or the SITBI predicted future suicide-related outcomes. Though additional research is needed to further validate the DISH (e.g., test–retest reliability), the present study suggests that the DISH may be an improvement over existing measures for detecting high-risk and indirect self-harm behaviors in veterans.

Keywords: self-harm, assessment, veterans, gender

Veterans account for approximately 20% of all deaths by suicide (Department of Veterans Affairs and Department of Defense, 2013), and, on average, an estimated 20 veterans take their own lives each day (U.S. Department of Veterans Affairs, 2016). This high suicide rate prompted President Barack Obama, the Departments of Defense and Veterans Affairs (VA), and the Department of Health and Human Services to call for greater attention to suicide prevention research (Exec. Order No. 13625, 2012; U.S.

This article was published Online First June 15, 2017.

Jonathan D. Green, Research Service, Veterans Affairs Boston Healthcare System, Boston, Massachusetts, and Department of Psychiatry, Boston University School of Medicine; Christina Hatgis, Mental Health Service Line, Veterans Affairs Central and Western Massachusetts Healthcare System, Northampton, Massachusetts; Jaclyn C. Kearns, Research Service, Veterans Affairs Boston Healthcare System; Matthew K. Nock, Department of Psychology, Harvard University; Brian P. Marx, Behavioral Science Division, National Center for PTSD at the Veterans Affairs Boston Healthcare System, and Department of Psychiatry, Boston University School of Medicine.

A portion of the data presented in this article was presented as part of a symposium at the 31st annual meeting of the Anxiety and Depression Association of America in April 2017. We thank Daniel J. Lee for his assistance with power analyses.

Correspondence concerning this article should be addressed to Jonathan D. Green, Research Service, Veterans Affairs Boston Healthcare System Research Service, (116B-4) 150 South Huntington Avenue, Boston, MA 02130. E-mail: Green.JonathanD@gmail.com

Army, 2010; U.S. Department of Health and Human Services, 2012). The accurate, efficient assessment of self-harm behaviors is a key component of suicide prevention, as a history of these behaviors is emerging as one of the strongest predictors of future risk for suicide (Cooper et al., 2005; Hawton, Zahl, & Weatherall, 2003; Whitlock et al., 2013). Of additional concern is the relatively high prevalence of self-harm behaviors among veterans enrolled in VA care (Kimbrel et al., 2014, 2015). When considered along with evidence that self-harm is associated with suicidal behavior both broadly (Hamza, Stewart, & Willoughby, 2012) and, specifically, in veteran samples (Kimbrel, DeBeer, Meyer, Gulliver, & Morissette, 2016), there is strong evidence that the accurate assessment of self-harm behaviors at the VA is essential to reducing suicide risk among veterans enrolled in VA care.

Current suicide risk screenings at the VA are problematic. In addition to variation in methodology across sites, with many sites using nonvalidated screening tools (though there have been regional efforts to move toward using validated measures of suicide risk, e.g., the Columbia Suicide Severity Rating Scale; Posner, et al., 2011), current suicide risk screenings in the VA do not assess for high-risk or self-harm behaviors that may be more common among men (e.g., driving recklessly, punching walls; Green & Jakupcak, 2016; Nock, 2008). This is particularly problematic, as the overwhelming majority of VA health care users are men (Defense Manpower and Data Center, 2010).

To better understand why clinicians do not adequately screen for these behaviors, one must understand that high-risk and self-harm behaviors exist on a continuum, with many terms that sound similar being used interchangeably to describe different phenomena (see Figure 1). *Direct self-harm* is defined as behavior that results in immediate tissue damage *and* for which the intent of the behavior is clear: a desire to cause injury to oneself (Farberow, 1980; St Germain & Hooley, 2012). Direct self-harm that occurs without suicidal intent is termed *nonsuicidal self-injury* (NSSI; Nock, 2010). In contrast, *indirect self-harm* refers to behavior in which damage resulting from the behavior is less immediately severe or is more likely to accumulate over time (Pattison & Kahan, 1983). Additionally, the intention of the behavior is either not to cause tissue damage or may be unclear (Walsh, 2012). Finally, *high-risk behaviors* are those that put one at increased risk of tissue damage, but for which tissue damage is not part of the act. The intent of high-risk behaviors is often unclear.

