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SUICIDE AND DISABILITY: THREE DIFFERENT ANALYSES OF A
NATION-WIDE SAMPLE OF AMERICAN ADULTS

by

Emily M. Lund

A dissertation submitted in partial fulfillment
of the requirements for the degree

of

DOCTOR OF PHILOSOPHY

in

Disability Disciplines

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2016

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ABSTRACT

Suicide and Disability: Three Different Analyses of a Nation-Wide
Sample of American Adults

by

Emily M. Lund, Doctor of Philosophy

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Suicidality is a major public health issue and is more common among people with disabilities. However, relatively little is known about the context and specifics of suicidality among adults with disabilities compared to their peers without disabilities. This dissertation presents three different analyses of suicidality and disability using a sample of American adults. Chapter I introduces the topic and dataset. Chapter II presents an analysis of the internal consistency, mean scores, and response patterns on the Suicidal Behavior Questionnaire—Revised (SBQ-R) by disability status in order to establish the internal of the measure in people with disabilities and explore the uniformity of suicidality in people with and without disabilities. Participants with disabilities tended to more frequently endorse response choices consistent with increased past, current, and perceived future suicidality. Chapter III presents an analysis of the relationship between suicidality, disability, and psychiatric disability. Disability remained a significant predictor of suicidality even when depressive symptoms were included in the analysis,

and psychiatric disability predicted greater suicidality within the disability subsample, even when depressive symptoms were controlled for via statistical analysis. Chapter IV presents an analysis of suicidality and disability within the context of both depressive symptoms and sociodemographic risk and protective factors for suicidality. Participants with disabilities experienced more sociodemographic risk factors than participants without disabilities; however, disability status remained a significant predictor of suicidality even when sociodemographic risk and protective factors, as well as depressive symptoms, were included in the analysis. Chapter V summarizes and concludes the dissertation, including our consistent and major finding that disability is linked to significantly higher suicidality, even when depression and sociodemographic risk factor are accounted for in statistical analysis.

(121 pages)

PUBLIC ABSTRACT

Suicide and Disability: Three Different Analyses of a Nation-Wide
Sample of American Adults

Emily M. Lund

Suicide is a major public health issue and the 10th leading cause of death in the U.S. People with disabilities are one group that may be at high risk for suicide. This dissertation presents three studies that examined suicidal thoughts and behaviors in a national sample of individuals with and without disabilities. They also examined the ways in which depression scores and sociodemographic factors such as gender, religion, race, and employment, interact with disability status to influence suicidality. I found that people with disabilities reported more suicidal thoughts and suicide attempts and were more likely to believe that they would attempt suicide in the future when compared to people without disabilities. This was still true even when I took into account their higher depression scores and demographic risk factors such as unemployment and not being in a romantic relationship. Additionally, I found that people with psychiatric disabilities (mental illnesses) were more likely to be at risk for suicide than those with other disabilities, even when I took into account depression symptoms and demographic risk factors. However, even people with other types of disabilities were at greater risk for suicide than people without disabilities.

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Emily M. Lund

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CHAPTER I

INTRODUCTION

Suicide is a major mental and public health issue. The Centers for Disease Control and Prevention (CDC, 2015) estimate that over 41,000 people die by suicide in the U.S. each year. This makes suicide the 10th leading cause of death in the U.S. Furthermore, the American Foundation for Suicide Prevention (AFSP, 2015a) estimated that there are at least 25 suicide attempts for every death by suicide. Over 1.3 million adults in the U.S. attempt suicide each year (CDC, 2015). Additionally, people may experience suicidal thoughts (i.e., suicidal ideation) or make a suicide plan without carrying out an attempt and so may be directly and personally affected by suicidality in ways that are not as easily tracked. The CDC reported that 3.9% of American adults reported having thoughts of suicide over the past year, with 1.1% making a suicide plan. The spectrum of suicidal thoughts and behaviors that includes suicidal ideation, plans, and attempts is known as “suicidality” (Osman et al., 2001).

Although suicidality can affect anyone, risk for suicide is not equally distributed among populations. For example, the CDC (2015) reported that suicidality differed between racial and ethnic groups, with White individuals being more likely to report suicidal ideation than Black, Hispanic, and Asian Americans but less likely than American Indians and Alaskan Natives and Pacific Islanders. Thus, one important aspect of suicide prevention and treatment is to understand the factors that underlie increased suicidality in particularly high-risk populations. For instance, researchers have long expressed concern about the increased rates of suicidality among individuals who are

sexual minorities (e.g., people who identify as gay, lesbian, or bisexual; Meyer, 2003; Plöderl et al., 2013). This population has been consistently shown to experience both depression and suicidality at increased rates, which raises questions of what social and psychological factors may be responsible for this elevated risk. These group differences suggest that there may be important sociodemographic factors and differences that act as risk or protective factors in relation to suicidality. Understanding what these factors are and how they interact may be important in understanding, treating, and preventing suicidality, especially in high-risk groups.

One such high-risk population is people with disabilities. For example, Pompili et al. (2012) conducted a systematic review of suicidality in individuals with multiple sclerosis and found that individuals with multiple sclerosis were consistently more likely to attempt and die by suicide compared to comparison samples of individuals without disabilities. Similarly, Giannini et al. (2010) conducted a narrative review of suicidality in people with multiple sclerosis, spinal cord injury, and intellectual disability. They concluded that individuals with multiple sclerosis and spinal cord injury were consistently found to have elevated rates of suicidality compared to the rates seen in the general population. Their conclusions regarding suicidality in individuals with intellectual disability (ID) were more mixed; they found that individuals with ID were more likely to have risk factors associated with increased suicidality, such as comorbid psychiatric conditions. However, one large Finnish study included in the review found that individuals with intellectual disability died by suicide at one third the rate of the general population. Giannini et al. concluded that the research regarding suicidality in

people with ID was mixed and limited in that it was largely restricted to either (a) chart reviews of those who had died by suicide or been hospitalized for suicide attempts or (b) research that examined suicide risk factors in people with ID without examining suicidality directly. Although the finding about ID and suicidality suggested that suicidality may look different in different disability groups, it is also important to note the methodological limitations of many of the studies of people with ID that were included in the review, such as limiting participation to only those individuals who had been hospitalized for suicide attempts or died by suicide. Thus, any possible conclusions regarding lower suicide risk in people with ID must be made with caution.

Overall, Giannini et al. (2010) concluded that suicidality was a major, cross-disability issue. In concordance with these findings, other researchers have found elevated rates of suicidality in individuals with other types of disabilities, such as Huntington's disease (Wetzel et al., 2011), autism spectrum disorder (Segers & Rawana, 2014), and physical disabilities that result in chronic pain (Fishbain et al., 2012). In general, suicidality appears to be elevated across disability groups; however, there may be intergroup variation in this risk among different disability groups (Giannini et al., 2010).

The Depression Model of Suicidality

One major focus of research on suicide has been the contribution of psychiatric illness, particularly depression, to suicidality. Depression typically refers to major depressive disorder as defined by the American Psychiatric Association (APA, 2013).

The current criteria for major depressive disorder are as follows: (a) depressed mood most of the day, almost every day, by client or informant report; (b) markedly reduced interest or pleasure in all or almost all interests or activities; (c) significant and unintentional weight loss or weight gain; (d) psychomotor agitation or slowness; (e) significant sleep issues (hyper- or hypo-somnia); (f) fatigue or loss of energy; (g) feelings of worthless or excessive guilt; (h) diminished ability to think, concentrate or make decisions; and (i) repeated thoughts of death or suicide (outside of the fear of dying itself) or suicide plans or attempts. In order to receive a diagnosis of major depressive disorder, individuals must have experienced five or more of the above-written symptoms for at least 2 weeks, and at least one of those symptoms must be depressed mood or loss of interest. Additionally, these symptoms must not be better explained by bipolar disorder, a psychotic disorder, or a known physiological medical condition and must cause significant impairment functioning in one or more major areas of the person's life (APA, 2013). As noted above, the core feature of major depressive disorder is a depressed or sad mood or drastically reduced ability to feel pleasure or interest in previously enjoyed things. Other mood disorders, such as dysthymia and bipolar disorder, also have periods of low mood as a core symptom (APA, 2013). Measures of depressive symptoms, such as the Center for Epidemiological Studies Depression scale (CES-D; Radloff, 1977) has shown that this conceptualization of depression does appear to be valid. In other words, the symptoms of major depressive disorder described by the APA do tend to cluster together, whether it is in individuals with clinical levels of depression, subclinical levels of depression, or no depression.

The chronic low mood, apathy, and feelings of guilty or worthlessness associated with depression raise many concerns for suicide. For example, Beck, Kovacs, and Weissman (1975) found that hopelessness was a key contributor to suicide attempts, and chronic, severe, and seemingly immutable feelings of depression, apathy, and worthlessness could indeed make an individual feel trapped and hopeless. Similarly, in his interpersonal-psychological model of suicidality, Joiner (2005) proposed that perceived burdensomeness is a major contributor to suicidality, and it is clear how chronic low mood and feelings of worthlessness could create or enhance such feelings. In addition, through a behavioral lens, the experience of depression—rife with extreme sadness, little pleasure, guilt, and general malaise—could cause the experience of life itself to be seen as aversive and potentially something to try escaping via suicide. Thus, the experience of depression is a key part of many conceptualizations of suicide.

Indeed, the apparent link between depression and suicidality seems so evident that some organizations now see suicide as an outcome of untreated or inadequately depression; in other words, suicide is conceptualized as a consequence of depression more so than a linked but distinct phenomenon. In its educational materials, the AFSP (2015b) focused mainly on the role of depression in suicide and cites treatment for depression and related disorders as the way to treat suicidality and prevent suicide. This view is not without merit; indeed, AFSP reported that over 90% of people who die by suicide have a diagnosable—although not necessarily *diagnosed*—psychiatric disorder, most commonly depression, at the time of their death. Indeed, suicidality is considered a symptom of major depressive disorder (APA, 2013).

Because people with disabilities tend to experience depression at higher rates than the general population (Giannini et al., 2010; Wetzel et al., 2011), the contribution of depression to the phenomenon of suicidality in people with disabilities must also be considered. Unsurprisingly, researchers have consistently found that having both depression and another disability increases one's risk for suicidality compared to those without comorbid depression (Giannini et al., 2010; Lunsky, Raina, & Burge, 2012; Pompili et al., 2012); however, researchers have typically not statistically controlled for depression or depressive symptoms when examining suicidality in people with disabilities. In one study, Dennis et al. (2009) found that controlling for anxiety and depressive disorders could only partially account for the impact of activity limitations (i.e., functional disability) on suicidality. Thus, the question of if and how disability contributes to increased suicidality beyond a co-occurring increased incidence of depressive symptoms should be further explored.

The Sociodemographic Model of Suicidality

Although it cannot and should not be denied that depression is a major factor in suicidality, it is not the only risk factor that has been consistently linked to depression. One practitioner-driven model of suicidality is the sociodemographic model (Fiedorowicz, Weldon, & Bergus, 2010). The sociodemographic model of suicidality is based on a synthesis of research that has explored the relation of various sociodemographic factors to suicide and is aimed at providing practitioners with a way to determine which clients or patients may be at greater risk of suicidality (Fiedorowicz et al., 2010). The

sociodemographic model of suicide examines evidence-based risk and protective factors for suicide; technically, each factor could be conceptualized as either a risk or protective factor depending on how it is measured. For example, one can either conceptualize employment as a protective factor against suicide or unemployment as a risk factor for suicide. Likewise, one could conceptualize religious faith as a protective factor against suicide, or they could conceptualize lack of religious faith or atheism as a risk factor for suicide. As described in Chapter IV, our use of the sociodemographic model of suicide in this study focused on the following sociodemographic factors, in addition to depressive symptoms: (a) race/ethnicity, (b) age, (c) educational attainment, (d) relationship status, (e) employment status, (f) income, (g) religious affiliation, (h) religious participation, (i) gender, and (j) family and friend suicide attempt or death history, in addition to disability status. The prior research on each of these factors in relation to suicidality and, where applicable, disability is described in detail in Chapter IV.

As with the depression model of suicide, the sociodemographic model of suicide can also fit in well with a variety of theoretical conceptualizations of suicide. For example, one could conceptualize employment as being a means to decrease burdensomeness and increase social belonging, two key components of Joiner's (2005) interpersonal-psychological model of suicide. Similarly, religious faith could be seen as a means of decreasing hopelessness through beliefs in a benevolent deity or universe, consistent with the Beck et al. (1975) model of hopelessness and suicidality; alternately, religious faith could be seen as a means by which an individual could access community, increasing social belongingness, as in Joiner's model of suicide. However, as an applied

model, the sociodemographic model can also stand independent of any particular theory of suicide; given the consistent and well-documented links between the targeted sociodemographic factors and suicide, one can empirically examine if and how they account for increased suicidality in a high-risk population, such as individuals with disabilities.

As will be discussed in detail in Chapter IV, the sociodemographic model of suicidality is of particular interest when examining suicidality in the context of disability, as people with disabilities may be more apt to experience sociodemographic risk factors for suicide. For example, McConnell, Hahn, Savage, Dube, and Park (2015) found that unemployment, lower personal income, and lower educational attainment was significantly correlated with both lifetime and past year suicidal ideation in a large Canadian sample of adults with and without disabilities. As they noted, disability tends to be associated with lower SES, especially lower income and employment rates. This is true in the U.S. as well; the American Community Survey (ACS; U.S. Census Bureau, 2013) found that workers with disabilities made only about three quarters of what nondisabled workers made, and over half (52%) of workers with disabilities made less than \$25,000 per year. Likewise, individuals with disabilities comprised only 6.0% of the civilian labor force (i.e., those employed or actively seeking employment), largely due to the fact that they were three times less likely to be employed than those without disabilities (U.S. Census Bureau, 2013). Thus, the contribution of socioeconomic risk factors to the suicidality of people with disabilities should be further explored as well. Of note, McConnell et al. also found that higher food insecurity, a proxy measure for SES,

partially mediated the relationship between disability and suicidal ideation. Additionally, the possible contributions of other risk and protective factors, such as religiosity and religious involvement, gender, and exposure to suicide (Fiedorowicz et al., 2010) should also be examined in order to better understand the context in which suicidality and disability co-occur; this will be explored in greater detail in Chapter IV.

Data

Procedures

The studies in Chapters II-IV of this document draw from a dataset of 500 American adults who were recruited from Amazon Mechanical Turk (MTurk). The participants were part of a larger study on the impact of disability status on suicide acceptability (Lund, Nadorff, Winer, & Seader, 2016) and were paid \$.25 for their participation. The study was limited to individuals ages 18 and older with an American internet provider (IP) address; the measures were ordered so that participants completed the measures in the following order: (1) attitude towards disability, (2) suicide acceptability, (3) depressive symptoms, (4) suicidality, and (5) demographics and suicide history. This order allowed for more emotionally laden and potentially distressing topics, such as depression, suicidality, and suicide history, to be asked later in the survey. In addition, participants were given contact information for national suicide, crisis, and support hotlines both in the informed consent process and at the end of the survey. All data were collected off of MTurk on a secure, university-affiliated Qualtrics server; thus, data were never linked to any identifying information, such as name, IP address, or

MTurk account. All materials and procedures were approved by the Mississippi State University prior to beginning recruitment and data collection.

MTurk

MTurk is an online participant and worker recruitment system run by Amazon (Buhrmester, Kwang, & Gosling, 2011; Mason & Suri, 2012). MTurk allows individuals or companies to post requests (termed “Human Intelligence Tasks” [HITs]) in exchange for a 10% posting fee (Buhrmester et al., 2011). Workers who sign up for MTurk can then see and choose which HITs, if any, they wish to complete. HITs are typically short tasks, such as surveys or marketing questionnaires, and occur exclusively online. MTurk is based around the concept of “micro-compensation,” in which participants are paid small amounts, typically \$.50 or less, for completing surveys; Buhrmester et al. found that MTurk compensation amount did not affect data quality, only recruitment speed. This micro-compensation structure allows for researchers to collect relatively large amounts of data relatively quickly.

Data collected from MTurk has been shown to have good to excellent psychometric properties, including internal consistency and test-retest reliability (Buhrmester et al., 2011), which we also found in the present study. In their review of the literature on MTurk data validity, Mason and Suri (2012) reported that data from MTurk has been consistently shown to be valid, and my previous experience with this data supports that as well. For example, Thomas, Lund, and Bradley (2015) conducted a study on MTurk in which participants completed a measure of nonsuicidal self-injury that contained main open-ended items. Responses to the items were logical, appropriate, and

consistent with the questions asked. Bogart, Lund, and Bouchard (2016) included two “attention check” items (e.g., “For this item, select ‘strongly agree’”) near the end of a long MTurk (300-900 variable) survey. Only 126 out of 1,105 participants (11.4%) failed an attention check, again suggesting that MTurk produces valid data.

In terms of demographics, MTurk has been shown to produce samples with a roughly equal gender ratio and a mean age in the mid-30s (Buhrmester et al., 2011; Lund et al., 2016; Thomas et al., 2015). It has been noted to be more racially diverse than most college student samples (Buhrmester et al., 2011) and to yield samples that are about 76%-80% White (Lund et al., 2016; Thomas et al., 2015). This is roughly in-line with the percentage of Americans who described themselves a White of any ethnicity (77.1%, U.S. Census Bureau, 2015). The larger sample of the present study, which is used in Chapters II and III, involved 485 participants, and the smaller sample of 438 participants used in Chapter III did not differ demographically from the larger sample, which is discussed here. As seen in Chapter II, they selected the following racial/ethnic identifications from a forced-choice list: White (74.8%), Black/African-American (10.7%), Hispanic (4.7%), Asian (7.4%), Native American (0%), Other (1.6%), and prefer not to disclose (.6%). The U.S. Census Bureau (2015) listed the following distribution of race in the U.S.: White (77.1%), Black/African-American (12.6%), Hispanic (17.6%), Asian (5.6%), Native American (1.2%), and Other (1.6%). Comparing this data to U.S. Census Bureau (2015) data, it is roughly equivalent to the racial demographics of the U.S., with the exception of the under-representation of Hispanic-identifying individuals (17% v. 4.3%). However, it is important to note that the U.S. Census data asks about Hispanic/Latino ethnicity

separate from race and that about two thirds of Hispanic/Latino individuals also identify as White alone (U.S. Census Bureau, 2014), so it is unclear how those individuals would identify if presented with a forced-choice option. Future research should examine MTurk racial and ethnic demographics with an open-choice race/ethnicity item or separate items for race and ethnicity, as this may also better capture the 2.9% of Americans who identify as multiracial. However, overall MTurk data appear to produce samples that are roughly equally split on gender and fairly racially representative, with a possible under-representation of Hispanic and Latino individuals.

In terms of disability, about 19.4% of our participants reported having disabilities. This is very similar to the 20% of Americans classified as having disabilities by the U.S. Census (Brault, 2012). Because the U.S. Census Bureau data do not break disability down by the same categories that we did (e.g., learning, vision, hearing, psychiatric, chronic health, physical, etc.), it is difficult to know how our disability breakdown by type compares to any national population breakdown by disability type. Relatedly, our sample also had a higher percentage of participants score in the clinical range on the CES-D than would be expected (see Lund et al., 2016). This is in line with the findings of Shapiro, Chandler, and Mueller (2013), who also found higher rates of psychiatric symptoms—not necessarily psychiatric diagnosis or psychiatric disability—than would be expected in the general population, suggesting that this may be one area in which MTurk samples not be representative of the general population. In order to statistically account for this, we controlled for depressive symptoms in Chapters III and IV.

