

AN ABSTRACT OF THE DISSERTATION OF

Teal Bohrer for the degree of Doctor of Philosophy in Counseling presented on June 7, 2019.

Title: Training Preservice Counselors to Conduct Suicide Assessment: Interpersonal-Psychological Theory (IPT) Versus Training as Usual (TAU) Workshops.

Abstract approved:

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For good reason, suicide is of growing concern across the nation; rates continue to increase annually in the United States. Accurate assessment remains an obstacle to effective treatment for individuals who are suicidal. Without proper screening, a client cannot get a referral to see a specialist and therefore cannot receive necessary treatment. Clinicians commonly encounter individuals at risk for suicide, although these professionals lack adequate training in suicide-assessment skills. So, too, do clinicians often doubt their ability to accurately assess risk, often because prior suicide-assessment models have contained long lists of protective factors weighed against potential risk factors. At bottom, however, suicide assessment eludes calculation; it is less of a science and more of an art, drawing as it does on probing assessments of individuals' situations and especially their contemplation of suicide as a solution for their problems.

Thomas Joiner's interpersonal-psychological theory of suicide assessment (IPT) caused a paradigm shift within the field by assessing suicide risk in terms of three main factors, essentially consolidating all the risk and protective factors from preexisting models. Each factor (thwarted

belongingness, perceived burdensomeness, and acquired capability) carries the same weight in the assessment. By simplifying and streamlining the suicide-assessment process, clinicians have become more confident, efficient, and effective in assessing an individual's risk level, allowing these professionals to remain calm in high-stress situations and enabling them to better assess their clients' needs.

The present study used an experimental, nonconcurrent, multiple-baseline, multiple-probe design as well as a one-group pretest–posttest to examine the impact of IPT training on the self-efficacy and knowledge of participants. Twenty participants, ranging from 24 to 53 years in age, attended a remote, three-session, online training on IPT, where they learned about the theory's foundation and its application to practical settings. One group contained preservice mental health clinicians, and the other group included rural K–12 school counselors. The results indicated that online IPT-based training increased participants' knowledge of suicide assessment tactics, but the findings did not reveal an increase in participants' self-efficacy following the completion of their training. These data demonstrate that suicide training can be an effective learning tool for clinicians frequently in contact with suicidal clients. Future research should explore clinicians' self-efficacy, with an emphasis on those factors most likely to increase confidence when conducting suicide assessments.

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Training Preservice Counselors to Conduct Suicide Assessment: Interpersonal-Psychological
Theory (IPT) Versus Training as Usual (TAU) Workshops

by
Teal Bohrer

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I understand that my dissertation will become part of the permanent collection of Oregon State University libraries. My signature below authorizes release of my dissertation to any reader upon request.

Teal Bohrer, Author

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CONTRIBUTION OF AUTHORS

Dr. Cass Dykeman assisted with the methodology and research design for this project, while also editing and refining the manuscript.

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Chapter 1: A General Introduction

Introduction

In 2014, the actor Robin Williams took his own life; in 2018, chef and television host Anthony Bourdain, as well as fashion designer Kate Spade, did the same. These high-profile deaths received extensive media attention and inspired, within American society, a larger conversation about suicide. Suicide is a preventable manner of death that does not discriminate. It can and does affect everyone. There are well-established and vetted treatments that have been shown to discourage suicide attempts; sadly, though, the professionals who most often engage with suicidal individuals are not adequately trained in suicide-assessment tactics and intervention techniques. Remote training on an accessible theory of suicide assessment could provide clinicians with the necessary tools and skills to connect people with the help they need, thus offering hope and saving lives.