It has been suggested that high-risk and indirect self-harm behaviors are often seen as more normative among men than are direct self-harm and suicidal behaviors, and, as such, are often overlooked despite commonly resulting in self-inflicted damage (Green & Jakupcak, 2016). Additionally, men are more likely to engage in high-risk behaviors than women (Byrnes, Miller, & Schafer, 1999), and are more likely to engaged in indirect self-harm behaviors than direct self-harm behaviors (Hooley & St Germain, 2014). Within direct self-harm, overall, women are more likely than are men to engage in direct self-harm behaviors without intent to die (Bresin & Scholenberger, 2015). Additionally, women are more likely to engage in more prototypical or common self-harm behaviors without intent to die, including cutting, biting, scratching, hair pulling, and attempts to keep wounds from healing (Bresin & Scholenberger, 2015). In contrast, men may be more likely to, with the intent to hurt themselves, burn, self-hit, bang one's head against objects, and punch walls or other objects (Byrnes et al., 1999; Claes, Vandereycken, & Vertommen, 2007; Sornberger, Heath, Toste, & McLouth, 2012; Whitlock et al., 2011). They may also be more likely to engage in generally risky behaviors (e.g., driving dangerously; Byrnes et al., 1999).

Perhaps stemming from the perceived normativeness of these high-risk and self-harm behaviors, to our knowledge there are no existing measures that assess these behaviors. Further compounding the difficulty in assessing for these behaviors, existing screeners used in the VA may include only a single item about self-harm or self-injury, and the language used in these screening tools may be stigmatizing to men, with self-injury often being viewed as a gendered and prototypically feminine behavior, ultimately leading to underreporting (Berger, Addis, Reilly, Syzdek, & Green, 2012; Green & Jakupcak, 2016).

Implementing existing validated measures of self-harm in the VA may not be an appropriate solution. First, many of these measures assess only direct self-harm. As Green and Jakupcak (2016) suggested, and as research supports (St Germain & Hooley, 2012), men may be more likely to engage in indirect self-harm and high-risk behaviors. As such, existing measures may be missing important information about some men's high-

	Tissue Damage	Intent	Example Behaviors
High-Risk Behaviors	Does not necessarily occur, but miscalculation could lead to serious injury or death	Often occurs without specific intent to become hurt or to die	• Driving recklessly • Engaging in unsafe sex
Indirect Self-Harm	Often, but not always, accumulative	Ambiguous	• Punching walls • Provoking physical fights and becoming hurt
Direct Self-Harm	Immediate	Clear desire to hurt oneself	• Cutting • Burning • Self-hitting

Figure 1. Classification of high-risk and self-harm behaviors.

risk and self-harm behaviors. Second, existing measures have been developed and validated with samples that are primarily civilian and female (Gratz, 2001; Klonsky & Glenn, 2009; Nock, Holmberg, Photos, & Michel, 2007). Many of these measures may inadvertently include stigmatizing language (e.g., asking participants whether they "self-injure" as an initial screening question before asking about specific behaviors, or asking first about methods of self-harm that are viewed as prototypically feminine, such as cutting; Green & Jakupcak, 2016). In light of the growing body of research suggesting that men are less likely to report psychological problems as a function of stigmatizing or gendered language (Berger et al., 2012; Hunt, Auriemma, & Cashaw, 2003), it may be the case that existing self-harm assessment tools result in men underreporting the self-harm behaviors they engage in. Finally, it is unclear whether existing interviews assessing self-harm (e.g., the Self-Injurious Thoughts and Behaviors Interview [SITBI]; Nock et al., 2007) are more likely to illicit underreporting. It may be the case that, in combination with the potentially stigmatizing language used in these assessments, men are additionally less likely to report self-harming behaviors in the presence of an interviewer rather than privately when filling out a self-report questionnaire.

The absence of indirect self-harm and high-risk behavior items on existing measures, coupled with the presence of potentially stigmatizing language suggests the need to develop a new assessment tool. This measure should query both direct and indirect self-harm behaviors as well as high-risk behaviors, and should be developed with an awareness of potential stigmatizing language that could result in men underreporting these behaviors.

Although the presence of indirect self-harm and high-risk behaviors in and of themselves is clinically relevant, little is known about the psychological correlates of these behaviors, or whether they may be indicative of future self-harm (either direct or indirect) or suicidal behaviors. Existing research indicates that direct self-harm is one of the strongest known risk factors for future suicide attempts (Whitlock et al., 2013; Zahl & Hawton, 2004). Although it is generally understood that those who engage in direct self-harm often also engage in indirect self-harm and high-risk behaviors (Hooley & St Germain, 2014; St Germain & Hooley, 2012), it is unclear whether and to what degree indirect self-harm and high-risk behaviors are associated with future suicide attempts.