In terms of geography, our sample represented individuals from 49 states and

Puerto Rico, indicating a wide-spread geographic reach. In terms of income, our median income was within the \$35,000-\$49,999 bracket. This is not far below the \$53,482 median household income reported by the U.S. Census Bureau (2015), suggesting that our sample was fairly representative in terms of income. Because we inquired about income in brackets and not as specific figures in order to increase participant privacy and reduce participant effort burden, a direct comparison of the two medians is not possible.

In sum, MTurk appears to yield participant samples that are fairly representative of the U.S. as a whole in terms of race, gender, income, disability, and geography. Additionally, the data produced tends to be valid and reliable, as was demonstrated in our sample as well (see also Lund et al., 2016). Although MTurk does have some potential weaknesses in terms of potential under-representation of Hispanic individuals and higher than expected levels of psychiatric symptoms, existing research, as well as the present studies, suggest that it is good source of valid, reliable, representative, and affordable survey data. Furthermore, the higher than expected levels of psychiatric symptoms may actually prove useful when studying a relatively low-incidence phenomenon like suicide, especially when other psychiatric phenomena, such as depression symptoms, can be controlled for in statistical analysis.

Measures

In addition to the sociodemographic data collected (see Chapter IV for detailed information), the two main measures used in the present analyses were the CES-D (Radloff, 1977), which was used to measure depression symptoms, and the Suicide

Behavior Questionnaire-Revised (SBQ-R; Osman et al., 2001), which was used to measure suicidality. The instrument properties of the CES-D are described in detail in Chapters III and IV and the SBQ-R is described in detail in Chapters II-IV. For introductory purposes, it is important to note that the SBQ-R is a multidimensional measure of suicidality that examines general and past year suicidal ideation, suicide plans and attempts, and beliefs about an individual's likelihood of future suicide attempts. This differs from much of the previous research on suicidality in people with disabilities, which has generally relied on dichotomous or unidimensional measures of suicidality, such as death (Giannini et al., 2010; Pompili et al., 2012), hospital records (Lunsky et al., 2012; Pompili et al., 2012), suicidal ideation items from a semi-structured clinical interviews (Wetzel et al., 2011), or dichotomous questions about suicidal ideation (McConnell et al., 2015). Thus, the use of a multidimensional measure of suicidality may shed additional light on the broader picture of suicidality in people with disabilities.

Chapter Summary

The following three articles present three different examinations of suicidality in people with disabilities using the SBQ-R. Chapter II contains a study assessing the response patterns of people with and without disabilities on items concerning past, current, and predicted future suicidal ideation, plans, and attempts. This chapter establishes the internal consistency and response patterns on the SBQ-R for people with and without disability; this helps to ensure that the measure is reliable in this population and that any elevated rates of suicidality in participants with disabilities is not the product

of higher scores on this one or two dimensions of suicidality. This chapter sets the ground work for using total SBQ-R scores as a reliable outcome measure in the other two studies. Chapter III contains a study examining the relationship between disability and suicidality when controlling for depressive symptoms. This allows us to see whether or not the increased suicidality seen among people with disabilities in Chapter II can be wholly accounted for by increased depressive symptoms. In addition, it also examines relative risk in participants with psychiatric disabilities specifically, although this analysis should be considered preliminary due to the relatively small subsample of participants. Chapter IV builds on our findings in Chapter III with an analysis disability as a predictor of suicidality in the context of both depression and other sociodemographic factors.

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CHAPTER II

**COMPARING THE INTERNAL CONSISTENCY, OVERALL SCORES, AND
RESPONSE PATTERNS ON THE SUICIDAL BEHAVIOR
QUESTIONNAIRE—REVISED (SBQ-R) IN PEOPLE
WITH AND WITHOUT DISABILITIES¹**

Abstract

This study examined the internal consistency, overall mean scores, and response patterns of 485 American adults, including 92 who identified as people with disabilities, on the Suicidal Behavior Questionnaire—Revised (SBQ-R). The measure demonstrated acceptable internal consistency in both groups. Participants with disabilities had higher mean total scores as well as more concerning response patterns on SBQ-R items assessing suicide attempts, plans, recent suicidal ideation, and perceived likelihood of future suicide attempts. This was true even when participants with psychiatric disabilities were excluded.

Introduction

Suicide is the 10th leading cause of death in the U.S., with over 41,149 deaths attributed to suicide in 2013 (Centers for Disease Control and Prevention [CDC], 2015).

¹ Adapted from Lund, E. M., Nadorff, M. R., Galbraith, K., & Thomas, K. B. (2016). Comparing internal consistency, overall scores, and response patterns on the Suicidal Behavior Questionnaire-Revised (SBQ-R) in people with and without disabilities. The manuscript is currently under review at *Rehabilitation Counseling Bulletin* and is used per the journal's usage guidelines (see Appendix A) with co-author permissions (Appendix B).

Furthermore, the American Foundation for Suicide Prevention (AFSP, 2015) estimated that there are at least 25 suicide attempts for every death by suicide. More broadly, the CDC reported that 3.9% of American adults reported having thoughts of suicide over the past year, with 1.1% making a suicide plan.

A growing body of research has consistently found that people with disabilities experience increased rates of suicidality when compared to the general population, and this has generally held true across disability groups. (e.g., Giannini et al., 2010; Pompili et al., 2012; Wetzel et al., 2011). However, there has been some research that also suggests that people with psychiatric disabilities may be somewhat inflating the rates of suicidality in people with disabilities as a broadly defined group (Dennis et al., 2009; Lund, Nadorff, & Seader, 2016). This provokes the question of if excluding or including individuals with either comorbid or exclusive psychiatric disabilities from comparative subsamples may affect the prevalence of suicidality reported.

A key consideration when discussing methods of measuring, reporting, and comparing suicidality is how suicide or suicidality is defined and measured. Within the existent literature on suicide and disability, methods for measuring suicide and suicidality have varied across studies. Previous studies have examined cause of death (Giannini et al., 2010; Pompili et al., 2012), hospital records (Lunsky, Raina, & Burge, 2012; Pompili et al., 2012), suicidal ideation items from a semistructured clinical interviews (Wetzel et al., 2011), and self-report measures of suicidal thoughts (Khazem, Jahn, Cukrowicz, & Anestis, 2015). However, we are not aware of any studies that have examined the use of a multicomponent suicidality scale in people with disabilities. Such scales can provide

valuable clinical data by providing information about multiple domains of suicidality, such as ideation, previous attempts, attempt and ideation severity, and belief that one may attempt suicide in the future (Osman et al., 2001).

Although previous research (Lund, Nadorff, & Seader, 2016) has used one such scale, the Suicidal Behavior Questionnaire-Revised (SBQ-R; Osman et al., 2001), to assess relative suicidality in individuals with and without disabilities, that study used scores that had been logarithmically transformed to yield more normal score distributions, as is common in suicide research (e.g., Khazem et al., 2015). Thus, the actual item-by-item response patterns and rates among people with and without disabilities has not been examined in the current literature. Therefore, it remains in open question which aspects of suicidality (e.g., attempts, ideation, severity of attempts and ideation) are elevated among people with disabilities relative to their peers without disabilities. Finally, the reliability of the SBQ-R has not been established in people with disabilities specifically, making its psychometric properties in this specific population unknown at this time.

Applicability to Rehabilitation Counselors

Rehabilitation counselors in particular may benefit from understanding how suicidality presents in individuals with disabilities. For example, it may be clinically useful to be able to determine if a client has previous suicide attempts but no current suicidal ideation. Alternately, it may be clinically useful to differentiate clients with current strong suicidal ideation from those with previous plans or attempts but who are currently stable and not experiencing ideation. Additionally, having a psychometrically established suicidality screening measure in individuals with disabilities may help

rehabilitation counselors better assess and understand suicide risk in their clients and how their risk may compare to people without disabilities.

Purpose and Research Questions

The purpose of this study is to assess the reliability and differential response patterns on the SBQ-R (Osman et al., 2001) in people with and without disabilities. In particular, the research questions were as follows:

1. What is the reliability (internal consistency) of the SBQ-R in a sample of participants with and without disabilities?
2. How do total mean scores on the SBQ-R differ between participants with and without disabilities?
3. How do individual item response patterns differ between participants with and without disabilities?
4. Does the exclusion of individuals with psychiatric disabilities from the disability subsample affect the results of the first three research questions?

Method

Participants and Recruitment

Participants were part of a larger study on attitudes towards suicide and disability. They included 485 respondents who answered the question regarding disability status and provided complete data on the SBQ-R. Participants were recruited via Amazon Mechanical Turk (MTurk), an online participant recruitment website where participants are paid small amounts of compensation for completing surveys and other tasks online. Participants in this study were paid \$0.25 for their time and were required to be age 18 or older and a U.S. resident in order to participate. Data collection took place off MTurk via

a secure Qualtrics webserver, and responses could not be linked to participant names, MTurk identification numbers, or other identifying information. All study procedures and materials were approved prior to data collection by a university institutional review board.

Previous studies have shown that MTurk samples produce valid and reliable data (Buhrmester, Kwang, & Gosling, 2011) and are generally representative in terms of age and gender. Our sample was 60% female ($n = 291$) and 74.8% White ($n = 363$). The mean age was 35.75 years ($SD = 13.72$, range: 18-75). Approximately one third (36.3%, $n = 176$) reported working full-time with an additional 14.6% ($n = 71$) working part-time and 18.6% ($n = 90$) identifying as full-time students. Two fifths (40.9%, $n = 198$) had a bachelor's degree or higher. More sample demographic information is available in Lund et al. (2016).

Ninety-two participants (19%) of the sample identified as having one or more disabilities. The types of disabilities participants were reported via an open-ended question and responses were then categorized by the principal investigator. Eighty participants stated their type of disability, with 12 (13%) declining to state. The most common types of disabilities reported were psychiatric (27.2%, $n = 25$), physical (23%, $n = 23$), and chronic health (22.9%, $n = 22$) disabilities. Less commonly endorsed disabilities included learning disabilities (4.3%, $n = 4$), visual impairment (3.3%, $n = 3$), speech impairment (3.3%, $n = 3$), autism spectrum disorders (2.2%, $n = 2$), and hearing impairment (1.1%, $n = 1$).

Previous studies of MTurk samples have found elevated rates of psychopathology relative to what would be expected in the general population (Shapiro, Chandler, &

Mueller, 2013). This was true in our sample as well, where 219 participants (45.2%) scored at or above the cutoff of 16 on the Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977), a reliable and valid measure of depressive symptoms. As with previous research (e.g., Giannini et al., 2010; Lunsky et al., 2012; Wetzel et al., 2011), depression rates were higher among participants with disabilities (58.7%, $n = 54$) than participants without disabilities (42%, $n = 165$). This difference was significant, $\chi^2(1) = 8.41, p = .004, \phi = .13$; however, previous research with this dataset has indicated that higher rates of depressive symptoms alone do not account for the significantly increased suicidality among participants with disabilities (Lund et al., 2016). The rate of positive CES-D scores among participants with nonpsychiatric disabilities was 52.7% ($n = 29$). This difference was not significant, $\chi^2(1) = 2.27, p = .113, \phi = .07$.

Measure

In addition to the demographic items, the measure of interest in these analyses is the SBQ-R (Osman et al., 2001). The SBQ-R is a revised version of the Suicidal Behaviors Questionnaire (Linehan, 1981). It is 4-item, self-report measure designed to assess levels of suicidal risk. Respondents can select only one response per item. The SBQ's four items are summed to create a total score ranging between 3 and 18, and scores above 7 can be considered to indicate clinically significant suicide risk. It has demonstrated acceptable internal consistency, with an alpha of 0.88 in a clinical sample and 0.87 in a nonclinical sample (Osman et al., 2001). Additionally, a cutoff score of 7 demonstrated sensitivity of 93% and specificity of 95% in correctly identifying adults at high risk for suicide in a general population college student sample.

The first item of the SBQ-R asks “Have you ever thought about or attempted to kill yourself?” The response options and their point values are as follows: “Never” (1 point); “It was just a brief passing thought” (2 points); “I have had a plan at least once to try to kill myself but did not try to do it” (3 points); “I have had a plan at least once to try to kill myself really wanted to die” (3 points); “I have attempted to kill myself but did not want to die” (4 points); and “I have attempted to kill myself, and really hoped to die” (4 points).

The second item on the SBQ-R asks “How often have you thought about killing yourself in the past year?” The response options and their point values are as follows: “Never” (1 point); “Rarely (1 time)” (2 points); “Sometimes (2 times)” (3 points); “Often (3-4 times)” (4 points); and “Very often” (5 or more times)” (5 points).

The third item on the SBQ-R asks, “Have you ever told someone that you were going to commit suicide, or that you might do it?” The response options and their point values are as follows: “No” (1 point); “Yes, at one time, but did not really want to die” (2 points); “Yes, at one time, and really wanted to die” (2 points); “Yes, more than once, but did not want to do it” (3 points); and “Yes, more than once, and really wanted to do it” (3 points).

The fourth item on the SBQ-R asks “How likely is it that you will attempt suicide someday?” The response options and their point values are as follows: “Never” (0 points); “No chance at all” (1 points); “Rather unlikely” (2 points); “Unlikely” (3 points); “Likely” (4 points); “Rather likely” (5 points); and “Very likely” (6 points).

Analyses

Cronbach's alpha was used to assess internal consistency; as is standard, $\alpha = .70$ was used as a cutoff for acceptable internal consistency (George & Mallery, 2003). Independent sample *t* tests and Cohen's *d* effect sizes were used to compare overall mean scores on the SBQ-R. Benchmarks of .2, .5, and .8 were used to differentiate small, medium, and large effect sizes, respectively (Cohen, 1992).

Item-by-item response differentiation involved using chi-square tests to compare the percentage of participants with and without disabilities endorsing certain responses on each item of the SBQ-R. A breakdown of responses for each item can be seen in Table 1. We also used phi (ϕ) as an effect size for chi-square analyses, with the benchmarks of .1, .3, and .5 for used phi (ϕ) as an effect size for chi-square analyses, with the benchmarks of .1, .3, and .5 for small, medium, and large effect sizes, respectively (Cohen, 1992). Additionally, to control for the possibility that the presence of individuals with psychiatric disabilities in our disability subsample may be responsible for the higher rates of suicidality in the disability subsample, we conducted the same analyses comparing only participants without psychiatric disabilities to those with no disabilities. The nonpsychiatric disability subsample included 55 participants, excluding 25 participants with psychiatric disabilities and 12 participants who did not disclose the nature of their disability. The item-by-item breakdown on the SBQ-R for this smaller subsample can be seen in Table 2.

Table 1

Percent and Number of Individuals Endorsing Each Response on the SBQ-R: Any Disability

Item	No disability (<i>n</i> = 393)		Disability (<i>n</i> = 92)	
	%	<i>n</i>	%	<i>n</i>
Item 1: Have you ever thought about or attempted to kill yourself?				
Never	37.9	149	29.3	27
It was just a brief passing thought.	34.6	136	22.8	21
I have had a plan at least once to try to kill myself but did not try to do it.	12.7	50	19.6	18
I have had a plan at least once to try to kill myself and really wanted to die.	7.9	31	12.0	11
I have attempted to kill myself but did not want to die.	2.5	10	5.4	5
I have attempted to kill myself, and really hoped to die	4.3	17	10.9	10
Item 2: How often have you thought about killing yourself in the past year?				
Never	64.1	252	48.9	45
Rarely (1 time)	14.2	56	16.3	15
Sometimes (2 times)	13.5	53	15.2	14
Often (3-4 times)	3.6	14	6.5	6
Very often (5 or more time)	4.6	18	13.0	12
Item 3: Have you ever told someone that you were going to commit suicide, or that you might do it?				
No	79.1	311	63.0	58
Yes, at one time, but did not really want to die.	12.2	48	18.5	17
Yes, at one time, and really wanted to die	2.5	10	4.3	4
Yes, more than once, but did not want to do it.	2.3	9	6.5	6
Yes, more than once, and really wanted to do it.	3.8	15	7.6	7
Item 4: How likely is it that you will attempt suicide someday?				
Never	59.0	232	44.6	41
No chance at all	15.0	59	18.5	17
Rather unlikely	17.3	68	17.4	16
Unlikely	3.8	15	6.5	6
Likely	3.6	14	6.5	6
Rather likely	.5	2	2.2	2
Very likely	.8	3	4.3	4

Table 2

Percent and Number Endorsing Each Response on the SBQ-R: Nonpsychiatric Disability Only

Item	No disability (<i>n</i> = 393)		Nonpsychiatric disability (<i>n</i> = 55)	
	%	<i>n</i>	%	<i>n</i>
Item 1: Have you ever thought about or attempted to kill yourself?				
Never	37.9	149	32.6	18
It was just a brief passing thought.	34.6	136	27.3	15
I have had a plan at least once to try to kill myself but did not try to do it.	12.7	50	14.5	8
I have had a plan at least once to try to kill myself and really wanted to die.	7.9	31	9.1	5
I have attempted to kill myself but did not want to die.	2.5	10	5.5	3
I have attempted to kill myself, and really hoped to die	4.3	17	10.9	6
Item 2: How often have you thought about killing yourself in the past year?				
Never	64.1	252	56.4	31
Rarely (1 time)	14.2	56	12.7	7
Sometimes (2 times)	13.5	53	12.7	7
Often (3-4 times)	3.6	14	7.3	4
Very often (5 or more time)	4.6	18	10.9	6
Item 3: Have you ever told someone that you were going to commit suicide, or that you might do it?				
No	79.1	311	74.5	41
Yes, at one time, but did not really want to die.	12.2	48	12.7	7
Yes, at one time, and really wanted to die	2.5	10	3.6	2
Yes, more than once, but did not want to do it.	2.3	9	0	0
Yes, more than once, and really wanted to do it.	3.8	15	9.1	5
Item 4: How likely is it that you will attempt suicide someday?				
Never	59.0	232	54.5	30
No chance at all	15.0	59	9.1	5
Rather unlikely	17.3	68	14.5	8
Unlikely	3.8	15	7.3	4
Likely	3.6	14	9.1	5
Rather likely	.5	2	0	0
Very likely	.8	3	5.5	3

Results

Internal Consistency, Means, and Sum Scores of the SBQ-R

Internal consistency across the entire sample was acceptable ($\alpha = .769$). Internal consistency was also acceptable among participants with disabilities in particular ($\alpha = .777$) as well as those without disabilities ($\alpha = .743$). Additionally, internal consistency was also acceptable among participants with nonpsychiatric disabilities only ($\alpha = .822$).

The mean SBQ-R score for the entire sample was 6.07 ($SD = 3.24$; range = 3-18). The mean for participants without disabilities was 5.76 ($SD = 2.97$; range = 3-18). The mean for participants with any disabilities was 7.40 ($SD = 3.96$; range = 3-18, $d = .47$). The difference between groups was statistically significant, $t(116.02) = 3.734$, $p < .001$. The mean for participants with nonpsychiatric disabilities only was 6.95 ($SD = 4.22$, range = 3-16). This was significantly higher than the mean for participants without disabilities, $t(61.71) = 2.014$, $p = .048$, $d = .33$.

One hundred eighty participants (37.11%) had a total SBQ-R score at or above the cutoff of 7. Fifty individuals with disabilities (54.3%) had total SBQ-R scores at or above the cutoff, as did 130 individuals without disabilities (33.1%). Again, this difference was statistically significant, $\chi^2(1) = 14.45$, $p < .001$, $\phi = .17$. Twenty-five participants with nonpsychiatric disabilities (45.5%) had scores above the cutoff; this difference was not significant, although it was approaching significance, $\chi^2(1) = 3.27$, $p = .071$, $\phi = .086$.