The purpose of this dissertation is to demonstrate scholarly work using the manuscript-style dissertation format as outlined by the Oregon State University Graduate School. Following this format, Chapter 1 presents background information and a rationale synthesizing the journal-ready manuscripts in Chapters 2 and 3, while also supporting their progression toward research conclusions relevant to the field of counselor education. Specifically, these chapters attend to the efficacy of workshop-style training utilizing the interpersonal-psychological theory of suicide assessment (IPT) instead of the current treatment-as-usual approach (TAU) to suicide-assessment training. Both manuscripts employed a nonconcurrent, multiple-baseline, multiple-probe design (Barlow, Hersen, & Jackson, 1973; Barlow, Nock, & Hersen, 2009; Gast, Lloyd, & Ledford, 2014; Watson & Workman, 1981). The study in Chapter 2 employed this design to examine the impact of IPT training on preservice counselors' suicide-assessment knowledge and self-efficacy, while the research in Chapter 3 examined the effect of IPT training on K–12 rural

school counselors across the United States. Chapter 4 presents general conclusions emerging from these manuscripts and considers the broader implications of this research.

The present study is essential because, from 1999 to 2016, suicide rates for both women and men gradually increased across the United States (Centers for Disease Control and Prevention [CDC], 2018), despite an increase in services and knowledge in the field of suicide assessment and prevention. According to the National Institute of Mental Health (2010), suicide remains one of the yearly top three causes of death for youths between 15 and 24 years of age. There are approximately 115,580 mental health counselors and 607,300 social workers in the United States (Bureau of Labor Statistics, 2016a, 2016b); however, studies have shown that clinicians on the forefront of this issue often lack the training necessary to treat such a high-risk population (Jiménez-Chafey, Serra-Taylor, & Irizarry-Robles, 2013). Specifically, research has shown that 77% of school psychologists reported having had a student referred to them for suicide risk in the previous two years, and 89% of school counselors reported that students have come to them expressing suicidal thoughts (Debski, Spadafore, Jacob, Poole, & Hixson, 2007; King, Price, Telljohann, & Wahl, 1999b). And yet, half of the school psychologists participating in the Debski et al. study (2007) reported being only “somewhat prepared” (p. 163) to handle suicide referrals.

Inspired by this deficit in knowledge and the dearth of collective capacity to manage this problem, this dissertation will address (a) the impact of suicide on today’s society, (b) the amount of contact mental health/school clinicians have with suicidal clients, (c) possible barriers to effective suicide assessment in rural areas, (d) current suicide trends in rural areas, with a comparison to urban areas, (e) the lack of suicide-assessment knowledge and self-efficacy among clinicians, (f) how training can help close the suicide-education gap, and (g) IPT and its 3-factor model, as well as an array of ancillary research.

Literature Review

Suicide is preventable. As of 2013, the Centers for Disease Control and Prevention defined suicide as “death caused by self-directed injurious behavior with any intent to die as a result of the behavior” (Crosby, Ortega, & Melanson, 2011, p. 25). In 2010, suicide was the 10th leading cause of death in the United States, accounting for 36,891 deaths; it was also the 13th leading cause of death worldwide (DeLeo, Bertolote, & Lester, 2002). Around the world, one person dies of suicide approximately every 40 seconds—a rate of 14.5 per 100,000 people (DeLeo et al., 2002). As of 2009, approximately 8.1% of female high school students had attempted suicide, along with 4.6% of male high school students (CDC, 2014). A suicide attempt is defined as “a non-fatal self-directed potentially injurious behavior with any intent to die as a result of the behavior. A suicide attempt may or may not result in injury” (Crosby et al., 2011, p. 21). The effects of suicide are profound and vast. On average, at least six survivors are significantly affected by the death of one suicide victim (Jacobson, Osteen, Sharpe, & Pastoor, 2012).

Thankfully, suicidal individuals have access to people who can help them. Graduate-level mental health clinicians are often at the forefront of this epidemic, seeing suicidal clients in their offices. One study found that 92.8% of social workers surveyed reported having worked with at least one suicidal client; meanwhile, more than one third were working with a suicidal client at the time of the study, and more than half reported working with a suicidal client in the previous month (Feldman & Freedenthal, 2006). Another study found that, among social work students, 71% reported working with at least one actively suicidal client at their current field practicum sites in the previous six months (Jacobson et al., 2012). Even worse, in a 2008 study, 55% of

clinical social workers reported having at least one of their clients die from suicide during their professional careers (Sanders, Jacobson, & Ting, 2008).