In this article, we report on our efforts to develop and validate the Direct and Indirect Self-Harm (DISH) instrument, a 20-item, behaviorally based assessment of direct and indirect self-harm and high-risk behaviors that does not use stigmatizing language (e.g., "cutting," "self-injury") associated with underreporting (Green & Jakupcak, 2016; Berger et al., 2012). Using a veteran sample, we examined the convergent validity of our instrument. We also tested the extent to which participants were more likely to report self-harm and high-risk behaviors on the DISH when administered as a questionnaire or as an interview. We also compared reports of NSSI on the DISH with those on the SITBI (Nock et al., 2007), a well-validated interview for self-injurious behaviors, to investigate convergent validity. Finally, we assess whether, and to what degree, the additional high-risk and self-harm behaviors assessed on the DISH (and not on other measures of self-harm) longitudinally predicted future suicide-related behaviors (e.g., hospitalizations, self-harm, suicide attempts) relative to the SITBI.

Method

Participants

Participants were 78 veterans (M_{age} = 45.58, SD = 13.32; 21.8% female; 76.9% Caucasian, 19.2% Black, 2.6% Other, 1.3% Hispanic) with varying degrees of risk behaviors (from recent suicide attempts to absence of suicide ideation or behavior). Participants were recruited from psychiatric inpatient units (61.5% of the final sample) and outpatient (38.5% of the final sample) settings in the same VA health care system in a large city in the Northeastern United States. Patients recruited from inpatient units were approached by a research assistant and asked whether they wanted to participate in a study about veterans' experiences with depression and posttraumatic stress disorder (PTSD). Participants were recruited from outpatient settings by use of a flyer that used similar language, asking participants to participate in a study about their experiences with depression and PTSD. Participants who were actively psychotic, displayed cognitive impairments, or who were recently violent toward hospital staff were ruled out. All participants provided informed consent. The study protocol was reviewed and approved by the health care system's local institutional review boards, the Military Suicide Research Consortium, and the Human Research Protection Office of the U.S. Army Medical Research and Materiel Command.

Measures

Demographic information. All participants completed a demographics questionnaire asking about age, race, marital status, current living situation, education, and employment.

Direct and Indirect Self-Harm Inventory (DISH). The DISH is a 20-item measure assessing high-risk (e.g., driving recklessly and at high speeds), indirect self-harm (e.g., punched walls or other objects), and direct self-harm (e.g., cutting) behaviors, in that order, during the past year. Each category of behaviors appears on a separate page to reduce potential priming effects of a later-appearing behavior (e.g., direct self-harm) affecting responses regarding an earlier-appearing behavior (e.g., high-risk behaviors). This order of item presentation is important and contrasts with that of many other measures of self-harm. Many other well-validated measures (e.g., the SITBI: Nock et al., 2007; the Non-Suicidal Self-Injury Assessment Tool: Whitlock, Exner-Cortens, & Purington, 2014) begin with a simple screener question (i.e., "In the past have you hurt yourself on purpose? Have you engaged in self-harm?"), and then assess common direct self-harm behaviors, before providing an "other" option for participants to report self-harm behaviors not already queried. This structure may result in underreporting of many of the high-risk and indirect self-harm behaviors that are more common among men. As many of these behaviors are consistent with masculine norms (Green & Jakupcak, 2016), men may be less likely to consider them as self-harm and, as such, to endorse the initial screening item. Second, as examples of direct self-harm that are more common

among women (and, as such, likely thought of as more prototypically feminine) are presented prior to participants being able to report their behaviors using the "other" option, these behaviors may cause priming or stigmatizing effects, in which men are less likely to report their own high-risk or indirect self-harm behaviors. Prior research suggests that men may underreport symptoms of disorders that are not consistent with masculine gender norms and/or are seen as prototypically feminine (e.g., depression) based on the way in which these disorders are discussed and labeled (Berger et al., 2012).

Participants are asked whether they have engaged in any of the behaviors listed on a given page in the past year. Participants are also asked to report on the reasons for engaging in these behaviors, contextual factors at the time of self-harm, and suicidal intent at the time of the behavior. As such, the DISH can be used to assess NSSI, examining those direct self-harm behaviors that occurred in the absence of suicidal intent. All items were derived using a review of existing research on high-risk and self-harm behaviors and the first and second authors' clinical experiences as psychologists practicing in the VA. Items were then reviewed by three experts who are nationally recognized for both their research and clinical work regarding the assessment and treatment of self-harm and suicidal behaviors. Items were eliminated, revised, or added based upon feedback from expert reviewers.