Item-by-Item Analysis of the SBQ-R for All Disabilities

Item 1: Lifetime thoughts, plans or attempts to kill oneself. Almost three fourths (72.5%, $n = 285$) of participants without disabilities denied ever thinking about killing themselves as more than a passing thought, compared to only about half (52.2%, $n = 48$) of participants with disabilities, $\chi^2(1) = 14.34, p < .001, \phi = .17$. Almost a third of those with disabilities (31.6%, $n = 29$) reported having made a plan to kill themselves, as opposed to about a fifth (20.6%, $n = 81$) of those without disabilities, $\chi^2(1) = 5.06, p = .025, \phi = .10$. Of those without disabilities, 6.8% ($n = 27$) reported attempting suicide, with 4.3% ($n = 17$) reporting that they attempted suicide and truly wanted to die. Among those with disabilities, 16.3% ($n = 15$) reported making an attempt, with 10.9% ($n = 10$) reporting a serious attempt (i.e., one where they “really wanted to die”). Participants with disabilities were significantly more likely than participants without disabilities to report both attempting to kill themselves, $\chi^2(1) = 8.34, p = .004, \phi = .13$ and making a serious attempt, $\chi^2(1) = 6.07, p = .014, \phi = .11$.

Item 2: Suicidal thoughts over the past year. More than half of participants with disabilities (50.1%, $n = 47$) reported having thought about killing themselves over the past year, as opposed to 36.9% ($n = 141$) of participants without disabilities, $\chi^2(1) = 7.26, p = .007, \phi = .12$. Of those with disabilities, almost one fifth (19.5%, $n = 18$) reported having these thoughts “often” (three to four times) or “very often” (five or more times) over the past year. In contrast, less than 10% of participants without disabilities (8.2%, $n = 32$) reported having these thoughts often or very often. Participants with disabilities were significantly more likely to report having these thoughts often or very

often, $\chi^2(1) = 10.52, p = .001, \phi = .15$.

Item 3: Told someone else they wanted to or might kill themselves. One fifth of participants without disabilities (20.9%, $n = 82$) reported that they had told someone that they wanted to or planned to kill themselves, as compared to over a third (37.0%, $n = 34$) of participants with disabilities, $\chi^2(1) = 10.61, p = .001, \phi = .15$. Over 5% of those without disabilities (6.3%, $n = 25$) and over 10% (11.9%, $n = 11$) of those with disabilities reported that they had said so with true desire to die at least once. However, this difference was not significant, $\chi^2(1) = 3.40, p = .065, \phi = .08$.

Participants with disabilities were twice as likely to report telling others that they wanted or planned to kill themselves with true desire to die multiple times than were participants without disabilities (3.8% v. 7.6%, respectively). This difference was not significant, $\chi^2(1) = 2.48, p = .116, \phi = .07$. Participants with disabilities were also more likely to have told someone that they wanted to die without true desire to die (25.0%, $n = 23$) than those without disabilities (14.5%, $n = 57$). This difference was significant, $\chi^2(1) = 5.96, p = .015, \phi = .11$.

Item 4: Perceived likelihood of future suicide attempt. Almost one fifth of those with disabilities (19.6%, $n = 18$) thought that it was at least “likely” that they would attempt suicide one day. In contrast, less than 10% of participants without disabilities (4.9%, $n = 19$) thought that they were likely to attempt suicide one day. This difference was significant, $\chi^2(1) = 9.26, p = .002, \phi = .14$. Participants with disabilities were also more likely to think that “rather likely” or “very likely” that they would attempt suicide in the future (6.5%, $n = 6$) than participants without disabilities (1.3%, $n = 8$).

Again, this difference was significant, $\chi^2(1) = 9.27, p = .002, \phi = .14$.

Item-by-item Analysis of the SBQ-R for those with Nonpsychiatric Disabilities Only

Item 1: Lifetime thoughts, plans or attempts to kill oneself. Almost three fourths (72.5%, $n = 285$) of participants without disabilities denied ever thinking about killing themselves as more than a passing thought, compared to 60% ($n = 33$) of participants nonpsychiatric disabilities. This difference was not significant but was nearing significance, $\chi^2(1) = 3.67, p = .055, \phi = .09$. Almost a quarter of those with nonpsychiatric disabilities (23.6%, $n = 13$) reported having made a plan to kill themselves, as opposed to about a fifth (20.6%, $n = 81$) of those without disabilities. This difference was not significant, $\chi^2(1) = .266, p = .606, \phi = .025$. Of those without disabilities, 6.8% ($n = 27$) reported attempting suicide, with 4.3% ($n = 17$) reporting that they attempted suicide and truly wanted to die. Among those with nonpsychiatric disabilities, 16.4% ($n = 9$) reported making an attempt, with 10.9% ($n = 6$) reporting a serious attempt (i.e., one where they “really wanted to die”). Participants with nonpsychiatric disabilities were significantly more likely than participants without disabilities to report both attempting to kill themselves, $\chi^2(1) = 5.88, p = .015, \phi = .12$, and making a serious attempt, $\chi^2(1) = 4.29, p = .038, \phi = .1$.

Item 2: Suicidal thoughts over the past year. More two fifths of participants with nonpsychiatric disabilities (43.6%, $n = 24$) reported having thought about killing themselves over the past year, as opposed to 36.9% ($n = 141$) of participants without disabilities. However, this difference was not significant, $\chi^2(1) = 1.25, p = .264, \phi = .05$.

Of those with nonpsychiatric disabilities, almost one fifth (18.2%, $n = 10$) reported having these thoughts “often” (three to four times) or “very often” (five or more times) over the past year. In contrast, less than 10% of participants without disabilities (8.2%, $n = 32$) reported having these thoughts often or very often. Participants with nonpsychiatric disabilities were significantly more likely to report having these thoughts often or very often, $\chi^2(1) = 5.73, p = .017, \phi = .11$.

Item 3: Told someone else they wanted to or might kill themselves. One fifth of participants without disabilities (20.9%, $n = 82$) reported that they had told someone that they wanted to or planned to kill themselves, as compared to over a quarter of those with nonpsychiatric disabilities (25.5%, $n = 14$). This difference was not significant, $\chi^2(1) = .604, p = .437, \phi = .04$. Over 5% of those without disabilities (6.3%, $n = 25$) and almost 10% (9.1%, $n = 5$) of those with disabilities reported that they had said so with true desire to die at least once. However, this difference was not significant, $\chi^2(1) = .575, p = .448, \phi = .04$.

Participants with nonpsychiatric disabilities were more than twice as likely to report telling others that they wanted or planned to kill themselves with true desire to die multiple times than were participants without disabilities (3.8% v. 9.1%, respectively). This difference was not significant but was nearing significance, $\chi^2(1) = 3.15, p = .076, \phi = .08$. Participants without disabilities and those with nonpsychiatric disabilities were about equally likely to report that they had told someone that they wanted to kill themselves without true desire to die, 14.5% v. 16.3%, $\chi^2(1) = .133, p = .716, \phi = .02$.

Item 4: Perceived likelihood of future suicide attempt. Almost 15% of those

with nonpsychiatric disabilities (14.6%, $n = 12$) thought that it was at least “likely” that they would attempt suicide one day. In contrast, less than 10% of participants without disabilities (4.9%, $n = 19$) thought that they were likely to attempt suicide one day. This difference was significant, $\chi^2(1) = 21.61, p < .001, \phi = .22$. Participants with disabilities were also more likely to think that “rather likely” or “very likely” that they would attempt suicide in the future (5.5%, $n = 6$) than participants without disabilities (1.3%, $n = 8$). Again, this difference was significant, $\chi^2(1) = 12.55, p < .001, \phi = .17$.

Discussion

This study examined item-by-item responses on the SBQ-R measure of suicidality by people with and without disabilities. People with disabilities were significantly more likely to endorse more concerning responses across all four items, including responses associated with past suicidal plans and attempts across the lifespan, frequency of suicidal thoughts over the past year, and perceived likelihood of suicide attempts in the future. This suggests that disability status is associated with increased past, current, and future suicide risk. Furthermore, the SBQ-R was internally consistent in a subsample of individuals with disabilities, suggesting that this measure does indeed have adequate reliability among this population.

Even when we excluded individuals with psychiatric disabilities from the comparative analysis, participants with disabilities were still significantly more likely to endorse several concerning items. These included history of suicide attempts, history of serious suicide attempts, rate of frequent past year suicidal ideation, and perceived

likelihood of future suicide attempts. It is interesting to note that those with only nonpsychiatric disabilities, as a group, did not differ significantly from those without disabilities in terms of the percent of participants scoring at or above the clinical cutoff for depression symptoms. This suggests that even individuals with nonpsychiatric disabilities report higher rates of past, current, and perceived future suicidality, including ideation and attempts, despite not being significantly more likely to be depressed than their counterparts without disabilities. The fact that these elevations were seen across the items assessing past, current, and future suicidality also suggests that suicidality remains an on-going issue for a higher than expected number of people with nonpsychiatric disabilities and does not simply reflect, for example, a past state of depression when they acquired a disability. It is interesting to note that those without psychiatric disabilities were not significantly more likely to report telling others about suicidal thoughts or plans as compared to those without disabilities, despite their increased reporting of actually *experiencing* suicide attempts and ideation. This may suggest that individuals with nonpsychiatric disabilities are more likely to conceal suicidality from others. However, it should also be noted that some of the between-group differences on this item, while not statistically significant, were noticeable. For example, 9.1% of those with nonpsychiatric disabilities reported repeatedly telling others that they would or might attempt suicide with true intent to die, as compared to only 3.8% of participants without disabilities. Thus, it may be that the small sample size of the nonpsychiatric disability subgroup may have obscured some potentially meaningful, if not statistically significant, between-group differences on this item.

These analyses further contribute to our understanding about the increased risk for suicidality in people with disabilities. They highlight the importance of being attentive to warning signs for suicidality in clients with disabilities in particular and assessing both past and present suicidal thoughts, plans, and behavior among people with disabilities, particularly those that may have other risk factors for suicide, such as acute depressive symptoms or a recent personal loss. Additionally, these analyses support the use of the SBQ-R as a reliable screening measure for suicidality in people with disabilities. Because it is short and easy to administer, it may be appropriate to use to screen for suicidality in rehabilitation counselors' client populations or in subsamples of particularly high risk clientele. It may also provide a relatively low stress and non-confrontational way for clients to disclose or counselors to broach the often difficult topic of suicidality.

When interpreting the results of our study, some limitations should be noted. First, our sample had elevated rates of depression among both participants with and without disabilities. Although they may have given us more power by which to detect group differences in generally low-incidence suicidal thoughts and behaviors, it also may have elevated the base rates of suicidal thoughts and behaviors in our sample. Thus, these results should not necessarily be compared to those that might be found in a random general population sample. However, it should also be noted that participants with nonpsychiatric disabilities did not have elevated rates of depression compared to those with no disabilities and yet still reported significantly higher rates of key dimensions of suicidality, including suicide attempts, serious suicide attempts, frequent past year suicidal thoughts, and a high perceived likelihood of future suicide attempts. This, in

concordance with our previous analyses (Lund et al., 2016), indicates that higher rates of suicidality in people with disabilities cannot be fully accounted for by increased rates of depression or depression symptoms. Second, the participants in our study completed our measures via an anonymous online survey; this may have affected their willingness to disclose suicidality and suicidal behavior. This is reflected in much higher rates of participants who reported having serious suicidal thoughts versus the percentage of participants who reported disclosing those thoughts to others. Thus, the relative safety and lack of stigma of anonymous online reporting may have made participants more likely to reveal those thoughts, plans, and attempts.

Regardless of these limitations, however, the results of this study provide new and useful information on how suicidality looks in people with disabilities and how they differ in risk from people without disabilities. Participants with disabilities reported significantly greater suicidality risk across all four items of the SBQ-R, including previous plans and attempts, frequency of current suicidal thoughts, and perceived likelihood of future suicide. These results indicate that suicidality is elevated across the past, present, and future domains and that all three domains should be considered during a clinical assessment with suicidal or high-risk clients.

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CHAPTER III

THE RELATIONSHIP BETWEEN SUICIDALITY AND DISABILITY

WHEN ACCOUNTING FOR DEPRESSIVE SYMPTOMOLOGY²

Abstract

We examined suicidality, depressive symptoms, and disability status in 485 American adults. Compared to participants without disabilities, participants with disabilities ($n = 92$) had significantly higher suicidality scores even when accounting for depressive symptoms. Participants with psychiatric disabilities had significantly higher suicidality scores than participants with other disabilities even when controlling for depressive symptoms.

Introduction

Research has consistently demonstrated that individuals with disabilities experience increased rates of suicidality relative to individuals without disabilities (e.g., Giannini et al., 2010; Pompili et al., 2012; Wetzel et al., 2011). Researchers have also found that the presence of depression and other mood disorders may be elevated among individuals with disabilities (Giannini et al., 2010; Wetzel et al., 2011), and individuals with disabilities and comorbid depression may be at even greater risk for suicidality (Giannini et al., 2010; Lunsky, Raina, & Burge, 2012; Pompili et al., 2012). However,

² Adapted from Lund, E. M., Nadorff, M. R., & Seader, K. (2016). The relationship between suicidality and disability when accounting for depressive symptomology. *Rehabilitation Counseling Bulletin*, 59, 185-188. The manuscript is used per the journal's usage guidelines (see Appendix A) and with co-author permissions (Appendix B).

very little research has examined how suicidality in individuals with disabilities compares to those without disabilities after statistically adjusting for depression.

Given the evidence that people with disabilities experience elevated rates of depression relative to the general population (Giannini et al., 2010; Wetzel et al., 2011), it may be that the higher rates of suicidality in this population can be attributed to the higher rates of depression in general. Alternately, people with disabilities could also experience other risk factors that put them at greater risk for suicidality independent of depression and thus effective intervention and prevention strategies may need to go beyond the treatment of depressive symptomology. Therefore, it is important to examine the impact of depressive symptoms on suicidality in this population in order to better understand the phenomenon of suicidality in individuals with disabilities. If depressive symptomology alone does not account for the increased suicidality observed in people with disabilities, researchers and clinicians need to examine other factors that may contribute to the increased risk in this population.

Dennis et al. (2009) found that controlling for anxiety and depressive disorders explained only some of the impact of activity limitations on suicidality. However, they controlled only for the presence of a disorder, not symptomology; symptomology has greater variability and is therefore a more stringent test. However, given that psychiatric diagnosis did account for some of the relationship between suicidality and disability and the strong relationship between psychiatric disorders and suicidality in general (American Foundation for Suicide Prevention, 2015), it may also be useful to examine suicidality and depression in people with psychiatric versus nonpsychiatric disabilities.

It is important that rehabilitation counselors understand the issues of suicidality and depression in people with disabilities. As practitioners who work specifically with individuals with disabilities, rehabilitation counselors may serve as “front line” responders when their clients experience feelings of depression, suicidality, or both. Thus, it is important that rehabilitation counselors understand the relative suicide risk of their client populations and screen accordingly in order to enhance client safety and well-being.

This study sought to expand the literature on suicidality and disability by answering the following questions.

1. Do participants with disabilities (PWD) report higher rates of suicidality relative to participants without disabilities (PWOD) when statistically adjusting for depression symptoms?
2. Do participants with psychiatric disabilities (PWPD) report higher rates of suicidality compared to participants without psychiatric disabilities (PWOPD) when statistically adjusting for depression symptoms?

Method

Participants and Procedures

American adults ($n = 485$) were recruited from Amazon Mechanical Turk (MTurk), an online participant recruitment system, to participate in a survey study of attitudes towards suicide and disability. Participants represented 49 states and Puerto Rico. California ($n = 52$, 10.7%), Texas ($n = 41$, 8.5%), Florida ($n = 33$, 6.8%), Georgia ($n = 21$, 4.3%), and Pennsylvania ($n = 20$, 4.1%) were the most represented. Twenty-three (4.7%) participants did not include their state of residence. Samples from MTurk have generally been shown to produce valid data and to be fairly representative of the general population in terms of gender, with 55% of the worker base being female and

45% being male. (Buhrmester, Kwang, & Gosling, 2011). The mean age of American MTurk workers is early 30s (Buhrmester et al., 2011). Ninety-two participants (19%) reported having a disability and 25 of those reported psychiatric disabilities; see Table 3 for sample demographics.

Measures

Demographics, disability status, and suicide attempt history. Participants were asked to provide demographic information including age, gender, disability status and type, and employment status. Additionally, they were asked if they had ever attempted suicide, and if so, how many times. Disability information was reported via an open-ended question. Participant responses were then coded for type of disability by the principal investigator. Conditions coded as psychiatric disabilities included anxiety, depression, bipolar disorder, attention deficit hyperactivity disorder, and psychotic spectrum disorders.

Depressive symptomology. Depressive symptomatology was assessed via the Center of Epidemiological Studies Depression Scale (CES-D; Radloff, 1977), a 20-item, self-report measure. The CES-D is scored on a 4-point scale (0-3) with scores ranging from 0-60. It has been demonstrated to be a valid screening measure for detecting depressive symptoms (Weissman, Sholomskas, Pottenger, Prusoff, & Locke, 1977). In the overall sample of 485, the mean was 16.81 ($SD = 13.29$; range = 0-57) with acceptable reliability ($\alpha = .789$).

Table 3

Sample Demographics for Depression Regression

Variable	Percent	<i>n</i>
Gender		
Male	40.0	194
Female	60.0	291
Ethnicity		
White	74.8	363
Black/African-American	10.7	52
Hispanic/Latino/a	4.7	23
Asian/Pacific Islander	7.4	36
Native American	0	0
Other	1.6	8
Prefer not to disclose	.6	3
Disability (<i>n</i> = 92) ^a		
Psychiatric	27.2	25
Physical	24.0	23
Chronic health condition	22.9	22
Visual impairment	2.2	2
Hearing impairment	3.3	3
Speech impairment	3.3	3
Learning disability	4.3	4
Autism	2.2	2
Did not state type of disability ^b	13.0	12
Employment status		
Working full time	36.3	176
Working part time	14.6	71
Homemaker	7.0	34
Student	18.6	90
Unemployed	13.8	67
Retired	4.1	20
On disability	5.6	27
Education		
Grade school	.2	1
Some high school	1.0	5
GED	3.5	17
<i>(table continues)</i>		
High school diploma	10.9	53
Some college	32.0	155
Associate's degree	11.5	56

Variable	Percent	<i>n</i>
Bachelor's degree	28.9	140
Graduate degree	12.0	58
Annual Income		
>\$10,000	10.9	53
\$10,000-\$14,000	6.0	29
\$15,000-\$24,999	13.6	66
\$25,000-\$34,999	14.2	69
\$35,000-\$49,999	15.5	75
\$50,000-\$74,999	17.5	85
\$75,000-\$99,999	8.9	43
\$100,000-\$149,000	5.8	28
\$150,000-\$199,999	.8	4
\$200,000+	1.2	6
Don't know/prefer not to say	5.5	27

Note. *N* = 485.

Age: Mean = 35.75; *SD* = 13.72, range = 18-75

^a Participants could indicate multiple disabilities.