There are many barriers to effective suicide assessment and intervention, especially in rural communities. It is through their schools where young people tend to have the most regular contact with adults. Adults within schools, especially school counselors, serve as important suicide-assessment screeners. As of 2011, 57% of school districts were located in rural areas (U.S. Department of Education, 2013), and rural areas often encounter more barriers when dealing with high-risk mental health populations, such as individuals who are actively suicidal. One study highlighted a rural high school in Washington and found a lack of public transportation and limited access to mental health services, including the number of school counselors provided to individual schools. Most of these students received free lunch due to poverty and were at or below average state passing scores for standardized testing. The same study also found that school counselors were spending most of their time working on registration, educational planning, and credit monitoring—not typical school counseling tasks (Gruman, Marston, & Koon, 2013).

Some rural schools must function without any help from school counselors. A report on rural communities found that 87% of the mental health shortage areas (MHPSAs) in the United States were in rural areas (Gamm, Hutchison, Dabney, & Dorsey, 2003). According to the Health Resources & Services Administration (2019), MHPSAs are areas that do not have enough mental health providers to support the community's population; or it could be that these areas' mental health professionals are overutilized, excessively distant, or inaccessible to residents. Diminished mental health resources outside the school system are a concern in general, but this strain places even more pressure on risk assessments performed in schools.

Another study examined educators' perceptions of teaching in a rural area. Participants in this study stated they had difficulty with salaries and benefits, felt resistance to change, noted insufficient mentoring and preparation for multiple classes (with varying ages and intellectual abilities), and realized a lack of access to university resources (Goodpaster, Adedokun, & Weaver, 2012). Rural educators are stretched more than their counterparts in urban areas, and they have fewer external resources. Overextended educators and school counselors in rural areas may be more apt to miss suicide risk factors and, therefore, they need training as much as, if not more than, those working in urban environments.

A significant lack of overall resources is only one of the barriers to suicide prevention in rural communities. Current trends in rural suicide differ significantly when compared to suicide rates in urban areas. The U.S. Department of Veterans Affairs (VA) looked at rural–urban differences among its patients, nationally, between both 2004 and 2005 and 2007 and 2008, and discovered that overall suicide rates were higher among rural patients (McCarthy et al, 2012). A study from Australia found similar results, with 62% of suicides completed by individuals living in rural areas (Sankaranarayanan, Carter, & Lewin, 2010). The VA study found that rural patients were more likely to have been diagnosed with depression and/or posttraumatic stress disorder, both of which are strongly correlated with suicide risk (Bryan & Cukrowicz, 2011; Hyman, Ireland, Frost, & Cottrell, 2012), while also concluding that having a residence in a rural ZIP code was associated with an increased risk for suicide mortality.

With respect to young people, specifically, rural adolescents show similar tendencies. A study in *The Journal of School Health* found that 23.4% of rural adolescents had contemplated suicide, 15.9% had planned to complete suicide, and 10.0% had attempted suicide. These numbers are higher than the national rates for the same categories, wherein 20.1% of adolescents

have contemplated suicide, 13.3% have planned to commit it, and 8.9% have attempted it (Dunn, Goodrow, Givens, & Austin, 2008). International research has supported this disparity. Dudley et al. (1998), for example, focused on Australia and found that a greater number of youths in rural areas successfully completed suicide when compared to more urban areas, suggesting the same rural–urban dynamic could exist more broadly throughout the world.

The preferred method of suicide is different in rural areas. Firearms are not only more than twice as common in rural areas as they are in urban areas, they are also the most common method of suicide for rural individuals (Branas, Nance, Elliot, Richmond, & Schwab, 2004; McCarthy et al., 2012; Searles, Valley, Hedegaard, & Betz, 2014). Research in *The Journal of Public Health*, conducted over 11 years, found that suicide by firearm in most rural areas increased by 1.3% each year. The National Center for Health Statistics gathered data over a seven-year period to shed light on mortality for youths ages 19 or younger. The study found that, although the number of deaths by firearm was not significantly different in urban and rural communities, the cause of death was. Suicide was the leading cause of firearm death among rural youths, whereas homicide was the leading cause among urban youths (Nance, Carr, Kallan, Branass, & Wiebe, 2010). Again, research from around the world has supported this trend. The study mentioned above, focused on Australia, looked at coroners' reports and found firearm suicides to be significantly more common among rural adolescents (57.8%) than among their urban peers (24.7%) (Dudley et al., 1998).