Self-Injurious Thoughts and Behaviors Interview (SITBI). The SITBI (Nock et al., 2007) is a structured clinical interview that assesses the presence, frequency, and other characteristics of self-injurious thoughts and behaviors including direct self-harm behaviors. When assessing self-harm, participants are first asked, "Have you ever actually purposely hurt yourself without wanting to die?" If participants endorse self-harm, they are then asked about their age when they self-harmed before being a read the prompt, "Now I'm going to go through a list of things that people sometimes purposely do to harm themselves without wanting to die. Please let me know which of these you've done . . ." and read a list of seven direct self-harm behaviors. Participants are then asked if they have engaged in any other direct self-harm behaviors and, if so, what those behaviors are. The SITBI is a well-validated measure, demonstrating strong interrater reliability (average $\kappa = .99$) and test–retest reliability over a 6-month period (average $\kappa = .70$). Construct validity was demonstrated via strong correspondence between the SITBI and other measures of NSSI (average $\kappa = .87$; Nock et al., 2007).

Procedure

The DISH was added to an existing study protocol investigating whether, and to what degree, factors related to cognition and learning could predict longitudinal suicide-related outcomes. Study participants were consented and as part of the initial study session. They then completed the SITBI, which was administered by the same research assistant for all participants, followed by several behavioral tasks, and then a battery of self-report questionnaires, including the DISH. The initial study session took an average of 4 hr to complete and participants were compensated $15/hr for their time. Participants were also followed for approximately 1 year after their initial appointment via medical record to determine whether they had been hospitalized for any psychiatric problems, including suicide ideation or attempt, or had engaged in any self-harm behaviors.

Analyses

All analyses, aside from calculations of comparative error (CE), were conducted using SPSS Version 23.0. CE was calculated using the following equation:

$$CE = 1.96x\sqrt{(r1(100 - r1) \div s1) + (r2(100 - r2) \div s2)}$$

In this equation, $r1$ is the percentage response for the first group, $r2$ is percentage response for the second group, $s1$ is the sample size of the first group, and $s2$ is the sample size of the second group. The same equation was used to determine whether participants were more likely to report NSSI behaviors on the DISH or the SITBI. Significance was calculated using a readily available online calculator (EasyCalculation.com).

To test convergent validity, we calculated percent agreement on NSSI items of the SITBI, and direct-self harm items on the DISH. Only data from those participants who reported no intent to die as a result of their direct self-harm on the DISH were included in analyses of convergent validity, as the SITBI only assesses NSSI. We were prepared to calculate percent agreement between any high-risk or indirect self-harm behaviors that were reported when participants were queried about "other" self-harm behaviors on the SITBI. However, only one such report was made. As such, only convergent validity for NSSI items on the SITBI and direct self-harm items with no intent to die on the DISH were assessed. CE was calculated to determine whether men or women in the study were more likely to engage in high-risk, indirect, and direct self-harm behaviors on the DISH, whether participants were more likely to report high-risk and self-harm behaviors on the DISH when administered as either a self-report measure or an interview, and whether participants were more likely to report high-risk, indirect, and direct self-harm behaviors on the DISH or the SITBI.

We conducted binary logistic regressions to determine whether responses on the DISH or the SITBI were related to future psychiatric admissions, self-harm behaviors, and suicide attempts as reported in the participants' VA medical record. Forty-two participants had completed the study less than a full year prior to data analysis, and, as such, their follow-up windows were shorter. To account for this difference in windows among participants, we controlled for time between initial study appointment and final chart review (in days) when conducting binary logistic regressions. To compare novel behaviors assessed on the DISH with NSSI assessed on the SITBI, only novel behaviors assessed on the DISH (high-risk and indirect self-harm behaviors) were entered into the model along with NSSI behaviors as assessed by the SITBI. Given our sample size, we were not able to enter each individual behavior as a separate predictor. Rather, we created dichotomous predictors for each high-risk behavior as assessed by the DISH, indirect self-harm behaviors as assessed by the DISH, and NSSI as assessed by the SITBI, and entered these into the model simultaneously.