^b These participants were excluded for analyses of psychiatric and nonpsychiatric disabilities

The Suicidal Behaviors Questionnaire—Revised. The Suicidal Behaviors Questionnaire—Revised (SBQ-R; Osman et al., 2001) is a four-item, self-report measure designed to assess levels of suicide risk. The first item assesses past suicidal thoughts and suicide attempts, the second and third items inquire about past suicidal ideation and threats, and the fourth item asks about future suicidal behavior. Higher scores indicate greater suicidality. Unadjusted scores range from 3 to 18. Scores were logarithmically adjusted to account for non-normal distribution and to better meet the assumptions of our statistical tests. In the overall sample, the mean unadjusted score was 6.07 (*SD* = 3.24; range = 3-18), and the mean adjusted score was 1.68 (*SD* = .500; range = 1.10-2.89). The SBQ-R demonstrated acceptable reliability in the present sample ($\alpha = .777$).

Results

SBQ-R scores and CES-D scores were positively correlated ($r = .524, p < .001$). Age was negatively correlated with both SBQ-R scores ($r = -.109, p = .013$) and CES-D scores ($r = -.151; p = .002$). The mean age of PWD (40.29 years, $SD = 15.52$) was significantly higher, $t(118.89) = 3.62, p < .000, d = .39$, than that of PWOD (34.74 years, $SD = 13.07$). PWD ($M = 22.04, SD = 15.68$) also had significantly higher CES-D scores, $t(121.22) = 3.13, p < .000, d = .46$, than PWOD (15.59, $SD = 12.38$). These results support the need to control for symptoms of depression when comparing suicidality between these two groups.

Association Between Suicidality and Disability

PWD (1.86, $SD = .552$) had significantly higher, $t(483) = 3.93, p < .000, d = .46$, mean SBQ-R scores than did PWOD (1.63, $SD = .478$) and disability status significantly predicted SBQ-R ($\beta = .176, p < .001$, adjusted $R^2 = 2.9\%$). Disability status remained a significant predictor of SBQ-R even when depression was controlled for via regression ($\beta = 0.81; p = .041$). Together, disability status and CES-D scores predicted an adjusted 25.8% of the variance in suicidality.

Twenty-two PWD (24.2%) reported a history of suicide attempts compared to 48 PWOD (12.3%). This difference was significant, $\chi^2(1) = 8.26, p = .004, \phi = .13$. Among those with history of suicide attempts, the mean number of attempts reported was 1.88 ($SD = 1.36$) for PWOD and 2.41 ($SD = 1.62$) for PWD; this difference was not statistically significant, $t(68) = 1.433, p = .157, d = .35$.

Psychiatric and Nonpsychiatric Disabilities

Among participants with disabilities, participants with psychiatric disabilities

(PWPD; $n = 25$; mean = 2.08; $SD = .364$) had significantly higher mean adjusted SBQ-R scores than did participants without psychiatric disabilities (PWOPD; $n = 55$; mean = 1.77; $SD = .580$; $t(70.0)=2.92$, $p = .005$, $d = .64$), and psychiatric disability significantly predicted SBQ-R ($\beta = .269$, $p = .016$, adjusted $R^2 = .061$). Even when depression was controlled for via regression, psychiatric disability remained a significant predictor of SBQ-R ($\beta = .220$, $p = .023$). Together, CES-D scores and psychiatric disability status predicted an adjusted 29.6% of the variance in depression scores.

Eight (33.3%) of the PWPD reported a history of suicide attempts compared to 21.8% ($n = 12$) of PWOPD. This difference was not significant, $\chi^2(1) = 1.18$, $p = .28$, $\phi = .12$. The difference in mean number of attempts, including those with zero attempts, between the two groups was not statistically significant, $t(77) = .195$, $p = .846$, $d = .05$.

Given these differences, we used an ANOVA, $F(472) = 11.275$, $p = .000$, to compare mean SBQ-R scores for PWOD, PWPD, and PWOPD and used Tukey's HSD post-hoc tests to compare groups. Compared to both groups, PWPD had significantly higher SBQ-R scores, but SBQ-R scores did not significantly differ when PWOPD were compared to PWOD. When the mean adjusted SBQ-R scores of PWD were compared to those of PWOD, those of PWD were somewhat higher, yielding a small-to-medium effect size ($d = .46$); however, those of PWOPD were considerably lower than those of PWPD, yielding a medium effect size ($d = -.64$). Similarly, mean SBQ-R scores of PWPD were much higher than those of PWOD, yielding a large effect size ($d = 1.06$). This supports that finding that PWPD had much higher SBQ-R scores than either PWOD or PWOPD and that the difference between PWOPD and PWOD, while notable, was smaller.

Given that SBQ-R scores were only significantly higher in one group (PWPD), we did not choose to control for the effects of the depressive symptomology in the three-way analysis. Furthermore, because this was not an experimental study and relied on very uneven group sizes, we chose to rely on regression analyses instead of ANCOVA when controlling for depression symptoms in the context of disability or psychiatric disability. As discussed above, regression analysis indicated that psychiatric disability significantly predicts suicidality, even when depressive symptomology is accounted for.

Discussion

This study corroborates existing research suggesting that people with disabilities experience greater suicidality than people without disabilities. Expanding on the present literature, we found that between-group differences remained even when depressive symptoms were statistically controlled for, suggesting that disability is a predictor of suicidality above and beyond depression. We also found that people with psychiatric disabilities experienced significantly greater suicidality than people with nonpsychiatric disabilities and that these differences remained even when depression was statistically controlled for. Furthermore, people with nonpsychiatric disabilities did not differ significantly in suicidality compared to people without disabilities. This suggests that the presence of a psychiatric disability increases the risk of suicidality more so than the presence of a nonpsychiatric disability in a way not explained by depressive symptoms alone. There may be other features of psychiatric disabilities such as impulsivity or irrational thinking that account for these differences.

Rehabilitation counselors and other professionals who work with individuals with disabilities, particularly psychiatric disabilities, should be aware of their clients' potentially increased risk for suicidality and should screen accordingly. Although assessing for depressive symptomology is an important part of such screening, these results suggest that it may not be sufficient. Therefore, it may be helpful to conduct additional screening for other risk factors, such as impulsivity (Klonsky & May, 2010), in addition to assessing for depressive symptoms. This screening could be done via clinical interviews that ask about impulsivity and impulse control and previous history impulsive or dangerous behavior or use of formal clinical measures of impulsiveness, risk taking, and emotional regulation. Counselors may also want to consider making direct questions about suicidal ideation part of a standard intake interview for clients with documented psychiatric disabilities or other risk factors, such as recent losses.

Some limitations of this study are the relatively small sample of individuals with disabilities, particularly when the sample is broken out into psychiatric and nonpsychiatric disabilities. Especially given the small-to-medium effect size found when comparing SBQ-R scores in PWOPD and PWD (Cohen, 1992), this small sample size may have obscured potentially meaningful elevations in suicidality among people with nonpsychiatric disabilities as compared to those without disabilities. Future research should replicate this study with a large sample and examine other variables, such as impulsivity, that may more fully account for group differences in suicidality.

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CHAPTER IV

**EXAMINING THE CONTRIBUTIONS OF DISABILITY TO SUICIDALITY
IN THE CONTEXT OF OTHER SOCIODEMOGRAPHIC FACTORS³**

Abstract

The purpose of this study was to examine the contribution of disability status to suicidality after accounting for depressive symptoms and sociodemographic risk factors. We examined this model in 438 American adults, 82 (18.7%) of whom identified having one or more disabilities. Participants with disabilities had significantly higher depression scores and were more likely to be unemployed and unpartnered. However, disability remained a significant predictor of suicidality even when depression and sociodemographic risk factors were accounted for in the regression. This suggests that the contribution of disability to suicidality goes beyond that which can be explained by increased depression symptoms and sociodemographic vulnerability.

Introduction

Suicide is responsible for over 41,000 deaths in the U.S. each year (Centers for Disease Control and Prevention [CDC], 2015), and for each death by suicide, there are an estimated 25 additional attempts (American Foundation on Suicide Prevention [AFSP], 2015a). Thus, suicide is rightly considered to be a major public health issue, and one of

³ Adapted from a working manuscript by Lund, E. M., Nadorff, M. R., Thomas, K. B., & Galbraith, K. (2016). Examining the contributions of disability to suicidality in the context of other sociodemographic factors. Manuscript is included with the permission of the authors (see Appendix B).

considerable concern to counselors and other health professionals. People with disabilities have been found to be particularly at risk for suicide (Lund, Nadorff, & Seader, 2016); this increased risk has been consistently found across disabilities, including multiple sclerosis (Giannini et al., 2010; Pompili et al., 2012), autism spectrum disorders (Segers & Rawana, 2014), spinal cord injury (Giannini et al., 2010), psychiatric disabilities (Lund et al., 2016), and Huntington's Disease (Wetzel et al., 2011). However, despite this increased risk within and across populations, relatively little research has examined the factors that relate to suicidality in people with disabilities.

Depression is considered a major risk factor for suicidality (AFSP, 2015b), and suicidal thoughts and actions are considered a symptom of major depressive disorder (American Psychiatric Association [APA], 2013). As with suicide, people with disabilities have been consistently found to experience elevated and increased rates of depression relative to the general population (Giannini et al., 2010; Lunsky, Raina, & Burge, 2012; Pompili et al., 2012; Wetzel et al., 2011). Thus, this raises the question of if the elevated rates of suicidality seen in people with disabilities can be accounted for by the higher rates of depression in this population. However, only a few studies have examined suicidality among people with disabilities when controlling for depression. Dennis et al. (2009) found that controlling for anxiety and depressive disorders accounted for some, but not all, of the impact of activity limitations on suicidality. Similarly, Lund et al. (2016) found that after controlling for depressive symptoms—a stricter test, given that depression is often undiagnosed in suicidal individuals (AFSP, 2015b)—disability status still significantly predicted suicidality. These studies, although few in number,

appear to suggest that increased rates of depression or depressive symptoms do not fully account for the elevated rates of suicidality among those with disabilities.

Sociodemographic Factors and Suicidality

Although depression is a major risk factor for suicidality, sociodemographic factors have also been found to impact suicide risk (Fiedorowicz, Weldon, & Bergus, 2010). Chief among these are the factors that make up SES, primarily income, education, and employment. For example, in a large study of Canadian adults, McConnell, Hahn, Savage, Dube, and Park (2015) found that unemployment, lower educational attainment, and lower personal income were all significantly correlated with both past year and lifetime suicidal ideation. Similarly, Wetherall, Daly, Robb, Wood, & O'Connor (2015) found that both absolute and relative income were significantly associated with suicidal thoughts and attempts, with lower income and income-rank serving as risk factor for increased likelihood of suicide thoughts and attempts. As McConnell et al. and Weatherall et al. wrote, the association between lower socioeconomic standing and suicidality likely represents a greater marginalization from, and devaluation by, society. Similarly, unemployment has also been shown to be a risk factor for suicidality. In a study of 1,167 individuals who died by suicide in Northern Ireland, for example, O'Neill, Corry, McFeeters, Murphy, and Bunting (2016) found that only 50.3% of the sample was employed at the time of their deaths. Likewise, in a large, national sample of American adults, Kalist, Molinari, and Siahhan (2007) found that individuals who reported having thought about or attempted suicide had both significantly lower incomes and significantly lower employment rates. The association between educational attainment and suicidality

has been more mixed. For example, Pompili et al. (2013) found that higher educational attainment was associated with higher risk of death by suicide; conversely, Abel and Kruger (2005) found that suicide rates were significantly negatively related to educational attainment. However, it appears that in general lower social status, at least as measured, by income and employment status, tend to increase the risk of suicidality, in the forms of ideation, attempts, and death.

The link between suicidality and lower income and employment is of particular interest to those studying suicidality in people with disabilities. People with disabilities tend to have dramatically lower incomes and employment rates compared to those without disabilities; the U.S. Census Bureau (2013) reported that people with disabilities were one third as likely to be employed as people without disabilities. Furthermore, people with disabilities who were employed made significantly less money than those without disabilities (U.S. Census Bureau, 2013), with over half of employed individuals with disabilities making less than \$25,000 per year (U.S. Census Bureau, 2013). This trend of low employment and low income has been seen in even highly educated samples of people with disabilities. In a sample of 213 women with disabilities, for instance, Robinson-Whelen, Hughes, Gabrielli, Lund, and Schwartz (2014) reported a median income of just over \$10,000 a year and a mean income of \$19,126 a year, despite 58.6% of the sample reporting having completed some college and over a quarter (26.8%) having earned a bachelor's degree or higher. Furthermore, they reported that approximately 40% of their sample lived below the poverty line, as measured by income and household size. Likewise, Mitra et al. (2015) found that women with disabilities were

significantly more likely to live below the poverty line than women without disabilities (45.0% vs. 24.9%). The fact that low income and unemployment appear to be almost inescapable in people with disabilities is concerning, especially given the well-established link between low income, unemployment, and suicidality. Furthermore, employment may be protective against depression in people with disabilities; for example, Kalpakjian and Albright (2006) found that employment was significantly predictive of a lower likelihood of depression in men and women with spinal cord injuries. Thus, employment may interact with depression in contributing to one's risk for suicidality.

In addition to the relationships between suicidality and income and employment, it is typical to consider basic demographic variables of age, gender, and race/ethnicity. Data from the CDC (2015) and AFSP (2015a) suggested that suicidal ideation and attempts are higher among females than males but that deaths by suicide are more common among males. This may be because men tend to choose suicide methods that are more likely to result in death, such as shooting oneself with a firearm, while females choose methods, such as poisoning oneself with medication or other substances, that they are more likely to survive (CDC, 2015). Similarly, the CDC reported that White individuals are less likely than Native American, Alaskan Native, Native Hawaiian, and other Pacific Islanders to report having suicidal thoughts; however, they are more likely than African-Americans, Hispanics, and Asians to report having suicidal thoughts. The AFSP (2015a) reported that White Americans have a higher age-adjusted suicide rate than any other American racial or ethnic group. In regards to age, the CDC reported that suicidal ideation in adults tends to decrease with age, although the AFSP (2015a)

reported that deaths by suicide tend to increase with age, suggesting that older individuals are more likely to choose suicide methods that result in death.

Other sociodemographic factors that may be related to suicidality include marital or relationship status and religiosity (Fiedorowicz et al., 2010). In general, being married or partnered has been found to be protective against suicidality; for example, Aschan et al. (2013) found that being unmarried or not cohabiting was predictive of a higher likelihood of both suicidal ideation and suicide attempts in a large British sample. Likewise, McConnell et al. (2015) found that individuals who were single but previously married were more likely to report both past year and lifetime suicidal ideation than those who were single but previously married. Furthermore, Kalpakjian and Albright (2006) found that being married was protective against major depression in people with spinal cord injuries. Women with disabilities tend to be married at lower rates than those without disabilities (Mitra et al., 2015) and report more difficulty finding sexual and romantic partners (Nosek, Howland, Rintala, Young, & Chanpong, 2001), thus making single or unmarried relationship status another sociodemographic risk factor by which people with disabilities may be disproportionately adversely affected.

Religious beliefs and participation may also affect suicidality. This may be either occur via religious beliefs or teachings that discourage or condemn suicide (Dervic et al., 2004; Fiedorowicz et al., 2010), or through the social support created by participation in religious communities (Robins & Fiske, 2009). Because religious affiliation, by way of moral beliefs about suicidality, has been found to be protective against suicidality even in people who were hospitalized due to psychiatric disability (Dervic et al., 2004), religious

affiliation and participation should be included in sociodemographic models of suicidality, including those which account for psychiatric disability.

A final sociodemographic factor that may impact suicidality is friend and family history of suicide attempts and death by suicide. Familial patterns of suicide have been well documented (Fiedorowicz et al., 2010; Qin, Agerbo, & Mortensen, 2002), with family history of suicide attempts or deaths increasing one's risk for suicidal behavior. In addition, suicide can tend to cluster among peer groups (Kleiman, 2015). Thus, participants' experiences with suicide and suicide attempts by friends and family members should also be considered in sociodemographic models of suicidality.

Previous Studies of Sociodemographic Risk Factors, Suicidality, and Disability

Most existing studies of sociodemographic factors in the context of disability have been conducted with individuals with severe psychiatric disabilities. For example, Rahman, Alexanderson, Jokinen, and Mittendorfer-Rutz (2014) examined the sociodemographic and medical risk factors for suicidality in a large sample of Swedish adults who were receiving a disability pension due to psychiatric disability. They found that younger age, specifically being between 18 and 24 years of age; lower educational attainment; and being single and living alone were predictive of greater risk of suicide attempt. They also found that men were at greater risk of death by suicide but that females were at slightly greater risk of suicide attempt. In a contrary finding, Agerbo (2007) found that higher educational attainment, employment, higher income, and being married were actually associated with higher suicide risk among individuals who

received in-patient treatment for psychiatric disorders. However, subsequent loss of these things (e.g., loss of income, loss of employment, and loss of partnership) did increase suicide risk in Agerbo's sample. Thus, this unusual finding may reflect the sociodemographic consequences of new or worsening disability rather than a completely different sociodemographic pattern of suicidality people with psychiatric disabilities.

Studies of the sociodemographic context of suicidality in people with diverse or nonpsychiatric disabilities are limited. McConnell et al. (2015) found that food insecurity—a proxy measure of socioeconomic status (SES)—and community belonging partially explained suicidal ideation in among a sample of Canadian adults with disabilities. However, likelihood of suicidal ideation remained significantly higher among people with disabilities even after controlling for diagnosed mood and anxiety disorders, age, marital status, community participation, and ethnicity, suggesting that sociodemographic variables and psychiatric comorbidity do not fully account for the relationship between disability and suicidal ideation. Russell, Turner, and Joiner (2009) examined the relationship between lifetime suicidal ideation and physical (i.e., nonpsychiatric, nondevelopmental) disability in a large sample of American adults. They found that the link between suicidal ideation and disability remained significant in all sociodemographic subgroups, with the exception of married people and older adults. They also found that stress exposure explained the most variance in suicidal ideation in participants with disabilities. Interestingly, they did not find that depressive symptoms were related to suicidal ideation.

Gaps in the Literature and the Present Study

As discussed above, the literature on relationships between sociodemographic characteristics and suicidality as they relate to disability is limited. This is particularly true in nonpsychiatric or mixed disability samples. Additionally, as Russell et al. (2009) and McConnell et al. (2015) both noted, the common issue of dichotomous classifications of suicidality (e.g., yes/no measures of suicidal ideation) may fail to capture the continuous and multi-factorial nature of suicidality. Thus, the purpose of the present study was to analyze the combined contributions of depressive symptoms, disability status, and sociodemographic factors to a multi-item measure of suicidality in a large American sample. The research question was “Do the combined contributions of sociodemographic factors and depressive symptoms account for the relationship between disability status and increased suicidality in a sample of American adults”?

Method

Recruitment and Procedures

Participants were part of a larger study on suicide acceptability, particularly as it relates to disability. This study was approved by a university institutional review board prior to data collection. Participants were recruited via Amazon Mechanical Turk (MTurk) and were paid \$0.25 for their participation. In order to protect participant anonymity, all data collection took place on a secure, university-sponsored Qualtrics server outside of MTurk. After completing the survey on Qualtrics, participants were given a code to enter into MTurk in order to automatically be compensated through the site. This ensured that participant responses were never linked to identifying information,

such as participant name or MTurk identification number. Given the sensitive nature of the survey, participants were given information on crisis and suicide hotlines both during the informed consent process and at the end of the survey.