Clinicians are at the forefront of the suicide epidemic in the United States; they also serve as primary suicide-prevention tools. Unfortunately, however, research has indicated that clinicians may not be prepared to accurately assess suicide risk. A survey of social workers found that only 21.2% indicated they had received any formal training related to suicide in their

Master's-level social work programs (Feldman & Freedenthal, 2006). Two large groups of community health workers ($n = 1,336$ and $1,507$) were evaluated, and the results showed that many professionals were unaware that individuals aged 65 years and older were at an increased risk for suicide. More than two thirds of the health workers did not know that mental health issues can significantly increase suicide risk (Smith, Silva, Covington, & Joiner, 2014). A 2012 article in the journal *Suicide and Life-Threatening Behavior* reported that “state licensing boards for clinical social workers, and psychologists, whose mission is to protect the public’s health and safety from untrained and unqualified providers, do not require exam items on the assessment and management of suicidal clients” (Schmitz et al., 2012, p. 295). This article further discussed the American Association of Suicidology’s task force recommendations for improved suicide prevention. According to Schmitz et al., the fifth recommendation from this report stated: “Individuals without appropriate graduate or professional training and supervised experience should not be entrusted with the assessment and management of suicidal patients” (p. 9). Still, this suggestion is currently only a recommendation, not a standard practice.

Severely depressed clients are slipping through the cracks because of training deficits. A study published in *Clinical Child Psychology and Psychiatry* found that only 8% of adolescents evaluated received a diagnosis of depressive disorder using a clinical diagnosis, a diagnosis that involved an unstructured clinical interview accounting for collateral information and mental status. This left the final diagnosis to a doctoral-level clinician’s discretion. Adolescents assessed using a semi-structured interview, via the Schedule for Affective Disorders and Schizophrenia for School-Aged Children, Present and Lifetime Version, received a diagnosis of depressive disorder 28% of the time (a 20% increase in diagnoses). Those who received any diagnosis of depressive disorder were found to have higher instances of comorbidity, suicidal acts, self-harm,

and greater overall functional impairment (Fitzpatrick et al, 2012). This study highlighted the discrepancy between various forms of assessment for depression and suicide risk.

The same lack of training extends beyond U.S. borders. A 2013 study found that mental health clinicians in Puerto Rico had inadequate suicide-screening practices, difficulty exploring and appropriately assessing suicidal ideation, and a lack of knowledge of risk factors (Jiménez-Chafey et al., 2013). The same study found that 51% of participants did not receive suicide training or education in graduate school. Research from around the world also shows the need for suicide-assessment training. This is significant because countries other than the United States, such as Greenland and Lithuania, register the most suicides per 100,000 individuals, with averages of 83 and 31, respectively (World Health Organization, 2011).

The perceived lack of training and education on suicide assessment continues in the school system. A study published in *The Journal of School Psychology* found that 55.3% of directors of school psychology programs said suicide assessment deserved more coverage in their programs (Liebling-Boccio & Jennings, 2013). The same study found that the main form of evaluating student preparedness for suicide assessment was via practicum and internship supervisor ratings (65.9%), rather than through class examinations (54.1%) or reviews of the content of written assignments and papers (27.1%). This form of evaluation seems subjective, however, because scrutinizing suicide-assessment preparedness still depends both on the evaluator's opinion of what counts as being "prepared" and on the hope that the experience of working with a suicidal client will be covered during every practicum and internship in order to facilitate proper evaluation tactics.

A study published by *The American Journal of Health Behavior* looked at school counselors' confidence in assessing suicidal students. The results showed that, after 500 school

counselors were evaluated, the majority believed it was their job to identify at-risk students. Unfortunately, only one third believed they could recognize a student at risk of attempting suicide (King et al., 1999b). This is alarming research because it shows that school counselors felt they were responsible for—yet still unprepared to handle—the task of assessing suicide risk in students.