Results

A total of 65 (83.3%) participants—53 (89.6%) men and 12 (70.6%) women—reported engaging in some high-risk or self-

Table 1
Engagement in Self-Damaging Behaviors on the DISH Among Men and Women

Self-damaging behavior	Men $n = 61$ (%)	Women $n = 17$ (%)	All participants $N = 78$ (%)
High-risk	49 (80.3)	11 (64.7)	60 (76.9)
Reckless driving	33 (54.1)	10 (58.8)	43 (55.1)
Unsafe sex	27 (44.3)	5 (29.4)	32 (41.0)
Sports without safety equipment	19 (31.1)	2 (11.8)	21 (26.9)
Gone places you knew were dangerous	37 (60.7)	9 (52.9)	46 (59.0)
Tested strength in a way that put self at risk	17 (27.9)	1 (5.9)	18 (23.1)
Indirect self-harm	29 (47.5)	4 (23.5)	33 (42.3)
Punch walls/objects	21 (34.4)	4 (23.5)	25 (32.1)
Provoke physical fight	15 (24.6)	3 (17.6)	18 (23.1)
Hurt self as part of stunt/dare	4 (6.6)	1 (5.9)	5 (6.4)
Overexercised to the point of injury	6 (9.8)	1 (5.9)	7 (9.0)
Direct self-harm	12 (19.7)	6 (35.3)	18 (23.1)
Cut/carve skin	3 (4.9)	2 (11.8)	5 (6.4)
Burned self	3 (4.9)	1 (5.9)	3 (3.8)
Insert sharp objects into skin/nails	3 (4.9)	1 (5.9)	4 (5.1)
Picking	3 (4.9)	4 (23.5)	7 (9.0)
Self-hitting	4 (6.6)	3 (17.6)	7 (9.0)
Head banging	6 (9.8)	3 (17.6)	9 (11.5)
Scrape/scratch skin	2 (3.3)	2 (11.8)	4 (5.1)
Prevent wounds from healing	1 (1.6)	0 (0)	1 (1.3)

Note. DISH = Direct and Indirect Self-Harm Inventory. Numbers for "High-risk," "Indirect self-harm," and "Direct self-harm" refer to participants that engaged in any behavior in that category.

harm behavior on the DISH (60 [79.6%] high-risk, 33 [42.3%] indirect self-harm, 18 [23.1%] direct self-harm). Information for engagement in behavior by gender can be seen in Table 1. Men were significantly more likely than women to have engaged in any indirect self-harm behavior (CE = 23.73, $p < .05$). However, men and women were equally likely to have engaged in high-risk behaviors and/or direct self-harm.

Endorsement on overlapping DISH and SITBI items ranged from 66.7% (cutting) to 88.9% (burning). Only one participant reported an indirect self-harm behavior ("punching walls") on the SITBI in response to the interviewer's prompt, "Have you ever actually purposely hurt yourself without wanting to die?" and, if answered affirmatively, having been read a list of self-injurious behaviors before being asked if there are others the participant has engaged in. Significantly more (12 [15.4%]) participants reported punching walls on the DISH (CE = 8.31, $p < .05$). A total of 21 (26.9%) participants reported high-risk and self-harm behaviors, with no intent to die, that were not reported on the SITBI (CE = 10.09, $p < .05$). These differences were also significant when CE was calculated for men and women separately. Tests of CE revealed that participants were no more likely to report NSSI behaviors assessed on the DISH than on the SITBI both for the overall sample (CE = 11.90, *ns*) as well as for men (CE = 13.42, *ns*). Women, however, were more likely to report NSSI on the DISH than on the SITBI (CE = 24.79, $p < .05$).

A total of 27 (34.6%) participants had at least one psychiatric admission during the follow-up window (1 year). Additionally, six (7.7%) engaged in self-harm behaviors and five (6.4%) had at least one suicide attempt during this time. We ran a total of three binary logistic regressions, one for each of these primary outcomes (psychiatric admission since initial appointment, self-harm behavior since initial appointment, and suicide attempt since initial appointment). After controlling for time since initial appointment (for participants whose initial appointment occurred less than one year prior to data analysis), none of the high-risk or indirect self-harm behaviors on the DISH, or any of the NSSI behaviors on the SITBI, predicted any of the outcomes examined. This was also true when running these same analyses with only men. Given the uneven distribution of scores on our dependent variables included in the binary logistic regressions, we examined whether our analyses were appropriately powered using the formula described by Peduzzi, Concato, Kemper, Holford, and Feinstein (1996). According to these guidelines, even with our most evenly distributed dependent variable (psychiatric hospitalizations: 35.6% were admitted and 64.4% were not), we would have needed an additional 35 participants for analyses to be appropriately powered.