MTurk is an online recruitment source via which participants are paid small amounts (micro-compensation) to complete surveys and other tasks. Researchers have generally found that MTurk samples produce valid and reliable data and are fairly demographically similar to the general population in terms of age and gender (Buhrmester, Kwang, & Gosling, 2011; Thomas, Lund, & Bradley, 2015). MTurk samples have been shown to have higher rates of psychopathology than those seen in the general population (Shapiro, Chandler, & Mueller, 2013), but this may actually be advantageous when examining a relatively rare phenomenon such as suicidality. Additionally, we are accounting for this increased rate of clinical depressive symptoms by including depressive symptoms as a predictor in our analyses (see also Lund, Nadorff, Winer, & Seader, 2016).

Participants

The present analyses involve 438 participants who had complete data on all items of interest. This excludes participants who answered “prefer not disclose” or “other” on items related to disability status, family and friend suicide history, income, ethnicity, or religious participation as well as those who skipped demographic items that were included in regression analysis. In total, 62 participants (12.4%) from the original sample were excluded from the present analyses. Demographic information on the 438 included participants is presented here.

Participants were majority female ($n = 264$, 60.3%) and represented 48 states and Puerto Rico; the two states not represented were Wyoming and South Dakota. Twenty-one participants (4.8%) did not provide data on their state of residence. The mean age was 35.97 years ($SD = 13.65$, range = 18-73). The sample was 76.7% White ($n = 336$) and 51.4% employed ($n = 225$). Approximately half the sample reported being married or in a relationship (52.7%, $n = 231$). More than a quarter of the sample (29.5%, $n = 129$) identified as atheist or agnostic, with the remaining 309 participants identifying as adherents to some religion or faith. Complete demographics for the sample are available in Table 4.

Just under one fifth (18.7%, $n = 82$) of the sample identified as having a disability or disabilities; participants could identify multiple disabilities and types of disabilities. The most common disabilities were psychiatric disabilities ($n = 25$), physical disabilities ($n = 20$), and chronic health conditions ($n = 19$). Less commonly reported disabilities included speech disabilities ($n = 3$), learning disabilities ($n = 3$), hearing impairment ($n = 3$), visual impairment ($n = 2$), and autism ($n = 1$). Ten participants did not state their type of disability.

Measures

Demographics. Demographic information was collected on religious preference, religious participation, age, gender, disability status, relationship status, income, education, race/ethnicity, and employment status. Participants were also asked a dichotomous (yes/no) question regarding if they had a friend or family member who

Table 4

Sample Demographics for Sociodemographic Regression

Variable	%	<i>n</i>
Gender		
Male	39.7	174
Female	60.3	264
Race/ethnicity		
White	76.7)	336
Black/African-American	10.5	46
Hispanic	4.8	21
Asian/Pacific Islander	6.8	30
Other	1.1	5
Disability		
Yes	18.7	82
No	81.3	356
Employment status		
Working full time	37.7	165
Working part time	14.6	60
Homemaker	7.1	31
Student	17.8	78
Unemployed	13.9	61
Retired	3.9)	17
Disabled, cannot work	5.9	26
Education		
Grade school	.2	1
Some high school	.9	4
GED	3.9	17
High school diploma	10.7	47
Some college	30.6	134
Two-year college	11.6	51
Four-year college	29.0	127
Advanced degree	13.0	57
Annual income		
>\$10,000	11.4	50
\$10,000-\$14,000	6.6	29
\$15,000-\$24,999	14.9	65
	<i>(table continues)</i>	
\$25,000-\$34,999	15.1	66
\$35,000-\$49,999	16.4	72

Variable	%	<i>n</i>
\$50,000-\$74,999	18.3	80
\$75,000-\$99,999	9.6	42
\$100,000-\$149,000	5.5	24
\$150,000-\$199,999	.9	4
\$200,000+	1.4	6
Religious preference		
Protestant Christian	23.5)	103
Roman Catholic	13.7	60
Evangelical Christian	6.4	28
Jewish	2.1	9
Muslim	.9	4
Hindu	.7	3
Buddhist	2.1	9
Other	21.2	93
Atheist/agnostic	29.5	123
Religious participation		
Never	49.3)	216
Once every 6 months	19.4	85
Once a month	8.2	36
Every 2 weeks	6.6	29
Once a week or more	16.4	72
Relationship status		
Single	34.5	151
In a relationship	20.8	91
Married	32.0	140
Separated	2.1	9
Divorced	9.1	40
Widowed	1.6	7
Friend or family member who attempted or died by suicide		
Yes	41.3	181
No	58.7	257

Note. *N* = 438.

attempted or died by suicide. The options provided for each item can be seen in Table 4.

For the purpose of these analyses, employment (working full or part-time vs. not working), ethnicity (White versus non-White), relationship status (i.e., married or in a relationship versus single, separated, widowed, or divorced), disability status (disabled vs. not disabled) and religious preference (atheist/agnostic vs. any religious preference) were coded into dichotomous variables. Although this has the potential to obscure some differences within groups, such as potential differences between single, never-married participants and divorced separated, or widowed participants, it also allows for the preservation of statistical power by avoiding the use of multiple variables with small cell sizes. Additionally, such dichotomous classifications are frequently used for regression analysis in suicide research, even that with large samples (e.g., Dervic et al., 2004; McConnell et al., 2015; O'Neil et al., 2016; Rahman et al., 2014), because regression analyses require that nominal variables be dummy coded into dichotomous or continuous categories. Age, income, educational status, and religious participation could be measured in continuous ways and thus were not dichotomized.

Depressive symptoms. Depressive symptoms were measured using the Center of Epidemiological Studies Depression Scale (CES-D; Radloff, 1977). The CES-D consists of 20 items asking about participants' experiences of common symptoms of depression over the last seven days; each item is scored on a 4-point scale from 0 (1 day or less than 1 day) to 3 (5-7 days). A total score of 16 is commonly used as the cutoff for marking clinically-significant depressive symptoms (Radloff, 1977). The CES-D has been shown to be a valid screening measure for detecting depressive symptoms (Weissman,

Sholomskas, Pottenger, Prusoff, & Locke, 1977) and has demonstrated acceptable internal consistency for both general ($\alpha = .85$) and clinical ($\alpha = .90$) samples (Radloff, 1977). Reliability of the CES-D was acceptable in the current sample ($\alpha = .786$). CES-D scores for the present sample ranged from 0-57, with a mean of 16.67 ($SD = 13.11$). Slightly less than half of the present sample (45.4%, $n = 199$) scored at or above the cutoff of 16. As noted above, this elevated rate of psychopathology is not uncommon in MTurk samples (Shapiro et al., 2013) and will be statistically accounted for in analyses.

Suicidality. The Suicidal Behaviors Questionnaire—Revised (SBQ-R; Osman et al., 2001) was used to measure suicidality. The SBQ-R is a revised version of the Suicidal Behaviors Questionnaire (Linehan, 1981) and is a self-report measure designed to assess levels of suicidal risk. The first item assesses past suicidal thought, plans, and attempts, the second and third items inquire about past year suicidal ideation and previous disclosure of suicidal thoughts, and the fourth item assesses respondents' assessment of their likelihood of future suicide attempts. The SBQ-R has previously demonstrated good internal consistency in both clinical ($\alpha = .88$) and nonclinical ($\alpha = .87$) samples (Osman, et al., 2001). Raw scores can range from 3 to 18; a raw score of 7 or higher may be used to determine clinically significant levels of suicide risk (Osman, et al., 2001) in non-clinical samples. Because scores on the SBQ-R are nonnormally distributed, they were logarithmically adjusted to better fit the assumptions of our statistical tests; such logarithmic adjustment is common in suicide research (e.g., Khazem, Jahn, Cukrowicz, & Anestis, 2015).

The mean raw SBQ-R score in the present sample was 6.03 ($SD = 3.22$; range =

3-17). Over one third of the sample (36.5%, $n = 160$) had raw SBQ-R scores at or above 7. The mean logarithmically adjusted SBQ-R score was 1.67 ($SD = .497$, range = 1.10-2.83). The SBQ-R demonstrated acceptable reliability in the current sample ($\alpha = .756$).

Analyses

The analysis occurred in two steps. First, the relationships between disability status and targeted sociodemographic factors (i.e., gender, age, educational attainment, employment status, relationship status, income, race/ethnicity, depressive symptoms, religious affiliation, religious participation, friend and family history of suicide) was assessed. Chi-square tests were used to assess dichotomous variables while independent sample t-tests were used to assess continuous variables. We used phi (ϕ) as an effect size for chi-square analyses, with the benchmarks of .1, .3, and .5 for small, medium, and large effect sizes, respectively (Cohen, 1992). Cohen's d effect size was also used for the assessment of continuous variable differences by disability status, as it is not subject to the concerns related to obtaining falsely significant relationships over a large number of t tests or the vulnerability of null hypothesis statistical significance testing to sample size effects (Thompson, 2006). Cohen's d assesses the magnitude of difference between two means group and thus is not dependent on p values, which can be highly affected by sample size. Per Cohen (1992), we used effect sizes of .2, .5, and .8 as rough standards for small, medium, and large differences, respectively. Additionally, we examined the relationships between suicidality and sociodemographic factors (same as above, plus disability status). Pearson's r correlations were used to assess relationships between suicidality and continuous variables, and independent sample t-tests were used to assess

relationships between suicidality and dichotomous variables. Again, Cohen's d effect sizes were also calculated in conjunction with t tests. After initial relationships between variables were analyzed, those variables without a significant relationship to either disability or suicidality were dropped from analysis, and the remaining variables were used in a linear regression on suicidality.

Results

Initial Relationships Between Disability, Suicidality, and Sociodemographic Variables

Initial statistical analysis revealed that participants with disabilities had significantly lower income, $t(436) = -4.192, p < .001, d = -.39$, and educational attainment, $t(436) = -2.039, p = .042, d = -.25$, than participants without disabilities. In addition, they were significantly older, $t(111.37) = 3.164, p = .002, d = .40$, and had significantly higher depression, $t(104.005) = .3.712, p < .001, d = .49$, and suicidality, $t(109.160) = 3.262, p = .001, d = .42$, scores compared to participants without disabilities. They did not significantly differ from participants without disabilities in terms of religious participation, $t(436) = .291, p = .771, d = .04$. Participants with disabilities were less likely to be employed (30.5% vs. 69.5%, $\chi^2(1) = 17.61, p < .001, \phi = .20$) and less likely to be in a romantic relationship (42.7% v. 55.1%, $\chi^2(1) = 4.09, p = .043, \phi = .1$). Participants with and without disabilities were equally likely to be White (80.5% vs. 75.6%, $\chi^2(1) = .805, p = .370, \phi = .04$) and female (63.4% vs. 59.6%, $\chi^2(1) = .416, p = .519, \phi = .03$). They were also equally likely to identify as atheist or agnostic (28.0% vs. 29.8%, $\chi^2(1) = .096, p = .757, \phi = .01$). Finally, participants with and without

disabilities were equally likely have a friend or family member who attempted or died by suicide (43.9% vs. 40.7%, $\chi^2(1) = .277, p = .559, \phi = .03$).

Suicidality, as represented by logarithmically adjusted SBQ-R scores, was significantly correlated with depressive symptoms ($r = .534, p < .001$), lower age ($r = -.105, p = .028$), and lower income ($r = -.103, p = .031$) but not educational attainment ($r = -.042, p = .376$) or religious participation ($r = -.044, p = .363$). Females, $t(436) = -2.907, p = .004, d = .28$, those who did not have a job, $t(436) = -.660, p < .001, d = .35$, those who were not in a romantic relationship, $t(416.69) = -2.267, p = .024, d = .22$, and those who identified as atheistic or agnostic, $t(436) = -4.918, p < .001, d = .52$, reported significantly greater suicidality as well. Participants who reported that they had a friend or family member who had attempted or died by suicide also reported significantly higher suicidality, $t(436) = 2.944, p = .003, d = .28$. In contrast, suicidality did not significantly differ between White and non-White participants, $t(436) = 1.164, p = .245, d = .14$.

Regression Analysis

Based both on the review of the literature documented above and the initial statistical tests described in the preceding section, we decided to conduct a linear regression analysis in which suicidality (i.e., logarithmically adjusted SBQ-R scores) was regressed on age, educational attainment, depressive symptoms, income, employment status, religious preference, gender, relationship status, friend/family suicide history, and disability status.

The results of this regression can be seen in Table 5. Overall, the regression

Table 5

Suicidality Regressed On Disability and Sociodemographic Factors

Variable	<i>B</i>	<i>SE B</i>	<i>B</i>
Employment status	-.037	.042	-.037
Religious preference	-.235	.044	-.216**
Depressive symptoms	.017	.002	.452**
Age	-.002	.002	-.042
Income	.016	.010	.068
Relationship status	-.046	-.041	-.046
Friend/family suicide history	.096	.041	-.095*
Female gender	.157	.042	.157**
Educational attainment	.007	.014	.019
Disability	.108	.054	.084*

* $p < .05$.** $p < .001$.

model predicted 31.7% of the variance in suicidality. The only significant predictors were depressive symptoms ($\beta = .452, p < .001$), religious preference ($\beta = -.219, p < .001$), female gender ($\beta = .155, p < .001$), having a friend or family member who attempted or died by suicide ($\beta = -.095, p = .018$), and disability status ($\beta = .084, p = .047$).

All significant variables in the regression were also significant as sole predictors of suicidality. Alone, depressive symptoms accounted for 24.9% of the variance in suicidality ($\beta = .501, p < .001$). As a sole predictor, religious preference accounted for 5.0% of the variance in suicidality ($\beta = -.229, p < .001$). When analyzed alone, female gender accounted for 1.7% of the variance in suicidality ($\beta = .138, p = .004$). Having a family member or friend who attempted or died by suicide also accounted for 1.7% of the variance in suicidality when analyzed as a sole predictor ($\beta = .140, p = .003$). Finally, disability status as a sole predictor accounted for 2.7% of the variance in suicidality ($\beta = .171, p < .001$).

Discussion

This study involved an analysis of the interrelationships of various sociodemographic risk factors for suicide. The primary goal of the study was to assess the contribution of disability status to suicidality when depressive symptoms and sociodemographic risk factors were accounted for in statistical analyses. We found that disability status remained a significant predictor of suicidality even when sociodemographic factors and depressive symptoms were statistically controlled for. As with previous research (e.g., Giannini et al., 2010; Lunskey et al., 2012), we found that participants with disabilities experienced many risk factors at higher rates than those without disabilities. For example, participants with disabilities reported higher depressive symptoms, lower rates of romantic partnership, lower income, and higher rates of unemployment than did those without disabilities. As with Russell et al. (2009) and McConnell et al. (2015), we found that the increased risk for suicidality in people with disabilities persisted even when these psychological and sociodemographic inequalities were account for in our analyses. Thus, our study suggests that the unique contribution of disability status to higher levels of suicidality cannot be explained by the greater sociodemographic disadvantages experienced by people with disabilities, their higher level of depressive symptoms (see also Lund et al., 2016), or the combination thereof. Although disability status alone accounts for a relatively small percentage of the variance in suicidality compared to that accounted for by depression symptoms (2.7% vs. 24.9%), our results suggest that the variance it does account for is both significant and not accounted for by depression symptoms or other sociodemographic risk factors. Thus, this

contribution, although small compared to that of depression, is important in enhancing our broader picture of the sociodemographic context of suicide. In other words, while depression should be a major part of the conversation about suicide risk, it cannot and should not be the only part of the conversation about suicide risk.

This raises the question of what factors can explain the consistently elevated rates of suicidality in people with disabilities. In general, disability has been shown to raise vulnerability, and higher rates of abuse have been documented in individuals with disabilities across the lifespan (e.g., Hughes et al., 2012; Hughes, Lund, Gabrielli, Powers, & Curry, 2011; Jones et al., 2012). It may be that this vulnerability to victimization manifests itself in increased stress that in turn heightens people's risk for suicide. Indeed, Russell et al. (2009) found that stress exposure explained the most variance in suicidal ideation among people with disabilities. Furthermore, outside of the stress of victimization, living with a disability may simply bring more stress overall, regardless of sociodemographic status, as individuals must deal with both the effects of their disability and the physical, social, and programmatic barriers that accompany disability (Smart, 2008). In other words, life with a disability may simply be *harder*, and this increased stress and day-to-day difficulty may make it more likely that individuals will begin to see life itself as aversive. Lund, Nadorff, Winer, and Seader (2016) found that adults with and without disabilities were more likely to view the circumstances of hypothetical individuals who were undergoing life stressors and experiencing suicidal ideation as worse when the person had a disability. Furthermore, they also ascribed a greater "right to kill oneself" to hypothetical suicidal people with disabilities than they did to similarly

situated hypothetical individuals without disabilities. This may reflect a general social acknowledgement that disability makes life more difficult or even less worth living. In turn, such social attitudes may give some individuals with disabilities implicit social permission to consider or even attempt suicide.

In addition to the main findings regarding disability and suicidality, the findings regarding other sociodemographic predictors of suicidality are also interesting. In the regression analysis, only disability, female gender, depressive symptoms, friend and family suicide history, and religious preference remained significant. The depression finding is unsurprising given the extremely well-established, strong link between depression and suicidality (AFSP, 2015b), although it differs from the Russell et al. (2009) findings regarding the noncontribution of CES-D scores to suicidal ideation in their sample of individuals with physical disabilities. Our finding that females were at greater risk for suicidality is in line with national data suggesting that, although females are less likely to actually die by suicide, they are more likely to experience other domains of suicidality (AFSP, 2015a; CDC, 2015). Our findings regarding the significant relationship between having a friend or family member who attempted or died by suicide provides additional support for the consistent finding that suicides and suicide attempts tend to cluster within family and friend groups (Fiedorowicz et al., 2010; Kleiman, 2015; Qin et al., 2002). Furthermore, our finding that religious preference—but not religious participation—was a significant protective factor is in line with findings that the protective nature of religion tends to come from specific beliefs (Dervic et al, 2004) but not with Robins and Fiske's (2009) finding that the social support associated with

religious participation is protective against suicidality. Finally, it is interesting to note that neither unemployment nor lower income were significant predictors of suicidality in our regression analysis despite the strong support for their roles as suicide risk factors in the literature (e.g., Kalist et al., 2007; O'Neil et al., 2016). It may be that the link between depression and unemployment (e.g., Kalpakjian & Albright, 2006) accounts for much of the relationship between unemployment, income, and suicidality.

Implications

As McConnell et al. (2015) noted, it is important to acknowledge that even among high-risk groups, such as people with disabilities, suicidality and depression are not universal, and many individuals with disabilities live content and happy lives. On the other hand, it is also important to acknowledge the higher levels of suicidality among people with disabilities; even as a relatively rare event, suicidality presents great economic, social, and personal burden to suicidal individuals, their family and friends, and society as a whole (AFSP, 2015a, 2015b; CDC, 2015). Thus, if researchers, advocates, and clinicians can work together to better understand, treat, and prevent suicidality, it would likely provide great benefit on both the societal and individual levels. To that end, professionals who work with individuals with disabilities, such as rehabilitation counselors and special educators, may be in a prime position to notice, assess, and intervene with individuals with disabilities who are experiencing suicidality. Relatedly, other healthcare professionals, mental healthcare professionals, and service providers should be aware of the heightened risk of suicidality among adults with disabilities and be ready and willing to engage in suicide screening, assessment, and

referral if and when necessary. This process should include factors such as identifying behaviors and indirect statements that may be indicative of suicidal ideation (e.g., depression symptoms, giving possessions away, severe isolation or social withdrawal, talking about “not being here anymore” or “not being able to go on”), inquiring directly about suicidal thoughts and behaviors, assessing level of suicide risk, and taking appropriate steps to enhance client safety in accordance with their level of suicide risk (Cramer, Johnson, McLaughlin, Rausch., & Conroy, 2013).