Post-graduate school training may help address this predicament. The goal here is clear: Mental health clinicians need a better understanding of appropriate and effective suicide assessment. Short-term training could be the connecting force. Studies have shown that training around suicide increases clinician knowledge, skills, and/or assessment self-efficacy (Crepeau-Hobson, 2013; Fry, 2012; Jacobson, et al., 2012; Reis & Cornell, 2008; Robinson et al, 2013; Taub et al, 2013). School counselors, mental health clinicians, medical professionals, nonclinical community members, and even university resident assistants have all shown increased understanding and knowledge of suicide after receiving training outside their professional or academic educations (Crepeau-Hobson, 2013; Cross, Matthieu, Cerel, & Knox, 2007; Cross, Matthieu, Lezine & Knox, 2010; da Silva Cais, da Silveira, Stefanello, & Botega, 2011; Fry, 2012; Jacobson et al., 2012; Matthieu & Hensley, 2013; McNiel et al, 2008; Neimeyer, 2001; Pisani, Cross, & Gould, 2011; Reis & Cornell, 2008; Robinson et al., 2013; Schmitz et al., 2012; Slaven & Kisely, 2002; Sockalingam, Flett, & Bergmans, 2010; Taub et al., 2013; Tompkins & Witt, 2009).

An article in the journal *Suicide and Life-Threatening Behavior* found that even high school students, upon receiving education and training, felt more confident in their ability to identify high-risk friends and to refer those individuals to resources (King, Vidourek, & Strader, 2008). This research is extremely promising, given that preventative training tends to be short-

term and cost-effective. The American Association of Suicidology offers two-day training sessions that cost about \$4,500 to present to a group of 50 people (American Association of Suicidology, 2014). In contrast, individuals and institutions within American society spend approximately \$34.6 billion, annually, on the combined medical and work-loss costs of suicide (Centers for Disease Control and Prevention, 2016). Trainings could save people and organizations within the United States significant money over the long term.

Several theories lend themselves to appropriate suicide training. Thomas Joiner's IPT was the focus of this study, owing to the theory's simplicity and continued validation within the literature. This theory stressed three key factors: To be considered at risk for suicide, an individual (a) must have relatively high levels of perceived burdensomeness, (b) must demonstrate evidence of failed belongingness, and (c) must possess the acquired capability to end his or her own life (Joiner, Van Orden, Witte, & Rudd, 2009). Spelling out the theory in more detail, Joiner et al. (2009) explained that:

[T]he theory asserts that when people hold two specific psychological states in their minds simultaneously, and when they do so for long enough, they develop the desire for death. The two psychological states are perceived burdensomeness and a sense of low belongingness . . . [T]he theory holds that self-preservation is an instinct powerful enough that few can overcome it by force of will. The few who can have developed a fearlessness of pain, injury, and death; according to the theory, this is acquired through the process of repeatedly experiencing painful and otherwise provocative events, often through previous self-injury, but also through other experiences. (p. 634)

Importantly, IPT construes perceived burdensomeness to include low self-esteem, albeit of a more severe nature. Individuals with this type of cognitive distortion believe they are

defective or flawed. Because of this negative self-perception, such individuals see themselves as a burden to their families, friends, and society, often viewing their deaths as somehow more beneficial than their lives (Joiner et al., 2009). Perceived burdensomeness impacts a variety of populations. Individuals with a military background, those with anger issues, those with an American Indian tribal affiliation, individuals older than 50 years of age, those who are clinically obese, individuals identifying as a sexual minority, and those with chronic pain can tend to feel like a burden to others (Bryan, Clemens & Hernandez, 2012; Cukrowicz, Jahn, Graham, Poindexter, & Williams, 2013; Dutton, Bodell, Smith, & Joiner, 2013; Hawkins et al., 2014; Hill & Pettit, 2012; Jahn, Van Orden, & Cukrowicz, 2013; Kanzler, Craig, McGeary, & Morrow, 2012; McWilliams, Wilson, Kowal, Henderson, & Peloquin, 2013; O’Keefe et al., 2014).