Discussion

The primary purpose of this study was to develop and provide initial validation for a measure of high-risk and self-harm behaviors that may be more common among male veterans and that may go unassessed or underassessed by existing measures. The DISH demonstrated good convergent validity with the SITBI in its assessment of NSSI. Participants were more likely to report high-risk and self-harm behaviors on the DISH than they were on the SITBI. Over 25% of the sample reported high-risk and self-harm behaviors on the DISH that would not have been captured on the SITBI. Although men were as likely to report NSSI on the DISH and SITBI, women were significantly more likely to report NSSI on the DISH. Though somewhat surprising, as the DISH was not necessarily designed to affect reporting of NSSI in women, it is consistent with other findings that the DISH may be a more sensitive instrument than the SITBI. This is of particular impor-

tance given that the DISH was designed to detect high-risk and self-harm behaviors, potentially as a screener, among veterans.

It is important to note that the SITBI (as well as many other measures of self-harm) was not specifically designed to detect high-risk and self-harm behaviors and, as such, comparisons between detection on the DISH and SITBI may not seem appropriate. This, however, furthers the argument for the need of a measure like the DISH. Results suggest that the use of existing assessments of self-harm in a veteran sample will likely leave high-risk and indirect self-harm behaviors, many of which are troubling and likely warrant clinical attention, undetected.

That neither high-risk and self-harm behaviors on the DISH, nor NSSI on the SITBI, predicted future hospitalizations, self-harm, or suicide attempts was somewhat surprising given evidence that a history of NSSI is a risk factor for future self-harm and suicide attempts (Whitlock et al., 2013; Zahl & Hawton, 2004). It may be the case that the current study's follow-up window (one year) and sample size was too small to detect whether, and to what degree, responses on the DISH and SITBI were associated with the study's primary outcomes. Indeed, results suggest that the study's sample size, even for the most evenly distributed outcome, was likely insufficient. Future research examining the DISH would benefit from the use of larger samples, particularly when assessing the degree to which behaviors endorsed on the DISH can predict future suicide-related outcomes.

Additionally, when considering findings pertaining to NSSI as a predictor of future self-harm behaviors, it is important to note demographics of the study's sample. Participants were, on average, 45 years of age or older. Given that many of those who self-harm stop doing so after Age 29 (Moran et al., 2012), it may have been the case that although participants reported a lifetime history of NSSI on the SITBI, they stopped engaging in self-harm some time ago, as is consistent with the general course of this behavior.

Although the ability to validate and test the DISH in a sample of veterans with highly varied levels of suicide risk is, in many ways, ideal, the fact that the DISH was added to an existing protocol resulted in several limitations. First, timelines between the DISH and the SITBI were not consistent, with the former asking participants to report on the past year, whereas the latter assessed lifetime NSSI. This, however, further highlights the potential sensitivity of the DISH in detecting high-risk and self-harm behaviors, with participants reporting more such behaviors during the smaller window of time (1 year) on the DISH than on the larger window (lifetime) on the SITBI. Second, given the design of the study to which the DISH was added, we were not able to assess test–retest reliability. Additional research is needed to assess the test–retest reliability of the DISH. It is also important to consider whether and to what degree the differences in the administration of the DISH and SITBI may have affected results, with the former being a self-report measure and the latter being an interview. It is possible that participants were less comfortable reporting self-harm and high-risk behaviors to an interviewer. As such, future research should compare the sensitivity of the DISH with that of other well-established self-report measures of self-harm (e.g., the Deliberate Self-Harm Inventory; Gratz, 2001).

Findings from the present study suggest that the DISH shows promise as a measure for detecting high-risk and self-harm behaviors among veterans that may go undetected by current self-harm assessment tools. Though additional research is needed to fully validate the measure, the DISH shows promise and may be able to identify veterans in need of help that may have otherwise been overlooked.

References

Berger, J. L., Addis, M. E., Reilly, E. D., Syzdek, M. R., & Green, J. D. (2012). Effects of gender, diagnostic labels, and causal theories on willingness to report symptoms of depression. *Journal of Social and Clinical Psychology, 31,* 439–457. http://dx.doi.org/10.1521/jscp.2012.31.5.439

Bresin, K., & Schoenleber, M. (2015). Gender differences in the prevalence of nonsuicidal self-injury: A meta-analysis. *Clinical Psychology Review, 38,* 55–64. http://dx.doi.org/10.1016/j.cpr.2015.02.009

Byrnes, J. P., Miller, D. C., & Schafer, W. D. (1999). Gender differences in risk taking: A meta-analysis. *Psychological Bulletin, 125,* 367–383. http://dx.doi.org/10.1037/0033-2909.125.3.367

Claes, L., Vandereycken, W., & Vertommen, H. (2007). Self-injury in female versus male psychiatric patients: A comparison of characteristics, psychopathology, and aggression regulation. *Personality and Individual Differences, 42,* 611–621.