Limitations and Directions for Future Research

As with all research, this study has some limitations that should be discussed. One limitation is the relatively small sample size and the need to dichotomize many predictor variables given the statistical assumptions of linear regression. We were also limited by the small subsamples in some variables, such as the relatively small samples of individuals with specific types of disabilities, which further necessitated the simple dichotomized dummy coding of certain variables (e.g., any disability vs. no disability). This may have limited our ability to detect differences in suicidality among smaller subgroups, such as potential differences between individuals who are single but never married and those who are divorced. Similarly, the relatively small sample size required us to treat disability as a dichotomous variable for the purposes of the multivariate linear regression, which may have obscured differences in suicidality or sociodemographic risk factor patterns among different disability groups, particularly people with psychiatric disabilities (see Lund, Nadorff, & Seader, 2016). In the future, researchers should

replicate this study with a large sample in order to better analyze and detect such potential differences. Additionally, researchers should examine the role of other potential risk and protective factors in the context of disability. These include factors such as stress exposure (Russell et al., 2009), perceived burdensomeness (Khazem et al., 2015), and social and community support (McConnell et al., 2015). Also, it may be helpful to collect data on other psychological constructs in addition to depression, such as anxiety, impulsivity, and emotional regulation.

Conclusion

In this study, we found that participants with disabilities tended to have more sociodemographic risk factors for suicidality as well as significantly higher levels of suicidality and depressive symptoms. Despite this, accounting for both depression and sociodemographic risk factors did not fully explain the relationship between suicidality and disability. This suggests that there are other factors beyond depression and demographic vulnerability that may further explain the high rates of suicidality among those with disabilities.

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CHAPTER V

GENERAL DISCUSSION

The present document presented three different analyses of the role of disability in suicidality. The study presented in Chapter II establishes the internal consistency of the SBQ-R (Osman, 2001) in both participants with and without disabilities. Additionally, we also found that participants with disabilities had elevated rates of suicidality across all dimensions of the SBQ-R (e.g., suicide attempts and plans, past year and lifetime suicidal thoughts, and predictions of future suicide attempts). This suggests that suicidality in people with disabilities is generally elevated across multiple domains as opposed to a single dimension of suicidality; this indicates that it is reasonable to use SBQ-R total scores as an outcome variable when examining the interaction between disability status and suicidality. The study presented in Chapter III expanded on that work by examining the relationship between disability status and suicidality when controlling for depression symptoms. We found that depression symptoms, although elevated in people with disabilities, did not fully account for the significant contribution of disability status to suicidality. Finally, the study presented in Chapter IV expanded upon these findings by controlling for both depressive symptoms as well as number of sociodemographic risk factors for suicide. Thus, Chapter IV combined both the depression-exclusive conceptualization of suicide (American Foundation for Suicide Prevention [AFSP], 2015) and the sociodemographic model of suicide (Fiedorowicz, Weldon, & Bergus, 2010) to see if their combined explanatory power accounted for the contribution of disability status to suicidality. Although individual sociodemographic predictors such as religious

affiliation, marital status, female gender, and employment status did relate to suicidality as predicted by the sociodemographic model and people with disabilities were more likely to experience higher levels of depression symptoms and more sociodemographic risk factors, the contribution of disability status to suicidality was still statistically significant even when all those variables were statistically accounted for in our regression analysis.

With regards to psychiatric versus nonpsychiatric disabilities, our findings were somewhat mixed. In Chapter II, we found that even when individuals with psychiatric disabilities were excluded, participants with other disabilities still reported experiencing many concerning dimensions of suicidality at significantly higher rates than those without disabilities. These include a higher rate of frequent past year suicidal ideation, a higher rate of suicide attempts and suicide attempts with true intent to die, and a higher perceived likelihood of future suicide attempts. However, in Chapter III, we examined logarithmically transformed SBQ-R scores among participants without disabilities, those with nonpsychiatric disabilities, and those with psychiatric disabilities. We found that individuals with nonpsychiatric disabilities did not significantly differ from those without disabilities, suggesting that individuals with psychiatric disabilities have an especially prominent risk for suicidality. However, given the findings in Chapter II and the small-to-medium effect size between suicidality in people without disabilities and those with nonpsychiatric disabilities found in Chapter III, this suggests that the sample size of the disability subgroups may simply not have been large enough to produce a statistically significant difference, and that even people with nonpsychiatric disabilities experience

higher than expected levels of suicidality. However, these results also convey even more elevated rates of suicidality experienced by those with psychiatric disabilities in particular, and highlight the fact that suicidality may not be elevated to the same extent in all disability groups. Researchers should further explore between-disability-group differences in suicidality with larger samples.

Depression symptoms did account for a much higher percentage of variance in suicidality than did disability status, confirming that ameliorating depression symptoms must be a key part of the conversation regarding suicide prevention and treatment regardless of disability status (AFSP, 2015). However, the independent and significant contribution of disability status to suicidality should not be ignored. Suicide is a very high-cost behavior, resulting in loss of life and significant and often devastating emotional burden to survivors of suicide loss. Thus, it is vital that we recognize particularly high-risk groups and provide them with the resources, treatment, and support necessarily to recover from or prevent suicidality (AFSP, 2015). The results of the present studies indicate that people with disabilities may be more likely to experience suicidality and thus may be more likely to benefit from such support. Furthermore, our results suggest that that this support may need to go beyond the important components of recognizing and addressing both depression symptoms and social inequality. Researchers should investigate what supports may be helpful in addressing suicidality in people with disabilities specifically, as well as potential barriers that they may face in accessing such supports. Both practical (e.g., money, transportation) and attitudinal barriers (e.g., stigma) should be addressed. Additionally, the potential role of attitudes that view suicidality in

individuals with disabilities as more acceptable or understandable (Lund, Nadorff, Winer, & Seader, 2016) should be examined.

Future research should continue to explore other factors that may explain the unique contribution of disability status to suicidality. Some possible avenues for future research, including examining the role of high rates of interpersonal violence and victimization in people with disabilities (Hughes, Lund, Gabrielli, Powers, & Curry, 2011) in their elevated rates of suicidality, and examining the rates and contribution of other psychological risk factors, such as impulsivity (Klonsky & May, 2010) and hopelessness (Beck, Kovacs, & Weissman, 1975); and further examining the relationship between stress exposure and suicidality people with disabilities (Russell, Turner, & Joiner, 2009).

Relatedly, researchers may also want to examine the applicability of theoretical models of suicidality in people with disabilities. These include Joiner's (2005) interpersonal-psychological model of suicide, which examined the contributions of perceived burdensomeness, acquired capacity to kill oneself, and thwarted social belonging to suicidality, and Meyer's (2003) minority stress model, which examined the contributions of marginalization, prejudice, and internalized self-loathing (e.g., internalized homophobia) to suicidality. These models could be explored separately or in tandem (Baams, Grossman, & Russell, 2015) in people with disabilities. Khazem, Jahn, Cukrowicz, and Anestis (2015) conducted a preliminary analysis of the interpersonal-psychological theory of suicide in a small ($N = 184$) sample of college students with and without disabilities and found that students with physical disabilities ($n = 49$) scored

higher on measures of perceived burdensomeness but not suicidal ideation, thwarted social belongingness, or fearlessness about death. However, this model should continue to be explored in people with disabilities, as Khazem et al.'s study, while an interesting and useful preliminary analysis may have been limited by its small sample size, its restriction to college students, and its unidimensional measure of suicidality. By exploring the potential fit of such models in people with disabilities, researchers could further explore the role of specific factors, such as burdensomeness, discrimination, or internalized ableism that contribute to the increased suicidality seen in people with disabilities. Once a well-fitting model of suicidality and disability is found, researchers and clinicians could work together to develop treatments that address the factors that contribute to increased suicidality in people with disabilities. These could be combined with treatments to address depression symptoms, thus providing a more comprehensive treatment for suicidality in people with disabilities. Additionally, understanding factors that underlie suicidality in people with disabilities specifically could help guide policy aimed at improving the health, well-being and safety of people with disabilities.

In addition to examining theoretical models of suicidality and other potentially related variables in people with disabilities, future research should also examine the intersectionality between disability and other dimensions of marginalization, such as sexual orientation and gender identity. Sexual minority status has consistently been linked to increased rates of depression and suicidality (Plöderl et al., 2013), as has transgender identity (Haas, Rogers, & Herman, 2014). Researchers have found that marginalized identities, such as disability status, race and ethnicity, sexual orientation,

and gender identity, can interact to create additional discrimination, barriers, and minority stress for those individuals who are members of multiple marginalized groups (Lightfoot & Williams, 2009). Thus, one potential area for future research would be to examine the interaction between sexual orientation, gender identity, or both in people with disabilities as it relates to suicidality. Additionally, MTurk may be a good data source for such a study that also examines the role of sexual orientation in suicidality, as preliminary data suggests that it may oversample individuals who are nonheterosexual (Lund & Ross, 2016; Lund, Thomas, Sias, & Bradley, in press). However, very few individuals who are recruited through MTurk identify as transgender (Lund et al., in press), likely due to the rather small population (i.e., less than 1% of the general population; Gates, 2011) of transgender people overall. Thus, a study that examined gender identity in the context of suicide and disability may have to specifically recruit participants who identify as transgender via other sources in order to have adequate representation.

In terms of implications of practice and practice-focused research, the results of these studies highlight the vital importance of training professionals who work with individuals with disabilities, especially rehabilitation counselors, to assess for and appropriately intervene with suicidal or potentially suicidal clients. As Lund, Schultz, and Nadorff (in press) note, there is no existent research on suicide assessment competency in rehabilitation counselors, despite their potential usefulness as frontline counseling professionals who work with individuals with disabilities. Preliminary data from a multistate sample of 223 public vocational rehabilitation counselors indicate that these individuals often work with clients who are experiencing suicidal ideation and are willing

to do so but do not feel competent in suicide assessment or intervention (Lund, Schultz, & Nadorff, 2016). Thus, training should be developed to help rehabilitation counselors and others who work with individuals with disabilities to increase their comfort and competency in assessing for suicide in this high-risk population.

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APPENDICES

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- > requested by my committee or the graduate school, in my dissertation
- > document, which will be archived in university and, later, Proquest
- > databases. The citations for the articles will be included, so you
- > will receive credit for being a co-author on the manuscripts there as
- > well as in the acknowledgements.
- >
- > Please let me know if you have any questions or concerns, and as
- > always, thank you for your collaboration.
- >
- > Emily

Kate Galbraith
May 19, 2016

You have my permission! Best of luck and let us know how everything goes! When do you defend?

-kate

> On May 18, 2016, at 10:48 PM, Emily Lund <emily.lund@aggiemail.usu.edu> wrote:

>

> Hello,

>

> I would like to use the following manuscripts in my dissertation:

>

> -Lund, E. M., Nadorff, M. R., & Seader, K. (2016). The relationship
> between suicidality and disability when accounting for depressive
> symptomology. *Rehabilitation Counseling Bulletin*, 59, 185-188'

>

> -Lund, E. M., Nadorff, M. R., Galbraith, K., & Thomas, K. B. (under
> review). Comparing internal consistency, overall scores, and response
> patterns on the Suicidal Behavior Questionnaire-Revised (SBQ-R) in
> people with and without disabilities.

>

> -Lund, E. M., Nadorff, M. R., Galbraith, K., & Thomas, K. B. (in
> preparation). Examining the contributions of disability to suicidality
> in the context of other sociodemographic factors

>

> As an author on one or more of these manuscripts, I am writing to
> request permission to include them, including any minor modifications
> requested by my committee or the graduate school, in my dissertation
> document, which will be archived in university and, later, Proquest
> databases. The citations for the articles will be included, so you
> will receive credit for being a co-author on the manuscripts there as
> well as in the acknowledgements.

>

> Please let me know if you have any questions or concerns, and as
> always, thank you for your collaboration.

>

> Emily

Katie Thomas
June 6, 2016

Oh, I didn't know you needed my permission. Yes, no problem.

----- Forwarded message -----

From: Emily Lund <emily.lund@aggiemail.usu.edu>
Date: Wed, May 18, 2016 at 9:48 PM
Subject: Permission to use manuscripts in dissertation
To: Kate Galbraith Michael Nadorff Katie Thomas

Hello,

I would like to use the following manuscripts in my dissertation:

-Lund, E. M., Nadorff, M. R., & Seader, K. (2016). The relationship between suicidality and disability when accounting for depressive symptomology. *Rehabilitation Counseling Bulletin*, 59, 185-188'

-Lund, E. M., Nadorff, M. R., Galbraith, K., & Thomas, K. B. (under review). Comparing internal consistency, overall scores, and response patterns on the Suicidal Behavior Questionnaire-Revised (SBQ-R) in people with and without disabilities.

-Lund, E. M., Nadorff, M. R., Galbraith, K., & Thomas, K. B. (in preparation). Examining the contributions of disability to suicidality in the context of other sociodemographic factors

As an author on one or more of these manuscripts, I am writing to request permission to include them, including any minor modifications requested by my committee or the graduate school, in my dissertation document, which will be archived in university and, later, Proquest databases. The citations for the articles will be included, so you will receive credit for being a co-author on the manuscripts there as well as in the acknowledgements.

Please let me know if you have any questions or concerns, and as always, thank you for your collaboration.

Emily

CURRICULUM VITAE

EMILY M. LUND, MED

Department of Special Education and Rehabilitation
 Utah State University
 2865 Old Main Hill
 Logan, UT 84322-2865
 emily.m.lund@gmail.com

RESEARCH INTERESTS

Primary: Interpersonal violence, trauma, bullying, and peer victimization, primarily in people with disabilities; suicide and non-suicidal self-injury, especially in relation to trauma and disability

Secondary: Education, training, and supervision in professional psychology and counseling; the experiences of professional psychology trainees with disabilities

EDUCATION

- 2016 PhD, Disability Disciplines (specializations in special education and rehabilitation counseling), Utah State University, Logan, UT
- Dissertation: "Suicide and Disability: Three Different Analyses of a Nation-wide Sample of American Adults" (Jared C. Schultz, chair; Scott W. Ross, co-chair)
- 2012 MEd, Educational Psychology, Texas A&M University, College Station, TX
 (Degree awarded Dec. 2011; post-masters coursework completed Jan. 2012-May 2012)
- 2010 B.A., Psychology, Social Work, University of Montana, Missoula, MT
 Minor: Biology, University Honors Program; High Honors

INTERDISCIPLINARY TRAINING FELLOWSHIPS

- 2014-2015 Autism Enhancement trainee (150 hours), Utah Regional LEND program, Center for Persons with Disabilities, Utah State University
- 2013-2014 Full-time trainee (300 hours), Utah Regional LEND Program, Center for Persons with Disabilities, Utah State University
- 2010-2012 Graduate research fellow and trainee, Center on Disability and Development, Texas A&M University

HONORS/AWARDS

- 2016 Graduate researcher of the year, Robins Award (university-wide award), Utah State University

- 2016 Graduate researcher of the year, Emma Eccles Jones College of Education, Utah State University
- 2016 Graduate researcher of the year, Department of Special Education and Rehabilitation, Utah State University
- 2015 Graduate student travel award, Office of Research and Graduate Studies, Utah State University (\$400)
- 2014 Honorable mention student oral presentation (Sunil Sengupta VA Student Travel Award), Rehabilitation Psychology Midwinter Conference (~\$1,250)
- 2013 First place student oral presentation, Division 22/Foundation for Rehabilitation Psychology, Rehabilitation Psychology Midwinter Conference (\$250)
- 2011 Division 22 Section 2: Women in Rehabilitation Psychology Poster Award, Rehabilitation Psychology Midwinter Conference (\$100)
- 2011 American Association on Health and Disability Scholar (\$500)
- 2010-2012 Graduate Merit Fellowship, Texas A&M University (\$44,000)
- 2009 Outstanding poster, Social Sciences Division, University of Montana, Conference on Undergraduate Research
- 2009 McElwain scholarship (\$500)
- 2008 Hockaday scholarship (\$500)
- 2006-2010 Cal Murphy Scholarship, University of Montana (\$20,000)
- 2006-2010 Presidential Leadership Scholarship (Gold), University of Montana (~\$45,000)

RESEARCH

PEER-REVIEWED PUBLICATIONS (N = 44, 21 first author)

*masters student under my mentorship

Accepted and in press ([‡]available ahead of print through OnlineFirst at the respective journal's website)

Durán, L. K., Hartzheim, D., **Lund, E. M.**, Simonsmeier, V., & Kohlmeier, T. L. (in press). Bilingual and home language interventions with young dual language learners: A research synthesis. *Language, Speech, and Hearing Services in the Schools*.

Lund, E. M., Andrews, E. E., & Holt, J. M. (in press). A qualitative analysis of the reflections of professional psychology trainees with disabilities. *Training and Education in Professional Psychology*.

Lund, E. M., Kohlmeier, T. L., & Durán, L. K. (accepted). Comparative language development in bilingual children with autism spectrum disorder: A systematic review. *Journal of Early Intervention*.