Cooper, J., Kapur, N., Webb, R., Lawlor, M., Guthrie, E., Mackway-Jones, K., & Appleby, L. (2005). Suicide after deliberate self-harm: A 4-year cohort study. *The American Journal of Psychiatry, 162,* 297–303. http://dx.doi.org/10.1176/appi.ajp.162.2.297

Defense Manpower and Data Center. (2010). Unpublished data as of 30 September 2010. Compiled by the Women's Research & Education Center.

Department of Veterans Affairs and Department of Defense. (2013). *VA/DoD clinical practice guideline for assessment and management of patients at risk for suicide*. Retrieved from https://www.healthquality.va.gov/guidelines/MH/srb/VADODCP_SuicideRisk_Full.pdf

Exec. Order No. 13625. (2012). *Improving access to mental health services for veterans, service members, and military families*. Washington, DC: The White House.

Farberow, N. L. (1980). *The Many Faces of Suicide: Indirect Self-destructive behavior*. New York, NY: McGraw-Hill.

Gratz, K. L. (2001). Measurement of deliberate self-harm: Preliminary data on the Deliberate Self-Harm Inventory. *Journal of Psychopathology and Behavioral Assessment, 23,* 253–263. http://dx.doi.org/10.1023/A:1012779403943

Green, J. D., & Jakupcak, M. (2016). Masculinity and men's self-harm behaviors: Implications for non-suicidal self-injury disorder. *Psychology of Men & Masculinity, 17,* 147–155. http://dx.doi.org/10.1037/a0039691

Hamza, C. A., Stewart, S. L., & Willoughby, T. (2012). Examining the link between nonsuicidal self-injury and suicidal behavior: A review of the literature and an integrated model. *Clinical Psychology Review, 32,* 482–495. http://dx.doi.org/10.1016/j.cpr.2012.05.003

Hawton, K., Zahl, D., & Weatherall, R. (2003). Suicide following deliberate self-harm: Long-term follow-up of patients who presented to a general hospital. *The British Journal of Psychiatry, 182,* 537–542. http://dx.doi.org/10.1192/bjp.182.6.537

Hooley, J. M., & St Germain, S. A. (2014). Should we expand the conceptualization of self-injurious behavior? Rationale, review, and recommendations. In M. K. Nock (Ed.), *The Oxford handbook of suicide and self-injury* (pp. 47–60). New York, NY: Oxford University Press.

Hunt, M., Auriemma, J., & Cashaw, A. C. (2003). Self-report bias and underreporting of depression on the BDI-II. *Journal of Personality Assessment, 80,* 26–30. http://dx.doi.org/10.1207/S15327752JPA8001_10

Kimbrel, N. A., DeBeer, B. B., Meyer, E. C., Gulliver, S. B., & Morissette, S. B. (2016). Nonsuicidal self-injury and suicide attempts in Iraq/Afghanistan war veterans. *Psychiatry Research, 243,* 232–237. http://dx.doi.org/10.1016/j.psychres.2016.06.039

Kimbrel, N. A., Gratz, K. L., Tull, M. T., Morissette, S. B., Meyer, E. C., DeBeer, B. B., . . . Beckham, J. C. (2015). Non-suicidal self-injury as a predictor of active and passive suicidal ideation among Iraq/Afghanistan war veterans. *Psychiatry Research, 227,* 360–362. http://dx.doi.org/10.1016/j.psychres.2015.03.026

Kimbrel, N. A., Johnson, M. E., Clancy, C., Hertzberg, M., Collie, C., Van Voorhees, E. E., . . . Beckham, J. C. (2014). Deliberate self-harm and suicidal ideation among male Iraq/Afghanistan-era veterans seeking treatment for PTSD. *Journal of Traumatic Stress, 27,* 474–477. http://dx.doi.org/10.1002/jts.21932

Klonsky, E. D., & Glenn, C. R. (2009). Assessing the functions of non-suicidal self-injury: Psychometric properties of the Inventory of Statements About Self-injury (ISAS). *Journal of Psychopathology and Behavioral Assessment, 31,* 215–219. http://dx.doi.org/10.1007/s10862-008-9107-z

Moran, P., Coffey, C., Romaniuk, H., Olsson, C., Borschmann, R., Carlin, J. B., & Patton, G. C. (2012). The natural history of self-harm from adolescence to young adulthood: A population-based cohort study. *The Lancet, 379,* 236–243. http://dx.doi.org/10.1016/S0140-6736(11)61141-0

Nock, M. K. (2008). Actions speak louder than words: An elaborated theoretical model of the social functions of self-injury and other harmful behaviors. *Applied & Preventive Psychology, 12,* 159–168. http://dx.doi.org/10.1016/j.appsy.2008.05.002

Nock, M. K. (2010). Self-injury. *Annual Review of Clinical Psychology, 6,* 339–363. http://dx.doi.org/10.1146/annurev.clinpsy.121208.131258

Nock, M. K., Holmberg, E. B., Photos, V. I., & Michel, B. D. (2007). Self-Injurious Thoughts and Behaviors Interview: Development, reliability, and validity in an adolescent sample. http://dx.doi.org/10.1037/1040-3590.19.3.309

Pattison, E. M., & Kahan, J. (1983). The deliberate self-harm syndrome. *The American Journal of Psychiatry, 140,* 867–872. http://dx.doi.org/10.1176/ajp.140.7.867

Peduzzi, P., Concato, J., Kemper, E., Holford, T. R., & Feinstein, A. R. (1996). A simulation study of the number of events per variable in logistic regression analysis. *Journal of Clinical Epidemiology, 49,* 1373–1379. http://dx.doi.org/10.1016/S0895-4356(96)00236-3

Posner, K., Brown, G. K., Stanley, B., Brent, D. A., Yershova, K. V., Oquendo, M. A., . . . Mann, J. J. (2011). The Columbia-Suicide Severity Rating Scale: Initial validity and internal consistency findings from three multisite studies with adolescents and adults. *The American Journal of Psychiatry, 168,* 1266–1277. http://dx.doi.org/10.1176/appi.ajp.2011.10111704

Sornberger, M. J., Heath, N. L., Toste, J. R., & McLouth, R. (2012). Nonsuicidal self-injury and gender: Patterns of prevalence, methods, and locations among adolescents. *Suicide and Life-Threatening Behavior, 42,* 266–278.

St Germain, S. A. S., & Hooley, J. M. (2012). Direct and indirect forms of non-suicidal self-injury: Evidence for a distinction. *Psychiatry Research, 197,* 78–84. http://dx.doi.org/10.1016/j.psychres.2011.12.050

U.S. Army. (2010). *Army health promotion, risk reduction, suicide prevention report 2010*. Retrieved from http://www.armyg1.army.mil/hr/suicide/docs/Commanders%20Tool%20Kit/HPRRSP_Report_2010_v00.pdf

U.S. Department of Health and Human Services. (2012). *National Strategy for Suicide Prevention: Goals and objectives for action: A Report of the U.S. Surgeon General and of the National Action Alliance for Suicide Prevention*. Washington, DC: Author. Retrieved from https://www.ncbi.nlm.nih.gov/pubmed/23136686

U.S. Department of Veterans Affairs. (2016). *VA conducts nation's largest analysis of veteran suicide*. Retrieved from http://www.va.gov/opa/pressrel/pressrelease.cfm?id=2801

Walsh, B. W. (2012). *Treating self-injury: A practical guide*. New York, NY: Guilford Press.

Whitlock, J., Exner-Cortens, D., & Purington, A. (2014). Assessment of nonsuicidal self-injury: Development and initial validation of the Non-Suicidal Self-Injury-Assessment Tool (NSSI-AT). *Psychological Assessment, 26,* 935–946. http://dx.doi.org/10.1037/a0036611

Whitlock, J., Muehlenkamp, J., Eckenrode, J., Purington, A., Baral Abrams, G., Barreira, P., & Kress, V. (2013). Nonsuicidal self-injury as a gateway to suicide in young adults. *Journal of Adolescent Health, 52,* 486–492. http://dx.doi.org/10.1016/j.jadohealth.2012.09.010

Whitlock, J., Muehlenkamp, J., Purington, A., Eckenrode, J., Barreira, P., Baral Abrams, G., . . . Knox, K. (2011). Nonsuicidal self-injury in a college population: General trends and sex differences. *Journal of American College Health, 59,* 691–698. http://dx.doi.org/10.1080/07448481.2010.529626

Zahl, D. L., & Hawton, K. (2004). Repetition of deliberate self-harm and subsequent suicide risk: Long-term follow-up study of 11,583 patients. *The British Journal of Psychiatry, 185,* 70–75. http://dx.doi.org/10.1192/bjp.185.1.70

Received November 10, 2016
Revision received February 24, 2017
Accepted April 14, 2017 ■