- Lund, E. M., & Ross, S. W.** (in press). Bullying perpetration, victimization, and demographic differences in college students: A review of the literature. *Trauma, Violence, & Abuse*. *
- Lund, E. M., Schultz, J. C., & Nadorff, M. R.** (in press). The factor structure, internal consistency, and convergent validity of two suicide assessment competency measures in vocational rehabilitation counselors. *Rehabilitation Counseling Bulletin*. *
- Lund, E. M., Thomas, K. B., Sias, C. M. & Bradley, A. R.** (in press). Examining concordant and discordant sexual and romantic attraction in American adults: Implications for counselors. *Journal of LGBT Issues in Counseling*.
- Platt, L., Powers, L., Leotti, S., Hughes, R. B., Robinson-Whelen, S., Osburn, S., Ashkenazy, E., Beers, L., **Lund, E. M., Nicolaidis, C., & the Partnering with People with Disabilities to Address Violence Consortium.** (in press). The role of gender in violence experienced by adults with developmental disabilities. *Journal of Interpersonal Violence*.
- Blake, J. J., Kim, E. S., **Lund, E. M., Zhou, Q., Kwok, O., & Benz, M. R.** (2016). Predictors of bully victimization in students with disabilities: A longitudinal examination using a national dataset. *Journal of Disability Policy Studies, 26*, 199-208
- Lund, E. M., Bouchard L. M.* & Thomas, K. B.** (2016). Publication productivity of professional psychology internship applicants: An in-depth analysis of APPIC survey data. *Training and Education in Professional Psychology, 10*(1), 54-60.
- Lund, E. M., Nadorff, M. R., & Seader, K.*** (2016). The relationship between suicidality and disability when accounting for depressive symptomology. *Rehabilitation Counseling Bulletin, 59*, 185-188.
- Lund, E. M., Nadorff, M. R., Winer, E. S., & Seader, K.*** (2016). Is suicide an option?: The impact of disability on suicide acceptability in the context of depression, suicidality, and demographic factors. *Journal of Affective Disorders, 189*, 25-35.
- Lund, E. M., & Ross, S. W.** (2016). Peer victimization in students who are Deaf and hard of hearing: Exploring educational placement. *Journal of the American Deafness and Rehabilitation Association (JADARA), 50*(2), 20-43.
- Wolfe, K., Pyle, D., Charlton, C. T., Sabey, C. V., **Lund, E. M., & Ross, S. W.** (2016). A systematic review of the empirical support for check-in/check-out and related interventions. *Journal of Positive Behavior Interventions, 18*, 74-88
- Andrews, E. E., & **Lund, E. M.** (2015). Disability in professional psychology training: Where are we? *Training and Education in Professional Psychology, 9*, 210-216.
- Hong, E. R., Neely, L., & **Lund, E. M.** (2015). Addressing bullying in students with ASD: Suggestions for practice. *Intervention in School and Clinic, 50*(3), 157-162.
- Lund, E. M., & Johnson, B. A.*** (2015). Asexuality and disability: Strange but compatible bedfellows. *Sexuality and Disability, 33*, 123-132.
- Lund, E. M., Oswald, M. M., Latorre, A., Hughes, R. B., Liston, B., Shelton, R., Flaherty, M. C., Porcher, E. M., & Powers, L. E.** (2015). Developing an internet-based abuse awareness program for men with disabilities. *Rehabilitation Counseling Bulletin, 58*(3), 131-145.
- Lund, E. M., & Schultz, J. C.** (2015). Distance supervision in rehabilitation counseling: Ethical and

- clinical considerations. *Rehabilitation Research, Policy and Education*, 26(1), 88-95.
- Lund, E. M., & Thomas, K. B.** (2015). Necessary but not sufficient: Sexual assault information on college and university websites. *Psychology of Women Quarterly*, 39, 530-538.
- Oswald, M. M., **Lund, E. M.**, Latorre, A., Shelton, R., Hughes, R. B., Liston, B., Flaherty, M. C., & Powers, L.E. (2015). An exploratory study of a computer-assisted abuse awareness and safety planning program for men with disabilities: The Men's Safer and Stronger Program. *Journal of Social Work in Disability & Rehabilitation*, 14(2), 88-109.
- Thomas, K. B., **Lund, E. M.**, & Bradley, A. R. (2015). Composite trauma and mental health diagnosis as predictors of lifetime non-suicidal self-injury history in an adult online sample. *Journal of Aggression, Maltreatment, and Trauma*, 26, 623-635.
- Blake, J. J., Banks, C. S., Patience, B. A., & **Lund, E. M.** (2014). School-based mental health professionals' bullying assessment practices: A call for evidenced-based bullying assessment guidelines. *Professional School Counseling*, 18(1), 136-147.
- Lund, E. M.**, Andrews, E. E., & Holt, J. M. (2014). How we treat our own: Characteristics and experiences of psychology trainees with disabilities. *Rehabilitation Psychology*, 54, 367-375.
- Lund, E. M.**, & Hammond, M. (2014). Single-session intervention for abuse awareness among people with developmental disabilities. *Sexuality and Disability*, 32, 99-105.
- Lund, E. M.**, & Hong, E. R. (2014). Increasing task engagement and decreasing challenging behavior via a work-reinforcement contingency. *Journal of Korean Association for Applied Behavior Analysis*, 1(1), 8-14.
- Lund, E. M.**, Miller, K. B., & Ganz, J. B. (2014). Access to assessment?: Legal and practical issues regarding psychoeducational assessment in children with sensory disabilities. *Journal of Disability Policy Studies*, 25(3), 135-145.
- Lund, E.M.**, & Thomas, K. B. (2014). Relationship satisfaction and the PAI: Examining stress, distress, aggression, and alcohol use. *North American Journal of Psychology*, 16, 201-210.
- Lund, E. M.**, & Seekins, T. (2014). Long-term attitudinal correlates of exposure to classmates with disabilities: An exploratory study. *Physical Disabilities: Education and Related Services*, 33(1), 1-16.
- Oswald, M., Leotti, S., Raymaker, D., Katz, M., Goe, R., Harviston, M., Wallington, A., Howard, L., Beers, L., Nicolaidis, C., Robinson-Whelen, S., Hughes, R. B., **Lund, E. M.**, Powers, L. E., & the Partnering with People with Disabilities to Address Violence Consortium (2014). Development of an audio-computer assisted self-interview to investigate violence and health in the lives of people with developmental disabilities. *Disability and Health Journal*, 7, 292-301.
- Robinson-Whelen, S., Hughes, R. B., Gabrielli, J., **Lund, E. M.**, & Schwartz, M. (2014). A safety awareness program for women with diverse disabilities: A randomized controlled trial. *Violence Against Women*, 20, 846-868.
- Andrews, E. E., Kuemmel, A., Williams, J. L., Pilarski, C., Dunn, M., & **Lund, E. M.** (2013). Providing culturally competent supervision to trainees with disabilities in rehabilitation settings. *Rehabilitation Psychology*, 58, 233-244.

- Ganz, J. B., Goodwyn, F. D., Boles, M. B., Hong, E. R., Rispoli, M. J., **Lund, E. M.**, & Kite, E. (2013). Investigation of impacts of an instructional coaching intervention on practitioner frequency of implementation of AAC and collateral impacts on child communication. *Augmentative and Alternative Communication, 29*, 210-221.
- Hong, E. R. & **Lund, E. M.** (2013). The effectiveness of in-vivo modeling on oral shape imitations in a child with autism. *Journal of Korean Association for Persons with Autism, 13(1)*, 1-19.
- Blake, J. J., **Lund, E. M.**, Zhou, Q., Kwok, O., & Benz, M. R. (2012). National prevalence rates of bully victimization among students with disabilities in the U.S. *School Psychology Quarterly, 27*, 210-222.
- Ganz, J. B., Davis, J., **Lund, E. M.**, Goodwyn, F. D., & Simpson, R. L. (2012). Meta-analysis of PECS with individuals with ASD: Investigation of targeted versus non-targeted outcomes, participant characteristics, and implementation phase. *Research on Developmental Disabilities, 33*, 406-418.
- Ganz, J. B., Heath, A. K., **Lund, E. M.**, Camargo, S., Rispoli, M. J., Boles, M., & Plaisance, L. (2012). Effects of peer-mediated visual scripts in middle school. *Behavior Modification, 36*, 378-398.
- Ganz, J. B., Simpson, R. L., & **Lund, E. M.** (2012). The Picture Exchange Communication System (PECS): A promising method for improving communication skills of learners with autism spectrum disorders. *Evidence and Training in Autism and Developmental Disabilities, 47*, 176-186.
- Lund, E. M.**, Blake, J. J., Ewing, H. K., & Banks, C. S. (2012). School counselors' and school psychologists' bullying prevention and intervention strategies: A look into real world practices. *Journal of School Violence, 11*, 246-265.
- Miller, K. B., **Lund, E. M.**, & Weatherly, J. N. (2012). Applying operant learning to the stay-leave decision in domestic violence. *Behavior and Social Issues, 21*, 135-151.
- Hughes, R. B., Curry, M. A., Oschwald, M. M., Child, B., **Lund, E. M.**, Sullivan, M., & Powers, L. E. (2011). Responding to interpersonal crime victims with disabilities: The perspective of law enforcement. *Journal of Policy Practice, 10(3)*, 185-205.
- Hughes, R. B., **Lund, E. M.**, Gabrielli, J., Powers, L.E., & Curry, M. A. (2011). Prevalence of interpersonal violence against community-living adults with disabilities: A literature review. *Rehabilitation Psychology, 56*, 302-319.
- Lund, E. M.** (2011). Community-based services and interventions for adults with disabilities who have experienced interpersonal violence: A review of the literature. *Trauma, Violence, & Abuse, 12*, 171-182.
- Hughes, R. B., Robinson-Whelen, S., Pepper, A., Gabrielli, J., **Lund, E., M.**, Legerski, J., & Schwartz, M. (2010). Development of a safety awareness program for women with diverse disabilities. *Rehabilitation Psychology, 55*, 263-271.
- Powers, L. E., Hughes, R. B., & **Lund, E. M.** (2009, September). † Interpersonal violence and women with disabilities: A research update. Harrisburg, PA: VAWnet, a project of the National Resource Center on Domestic Violence/Pennsylvania Coalition Against Domestic Violence.

†Blind peer reviewed by reviewers selected by VAWnet.

SELECTED MANUSCRIPTS UNDER REVIEW AND IN REVISION

*masters student or former masters student under my mentorship

Lund, E. M., Elliott, T. R., Berry, J. W., Grant, J., & Fine, P. R. (revise-resubmit). A contextual model of interpersonal abuse and burden among family caregivers of persons with severe disabilities.

Lund, E. M., Nadorff, M. R., Galbraith, K.*, & Thomas, K. B. (revise-resubmit). Comparing internal consistency, overall scores, and response patterns on the Suicidal Behavior Questionnaire-Revised (SBQ-R) in people with and without disabilities.

Lund, E. M., Thomas, K. B., Bouchard, L. M.*, & Bradley, A. R. (revise-resubmit). A comparative analysis of three screening methods for non-suicidal self-injury in college students.

Lund, E. M., Thomas, K. B., & Bradley, A. R. (revise-resubmit). The relationships between non-suicidal self-injury characteristics, mental health diagnosis, and trauma history in an adult online sample.

Bogart, K. R., Rottenstein, A., **Lund, E. M.**, & Bouchard, L. M.* (under review). Disability self-identification in adults with chronic health conditions: Impairment and contextual influences.

Lund, E. M., Nadorff, M. R., Thomas, K. B., & Galbraith, K.* (under review). Examining the contributions of disability to suicidality in the context of depression symptoms and other sociodemographic factors.

Lund, E. M., & Ross, S. W. (under review). Retrospective and current bullying peer victimization in college students with disabilities: Demographic and mental health correlates.

Lund, E. M., Schultz, J. C., & Nadorff, M. R. (under review). Experience, knowledge, and perceived comfort and clinical competency in working with suicidal clients among vocational rehabilitation counselors.

EDITED BOOKS

Johnson, A., Nelson, R., & **Lund, E. M.** (under contract). *Religion, Disability, and Gender Violence*. Springer.

INVITED CHAPTERS IN EDITED BOOKS

*masters student under my mentorship

Ross, S. W., **Lund, E. M.**, Sabey, C. V., & Charlton, C. C. (accepted). Students' perspectives on bullying. In L. Rosen, K. Deornellas, & Scott (Eds), *Bullying in the School: Perspectives From Across Campus*

Lund, E. M., Sabey, C. V., Thomas, K. B., & Bouchard, L. M.* (in press). Physical Abuse of People with Intellectual and Other Developmental Disabilities in Residential Care. In P. Sturmey (Ed.), *The Wiley Handbook of Violence and Aggression: Societal Interventions*.

Banks, C. A., **Lund, E. M.**, Pulido, R., Vaughan-Jensen, J., & Blake, J. J. † 2015). Prevention of Violence. In C. Blakely & E. L. J. Mckyer (Eds.). *Encyclopedia of Primary Prevention and Health Promotion (Child Series)*, 2nd edition.

†Equal contribution shared by first four authors.

INVITED EDITOR-REVIEWED PUBLICATIONS

Reviews and commentaries in scholarly journals

Andrews, E. E., & **Lund, E. M.** (2016). Silenced no more: A review of *Supporting Disabled People in Their Sexual Lives*. *Sexuality and Disability*, 34, 227–233. (invited, peer-reviewed book review).

Lund, E. M., & Vaughn-Jensen, J. E. (2012). Victimization of children with disabilities. *The Lancet*, 380, 867 - 869 (invited comment).

Lund, E. M., & Ganz, J. B. (2011). Behavioral skills training for PECS instruction: Initial evidence is promising but limited. *Evidence-based Communication Assessment and Intervention*, 5(1), 24-27 (invited value-added commentary).

Lund, E. M., Dennison, A., Ewing, H. K., & de Cavalho, C. F. (2011). Review of the Children's Measure of Obsessive-Compulsive Symptoms. *Journal of Psychoeducational Assessment*, 29, 587-591.

Encyclopedia entries

Lund, E. M. (2014). Eric Schopler. *Encyclopedia of Special Education*, 4th edition, p. 2330-2331.

Lund, E. M. (2014). Applied Verbal Behavior. *Encyclopedia of Special Education*, 4th edition, p. 192-193.

Lund, E. M. (2014). Social Communication Questionnaire. *Encyclopedia of Special Education*, 4th edition, p. 2419-2420

Articles in professional newsletters

Lund, E. M. (2015, July). "Moving Forward: The Importance of the ADA to Psychology Trainees with Disabilities." *Spotlight on Disability*, Council on Disability Issues in Psychology newsletter.

Lund, E. M. (2012, December). "Violence Against People with Disabilities: New Developments and Important Implications." *Spotlight on Disability*, Council on Disability Issues in Psychology newsletter.

GRANTS

2015 \$500. Principal Investigator. *The relationship between interpersonal victimization, suicidality, and non-suicidal self-injury in adults with and without disabilities*. Utah State University Center for Women and Gender graduate research grants program.

2014-2015 \$20,000. Co-Principal Investigator (Scott Ross, Co-PI). *Preventing Bullying in High School: A Matched-pairs Controlled Trial*. Awarded by the Visionary Grants program of the American Psychological Foundation.

2013-2014 \$1,000. Principal Investigator (Christian Sabey, Co-PI; Scott Ross, faculty supervisor). *Teaching Social Initiation Skills to Students with ASD*. Awarded by the Utah Personnel Development Center.

2009-2013 \$1,300,000. Research assistant (named in proposal; 2009-2010); and consultant (2010-2013) (Rosemary Hughes, PI). *Partnering with People with Developmental Disabilities to Address Violence*. Awarded by the Association of University Centers on Disabilities (AUCD) AUCD-CDC NCBDDD Cooperative Agreement.

2009-2010 \$500. Principal Investigator (Rosemary Hughes, faculty supervisor; Mary Oschwald, project supervisor). *Research on the Development of Computer-Assisted Self-Interview Program Regarding Abuse for Men with Disabilities*. Awarded by Mansfield Center Public Policy and Leadership Grant program.

RESEARCH APPEARANCES IN THE MEDIA

Research featured in “How many psychologists have disabilities?” (2015, December). *Monitor on Psychology*. <http://www.apa.org/monitor/2015/12/post-ada-sidebar.aspx>

Interviewed for and quoted in “Is Suicide an Option? Depends if You’re Disabled, says Study” (2015, December 7). *New Mobility*. <http://www.newmobility.com/2015/12/is-suicide-an-option/>

Interviewed for and quoted in “Study Examines the Acceptability of Suicide Among People with Disabilities” (2015, November 15). *Utah State Today*. <https://www.usu.edu/today/?id=55277>

Interviewed for and quoted in “Just the necessities.” (2015, August 14). *Inside Higher Education*. <https://www.insidehighered.com/news/2015/08/14/study-finds-college-websites-often-include-only-necessary-information-about-sexual>

Interviewed for and quoted in “Dispelling myths about students with disabilities.” (2015, April). *GradPsych Magazine*. <http://www.apa.org/gradpsych/2015/04/dispelling-myths.aspx>

Interviewed for and quoted in ““Behinderte Kinder viermal häufiger Opfer von Gewalt” (2012, October 26). IQ - Wissenschaft und Forschung. Bayern 2 Radio. [“Handicapped Children Four Times as Often Victims of Assault.” IQ - Science and Research. Bayern 2 Radio] (German Public Radio).

Interviewed for and quoted in “Disabled Kids More Likely to be Victimized” (2012, July 26). *HealthyCal/California Health Report*. <http://www.healthycal.org/archives/9349>

Quoted in “Disabled Kids 4 Times More Likely to Suffer Violence: Study” (2012, July 12). *U.S. News and World Report* (similar versions of the story and quotation also appeared in other news outlets).

Underwood, T., & Davis, M. (2012, February). American Society of Victimology Research-to-Practice Digest. (Summary and review of Lund, E. M. (2011). Community-based services and interventions for adults with disabilities who have experienced interpersonal violence: A review of the literature. *Trauma, Violence, & Abuse, 12*, 171-182.)

PRESENTATIONS

Invited National Presentations

Lund, E. M., Nelson, J. R., & Johnson, A. (2016, August). Violence against people with disabilities: An overview of key findings. *APA Division 36 Hospitality Suite on Religion, Disability & Gender Violence* (Chair: A. Johnson). Presentation in the APA Division 36 Hospitality Suite at the 2016 American Psychological Association Convention: Denver, CO.

Lund, E. M. (2015, August). “Creating a Supportive, Disability-affirmative Environment for Trainees with Disabilities: Research-based suggestions.” Invited address at the 2015 summer convention of the National Council of Schools and Programs in Professional Psychology: Toronto, ON.

Juried National and International Presentations

- Carlos, M. C., & **Lund, E. M.** (2016, August). Experiences of Psychologists and Psychology Trainees with Disabilities in Assessment Training. *Knowhow/Know How---Access to Assessment Training Experiences for Psychologists and Trainees with Disabilities* (Chair: M. Carlos). Symposium at the 2015 American Psychological Association Convention: Denver, CO.
- Nelson, J. R., **Lund, E. M.**, & Johnson, A. (2016, August). Preparedness of providers to assist interpersonal violence survivors with disabilities & faith backgrounds. *APA Division 36 Hospitality Suite on Religion, Disability & Gender Violence* (Chair: A. Johnson). Presentation in the APA Division 36 Hospitality Suite at the 2016 American Psychological Association Convention: Denver, CO.
- Lund, E. M.**, & Andrews, E. E. (2016, February). Supporting Psychology Trainees with Disabilities: Empirically-Based Suggestions for Trainees, Faculty, and Supervisors. Presentation at the Division 22 Rehabilitation Psychology Midwinter Conference: Atlanta, GA.
- Lund, E. M.**, Thomas, K. B., & Bradley, A. R. (2015, August). Parsing Out Intersectionality: An Examination of Discordant Sexual and Romantic Orientations. *Data Blitz---Current Research on Intersecting Social Identities* (Chairs: A. Koenig and M. Erchull). Symposium at the 2015 American Psychological Association Convention: Toronto, ON.
- Lund, E. M.** (2015, August). IPV Survivors With Disabilities: Considerations for Faith-Based Organizations. *Competency at the Intersection of Gender Violence, Disability, and Religion* (Chair: A. Johnson). Symposium at the 2015 American Psychological Association Convention: Toronto, ON.
- Lund, E. M.** (2015, August). Psychology Trainees With Disabilities: What Does the Data Say and Where Do We Go From Here? *Disability Issues Across the Psychology Lifespan*. (Chairs: E. Samuels and L. Emmons). Symposium at the 2015 American Psychological Association Convention: Toronto, ON.
- Williams, J. L., Pilarski, C., & **Lund, E. M.** (2015, January). "Abuse of Girls with Disabilities: International and U.S. Perspectives." Presentation at the 2015 National Multicultural Conference and Summit: Atlanta, GA.
- Lund, E. M.**, & Schultz, J. C. (2014, March). "Distance and Technology-mediated Supervision: Ethics and Evidence." Presentation at the National Council on Rehabilitation Education Spring Conference: Manhattan Beach, CA.
- Lund, E. M.**, Andrews, E. E., & Holt, J. M. (2014, February). "The Characteristics and Experiences of Professional Psychology Trainees with Disabilities." Presentation at the Division 22 Rehabilitation Psychology Midwinter Conference: San Antonio, TX.
- Snyder, K., Ross, S. W., Sabey, C., Charlton, C. T., Pyle, D., **Lund, E. M.**, & Slocum, T. A. (2013, May). Check-In/Check-Out and Check, Connect, and Expect: A Systematic Review of Common Secondary Interventions. *Scaling Up: Assessing and Addressing Challenging Behavior in School Settings With a Hierarchy of Support* (Chair: K. Snyder). Symposium at the 39th annual Applied Behavior Analysis International convention: Minneapolis, MN.
- Lund, E. M.**, Elliott, T. R., Grant, J. S., Berry, J. W., & Fine, P. R. (2013, February). "Developing a Contextual Model of Caregiver Burden: Examining Abuse, Depression, and Problem-Solving." Presentation at the Division 22 Rehabilitation Psychology Midwinter Conference: Jacksonville, FL.

Lund, E. M., Ganz, J. B., Davis, J. L., Goodwyn, F. D., & Simpson, R. L. (2012, May). Meta-Analytic Investigation of the Impact of PECS on Targeted and Non-targeted Behaviors. *Efficacy of Visually- and Technology-Based Communication Interventions* (Chair: J. B. Ganz; Discussant: M. M. Flores). Symposium at the 38th annual Applied Behavior Analysis International convention: Seattle, WA.

Lund, E. M., Ganz, J. B., Boles, M. B., Neely, L & Jones, M. M.† (2012, May). Impact of a Peer-Modeling Intervention on Interactions Between Preschoolers With Autism and Typically-Developing Peers. *Efficacy of Visually- and Technology-Based Communication Interventions* (Chair: J. B. Ganz; Discussant: M. M. Flores). Symposium at the 38th annual Applied Behavior Analysis International convention: Seattle, WA.

†Authorship changed after proposal submission; the above represents the agreed upon authorship order at the time of presentation.

Hughes, R. B., Robinson-Whelen, S., Gabrielli, J., & **Lund, E. M.** (2011, November). “A Safety Awareness Group Program: Outcomes for Women with Cognitive Disabilities.” Presentation at Association of University Centers on Disabilities (AUCD) 2011 Meeting and Conference: Crystal City, VA.

McDonald, K., Hughes, R. B., Raymaker, D., **Lund, E. M.,** & Stack, E. (2010, October). “Perspectives from the Trenches: Using CBPR to Study Violence in Adults with Developmental Disabilities.” Presentation at the 2010 Association of University Centers on Disabilities (AUCD) Meeting and Conference: Crystal City, VA.

Gabrielli J., Robinson-Whelen S, Pepper A, **Lund E. M.,** & Hughes R. B. (2010, August). “Characteristics of Abused and Non-Abused Women with Diverse Disabilities.” Poster presentation at the 2010 American Psychological Association Convention: San Diego, CA.

Hughes R. B., Gabrielli J., **Lund E. M.,** Robinson-Whelen S., & Powers L. E. (2010, August). “Interpersonal Violence and Disability: The State of the Science”. Symposium Presentation at the 2010 American Psychological Association Convention, San Diego, CA.

Hughes, R. B., Robinson-Whelen, S., Gabrielli, J., **Lund, E. M.,** Pepper, A. C., Porcher, E. M., & Schwarz, M. (2010, April). “Development of a CIL-based violence prevention program for women with diverse disabilities.” Paper presented at the 2010 NARRTC 32nd Annual Conference: Alexandria, VA.

Lund, E. M. (2010, April). “Exposure to and Experiences with Classmates with Disabilities: A Study of Recollections.” Presentation at the 2010 National Conference on Undergraduate Research (NCUR): Missoula, MT. Faculty advisor: Dr. Tom Seekins

Hughes, R. B., **Lund, E. M.,** Pepper, A., Legerski, J., Gabrielli, J., & Robinson-Whelen, S. (2009, November). “Developing a Safety Awareness Program for Women with Diverse Disabilities.” Presentation at Association of University Centers on Disabilities (AUCD) 2009 Meeting and Conference: Washington, D.C.

Juried National and International Poster Presentations

Durán, L. K., Hartzheim, D., **Lund, E. M.,** Simonsmeier, V., & Kohlmeier, T. L. (2016, February). Bilingual and home language interventions with young dual language learners: A research synthesis. Poster presentation at the 10th Biennial Conference on Research Innovations in Early Intervention (CRIEI): San Diego, CA.

- Lund, E. M., Kohlmeier, T. L., & Durán, L. K.** (2016, February). Language development in bilingual children with autism spectrum disorders: A systematic review. Poster presentation at the 10th Biennial Conference on Research Innovations in Early Intervention (CRIEI): San Diego, CA.
- Lund, E. M., Karsky, J., Patiño, S., Simonsmeier, V., & Higbee, T. S.** (2015, November). "The Features, Functions, and Limitations of Popular Free Augmentative and Alternative Communication (AAC) Apps." Poster at the 2015 American Speech and Hearing Association (ASHA) Annual Conference: Denver, CO.
- Andrews, E. E., Kuemmel, A., & **Lund, E. M.** (2014, May). "Providing Culturally Competent Supervision to Trainees with Disabilities." Poster at the Association of Psychology Postdoctoral and Internship Centers (APPIC) Conference: Austin, TX.
- Hammond, M., Pavithran, S., & **Lund, E.** (2013, November). "Collaborating to Reduce Violence." Poster at the Association of University Centers on Disabilities (AUCD) 2013 Meeting and Conference: Crystal City, VA.
- Lund, E. M., & Hong, E. R.** (2013, February). "Teaching a Work-Reinforcement Contingency to Increase Task Engagement and Decrease Challenging Behavior." Poster at the Seventh Annual Applied Behavior Analysis Autism Conference: Portland, OR.
- Pulido, R. A., Winters, R., Marshall, J., Dillworth, A., **Lund, E. M.,** Joslin, A., & Blake, J. J. (2012, August). "Perceived Popularity and Self-Concept in a Hispanic/Latino American and African American Sample." Poster at the 2012 American Psychological Association Convention: Orlando, FL.
- Pulido, R., Banks, C. S., **Lund, E. M.,** Vaughan-Jensen, J., Blake, J. J., & Graves, S. (2012, February). "Attracting Diverse Applicants in School Psychology: What Are Programs Websites Doing to Help?" Poster at the 2012 Trainers of School Psychology Conference: Philadelphia, PA,
- Lund, E. M., & Sharp, A.** (2011, November). "Who Knows What?: Results of a Campus-wide Survey of Perceived Self and Others' Knowledge of Disability-related Topics." Poster at Association of University Centers on Disabilities (AUCD) 2011 Meeting and Conference: Crystal City, VA.
- Blake, J. J., Kim, E. S., **Lund, E. M.,** & Benz, M. (2011, August). "The Forgotten Minority: Exploring Prevalence Rates and Risk for Victimization in Children with Disabilities." Poster at the 2011 American Psychological Association Convention: Washington, DC.
- Lund, E. M.** (2011, February). "Interpersonal violence and people with disabilities: A review of empirically-tested intervention and prevention strategies." Poster at the Division 22 Rehabilitation Psychology Midwinter Conference: Jacksonville, FL.
- Lund, E. M.,** Oswald, M., Liston, B., Flaherty, M. C., Shelton, R., Porcher, E. M., Hughes, R. B., & Powers, L. E. (2010, October). "Addressing Interpersonal Violence Against Men with Disabilities: Considering the Intersectionality of Violence, Disability, and Gender." Poster at the 2010 Association of University Centers on Disabilities (AUCD) Meeting and Conference: Crystal City, VA.
- Hughes, R. B., Robinson-Whelen, S., Gabrielli, J., & **Lund, E. M.** (2010, October). "A safety awareness group program for women with diverse disabilities: Findings from a randomized controlled trial." Poster at the 2010 Association of University Centers on Disabilities (AUCD) Meeting and Conference: Crystal City, VA.

Lund, E. M., & Metz, A. J. (2009, November) "Postsecondary Persistence Intentions in Students with Physical and Sensory Disabilities: An Exploration of Potential Correlates." Poster at Association of University Centers on Disabilities (AUCD) 2009 Meeting and Conference: Washington, D.C.

Juried State and Regional Presentations

Thomas, K. B., & **Lund, E. M.** (2013, October). An analysis of sexual assault resources on college and university websites. Paper presented at the Northern Lights Psychology Conference: Grand Forks, ND.

Thomas, K. B., **Lund, E. M.**, & Bradley, A. R. (2013, October). The characteristics and correlates of non-suicidal self-injury in a community sample. Paper presented at the Northern Lights Psychology Conference: Grand Forks, ND.

Juried State and Regional Poster Presentations

Ganz, J. B., Davis, J. L., Goodwyn, F., & **Lund, E. M.** (2013, February). "How Meta-analysis of Research on the Picture Exchange Communication System Can Inform Classroom Practice." Poster presentation at the Midwest Symposium for Leadership in Behavior Disorders: Kansas City, MO.

Lund, E. M., Ganz, J. B., Mason, R. A., Rispoli, M. J., Heath, A. K., & Parker, R. (2011, July). "An Aggregate Study of Single-case Research Involving Aided AAC: Participant Characteristics of Individuals with Autism Spectrum Disorders." Poster presentation at the Texas Autism Research Conference: Austin, TX.

Lund, E. M., Oswald, M., Powers, L. E., Porcher, E., Hughes, R. B., & Shelton, R. (2010, April). "Intersectionality of Disability, Gender, and Society: Men with Disabilities and IPV." Poster presented at the Western Psychological Association (WPA) 2010 Conference: Cancun, MX.

Lund, E. M., & Seekins, T. (2010, October). "Exposure to and Experiences with Classmates with Disabilities: A Study of Recollections." Poster at the 2010 Texas Association of School Psychologists Conference: Irving, TX.

Invited Local and State Presentations

Gabrielli, J., **Lund, E. M.** & Hughes, R. B. (2010, March). "Interpersonal Violence and Disability: A Research Update." University of Montana Psychology Colloquium, Missoula, MT.

Gabrielli, J., **Lund, E. M.**, & Hughes, R. B. (2009, September). Facilitators for Violence and Disability Breakout Session. Disability and Health and the Prevention of Secondary Conditions conference sponsored in collaboration with Senior and Long Term Care Division of the State of Montana Department of Public Health and Human Services, Missoula, Montana.

Professional Development Presentations

Lund, E. M. (2016, January). "Suicide Assessment and Reporting." In-service delivered to the Center for Persons with Disabilities Clinical Services Assessment Team: Logan, UT.

Lund, E. M., & Ross, S. W. † (2015, June). "Bully Prevention in Positive Behavior Support." Utah Multi-Tiered System of Supports & Effective Practices Conference: Layton, UT.

†Delivered independently using materials developed by Scott W. Ross.

Ross, S. W., **Lund, E. M.**, & Miller, A. T. (2013, August). "Bullying Prevention in Positive Behavior Support." Granite School District: Salt Lake City, UT.

Ross, S. W., & **Lund, E. M.** (2013, June). "Bully Prevention in Positive Behavior Support." Utah Multi-Tiered System of Supports & Effective Practices Conference: Layton, UT.

CLINICAL EXPERIENCE

Sep. 2015-May 2016	Clinical intern/case manager, Clinical Services/Autism Assessment Clinic team, Center for Persons with Disabilities
May 2014-May 2016	Diagnostic review team member, Clinical Services/Autism Assessment Clinic team, Center for Persons with Disabilities, Utah State University, Logan, UT
May 2014-July 2015	Rehabilitation counseling intern, Utah State University Disability Resource Center
Aug. 2013-May 2015	Team member and intervention research consultant, Employability Clinic, Utah State University, Logan, UT
June 2012-July 2012	Clinical volunteer, Autism Assessment, Research, and Intervention Clinic summer program for children ages 6-10, Bryan, TX
Jan. 2012-May 2012	Intervention research volunteer, Autism Assessment, Research, and Intervention Clinic for children ages 2-5, Bryan, TX
Sep. 2011-May 2012	Academic intervention practicum student, Carver Early Childhood Center, Bryan, TX
Sep. 2011- Dec. 2011	Child therapy practicum student, Texas A&M University Counseling and Assessment Clinic, Bryan, TX
Sep. 2008-May 2010	Psychoeducation group facilitator, Self-Over-Substance program, University of Montana, Missoula, MT

UNIVERSITY TEACHING, SUPERVISION, AND CURRICULUM DEVELOPMENT

Clinical Supervision

Fall 2015	Co-supervisor, masters-level rehabilitation counseling practicum and internship (distance supervision via videoconferencing), Utah State University, Logan, UT
Summer 2015	Co-supervisor, masters-level rehabilitation counseling practicum and internship (distance supervision via videoconferencing), Utah State University, Logan, UT

University Teaching (Lead Instructor / Instructor of Record)

Summer 2016	REH 6220 Culturally Relevant Practices in Rehabilitation (asynchronous online course), Utah State University
Fall 2015	REH 6420 Ethical Decision Making in Rehabilitation Counseling (hybrid on-campus /

- distance education course), Utah State University
- Spring 2015 SPED 5320 Teaching Instruction and Transition, Utah State University
- Fall 2014 REH 6420 Ethical Decision Making in Rehabilitation Counseling (hybrid on-campus / distance education course), Utah State University
- Fall 2011 PATHS Direct Support Professional training program, Center on Disability and Development at Texas A&M University
(Responsible for content related to abuse and interpersonal relationships)
- Fall 2008
-Spring 2010 PSYX 298/398/HFD 498 Human Services Internship Service Learning Seminar, University of Montana
- Fall 2009 UNC 180 Human Behavior Freshman Interest Group Seminar, University of Montana

Teaching Assistantships and Guest Lectures

- Summer 2016 REH 6130 Rehabilitation Counseling Skill Development, Utah State University
Guest lecture: Confrontation in Counseling Relationships
- Fall 2015 COMD 7470 Audiological Management and Counseling (co-instructor)
- Summer 2015 REH 6130 Rehabilitation Counseling Skill Development, Utah State University
Guest lectures: Developing effective and measurable goals for practicum and internship; termination of counseling relationships
- Spring 2014, 2015 “Applied Behavior Analysis and Behaviorism,” guest lecture for REH 6200 Theories of Counseling Applied to Persons With Disabilities, Utah State University
- Fall 2014 SPED 5320 Teaching Instruction and Transition (broadcast course), Utah State University
Guest lectures: Math instruction; science instruction
- Summer 2014 REH 6130 Rehabilitation Counseling Skill Development, Utah State University
Guest lecture: Termination of counseling relationships
- Spring 2014 SPED 5320 Teaching Instruction and Transition, Utah State University
Guest lectures: Math instruction; social skills instruction; science instruction; transition
- Fall 2013 SPED 4000 Education of Exceptional Individuals, Utah State University
Guest lecture: Physical disabilities, orthopedic impairments, and other health impairments
- Fall 2013 REH 6420 Ethical Decision Making in Rehabilitation Counseling (hybrid on-campus / distance education course), Utah State University
Guest lecture: Mandated reporting, duty to warn, and risk assessment
- Summer 2014 REH 6130 Rehabilitation Counseling Skill Development, Utah State University
Guest lecture: Ethical issues in counseling
- Summer 2013 SPED 4000 Education of Exceptional Individuals (online course), Utah State University

Spring 2013 SPED 5320 Teaching Instruction and Transition, Utah State University
Guest lectures: Social skills instruction; social studies instruction

Fall 2008 PSYX 110 Introduction to Psychology (lab proctor), University of Montana

Fall 2007, 2008, 2009 HC 120 Introduction to Honors, University of Montana

Nonclinical Supervision and Advising (Post-Secondary Students)

Fall 2014 SPED 5410 Direct Instruction Reading Practicum, Utah State University (supervised 1 student)

Fall 2013 SPED 5410 Direct Instruction Reading Practicum, Utah State University (supervised 2 students)

Fall 2012 SPED 5410 Direct Instruction Reading Practicum, Utah State University (supervised 1 student)

Spring 2012 PATHS Direct Support Professional training program, Center on Disability and Development at Texas A&M University (co-facilitated group supervision)

Fall 2011 PATHS Direct Support Professional training program, Center on Disability and Development at Texas A&M University (advisor to 1 student)

Curriculum and Program Development

2016 Curriculum revision and development of an asynchronous online course, REH 6220 (Culturally Relevant Practices in Rehabilitation), Utah State University

2012 Curriculum revision, SPED 4000 (Educational of Exceptional Individuals), Utah State University

2010-2012 Curriculum and program development and revision, PATHS Program, Center on Disability and Development at Texas A&M University

2010-2012 Program development, Aggie Ability Awareness disability awareness seminar, Center on Disability and Development at Texas A&M University

2009-2010 Program development, Men's Safer and Stronger violence awareness program, Rural Institute on Disabilities at the University of Montana

SERVICE

National Service

2016 Reviewer, Division on Exceptional Children (DEC) position statement on the maltreatment of children with disabilities.

2015-present Member, Division 22 (Rehabilitation Psychology) science committee

2015 Member, student planning committee (Political Advocacy subcommittee), National Multicultural Conference and Summit

- 2014 Member, APAGS Psychology Internship Imbalance Think Tank
- 2013-2015 Member, Student and Early Career Advisory Group, APA Office on Disability Issues
- 2010 Consultant (with Rosemary B. Hughes), Minnesota Center Against Violence and Abuse / Office of Violence Against Women.

University Service

- Fall 2014-Spring 2015 Member, Vice President's Student Advisory Council
- Fall 2012 Member, Graduate student interview search committee (Vice President for Graduate Studies and Research), Utah State University

Editorial Service

- 2013-2016 Peer reviewer (non-ad hoc), *Sexuality and Disability*
- 2011-2012 Editorial board member, *New School Psychology Bulletin*
- 2011-2012 Consulting editor, *Encyclopedia of Special Education* (4th ed.)

Ad Hoc Journal Reviews

- Aggression and Violent Behavior*, 2016 (twice)
- British Journal of Obstetrics and Gynecology*, 2012
- Child and Youth Services Review*, 2016
- Developmental Neurorehabilitation*, 2014
- Disability and Rehabilitation*, 2016
- European Journal of Social Work*, 2016
- Intellectual and Developmental Disabilities* (co-reviewer with Dr. Rosemary B. Hughes), 2010
- International Journal of Disability, Development, and Education*, 2013, 2015
- Journal of Clinical Psychology*, 2015
- Journal of Developmental and Physical Disabilities*, 2016
- Journal of Homosexuality*, 2015
- Journal of Neurosciences in Rural Practice*, 2015
- Journal of Social and Personal Relationships*, 2014, 2016 (twice)
- Journal of School Violence*, 2013
- Journal on Developmental Disabilities*, 2015
- The Lancet*, 2011, 2012
- Rehabilitation Psychology*, 2011
- Women's Health*, 2013

GRANT APPLICATION REVIEWS

- Foundation for Rehabilitation Psychology Dissertation Grant application reviewer, 2015

CONFERENCE PROPOSAL REVIEWS

- National Multicultural Conference and Summit, poster, presentation, and roundtable proposals, 2016 (for 2017 conference).

American Psychological Association Convention, Division 22 (Rehabilitation Psychology) poster and presentation proposals, 2013, 2014

Southwestern Educational Research Association (SERA) Conference poster proposals, 2011

MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

APA Division 35 (Psychology of Women), February 2016-present

APA Division 56 (Trauma Psychology), February 2014-present

National Council on Rehabilitation Education, January 2014-present

APA Division 22 (Rehabilitation Psychology), February 2013-present

Division 22 Rehabilitation Psychologists with Disabilities Special Interest Group, February 2011-present

American Psychological Association, March 2010-March 2012, December 2013-present

Association of University Centers on Disabilities, November 2009-November 2013, November 2014-November 2015

Applied Behavior Analysis International, May 2012-January 2014

Western Psychological Association, November 2009-November 2010