Contrary to popular belief, studies have demonstrated a stronger correlation between perceived burdensomeness and suicidal ideation than they have between hopelessness and suicidal ideation. This correlation appeared in participants who had attempted suicide and, even more so, in individuals who were actively suicidal (Van Orden, Lynam, Hollar, & Joiner, 2006). A 2012 study looked at perceived burdensomeness in deployed military service members, including both those with and without traumatic brain injuries; both groups showed a significant relationship between suicidal ideation and perceived burdensomeness, beyond the effects of other risk factors for suicide (Bryan et al., 2012). Perceived burdensomeness has also been significantly correlated with suicidal ideation in university students—a population rarely viewed as a burden to society (Van Orden, Witte, Gordon, Bender, & Joiner, 2008). Surprisingly, in chronic pain patients, perceived burdensomeness had a greater correlation with suicidality than did depressive symptoms, pain severity, age, or gender (Kanzler et al., 2012).

Thwarted (or failed) belongingness is the second factor increasing one's desire to commit suicide. Thwarted belongingness is closely related to loneliness and social isolation. Individuals with a sense of failed belongingness may feel alienated from family, friends, society, or any other valued group (Joiner et al., 2009). Teens who have experienced parental displacement (e.g., being abandoned by parents or growing up in foster care) beyond the age of 15 have higher rates of attempted suicide than do those who have been in consistent contact with their parents. This research fits within the scope of thwarted belongingness, as these teens also rate themselves with low levels of belonging and social support (Timmons, Edward, Lewinsohn, & Joiner, 2011).

Patients in a methadone-maintenance program were assessed for thwarted belongingness, using the Interpersonal Needs Questionnaire (Van Orden, Cukrowicz, Witte, & Joiner, 2012), and they were asked about previous suicide attempts and accidental overdoses. Those who had attempted suicide in the past registered a significantly greater degree of thwarted belongingness than did those who had not attempted to take their own life ($d = .75$). These individuals also showed higher levels of aggression, depression, and hopelessness (Conner, Britton, Sworts, & Joiner, 2007). Similar results exist regarding incarcerated populations and older adults (Cramer, 2012; Cukrowicz et al., 2013).

Joiner's IPT emphasizes that taking the steps necessary to successfully end one's life is an extremely difficult task. To successfully complete suicide, an individual must have endured a significant amount of pain and provocation; endurance of this sort often stems from past self-harm behaviors, such as previous suicide attempts. An individual must overcome the fear and pain associated with carrying out a lethal act of self-injury (Joiner et al., 2009). Witnessing or engaging in violence (e.g., military combat, police work, or bullying behavior) and repeated exposure to pain (e.g., illness or multiple injuries) increase one's acquired capability (Bryan &

Cukrowicz, 2011; Chopko, Palmieri, & Facemire, 2014; Hyman et al., 2012; Ilgen et al., 2013; Kanzler et al., 2012; Luntamo et al., 2014; McCarthy et al., 2012; McWilliams et al., 2013; Okifuji & Benham, 2011; Van Orden et al., 2008; Van Tilburg, Spence, Whitehead, Bangdiwala, & Goldston, 2011).

Most theories on suicide purport that previous attempts will increase future risk, a projection that appears accurate through the lens of acquired capability (Hawkins et al., 2014; Smith, Cukrowicz, Poindexter, Hobson, & Cohen, 2010; Van Orden et al., 2008). An increased pain tolerance often flows from repeated acts of self-harm. A *Psychiatry Research* study found that individuals who engaged in repeated self-harm behaviors reported little to no pain during acts of self-harm. Pain analgesia, after repeated self-harm acts, was consistent with the idea that habituated acts of harm helped individuals develop the capacity to commit more serious injuries. This habituation could eventually lead to a lethal act of self-harm (Glenn, Michael, Franklin, Holey, & Knock, 2014).

Description of the First Manuscript

The first research manuscript in this dissertation explores the impact that workshop-style trainings on IPT have on preservice mental health clinicians. Accurately assessing a client's suicide risk is an indispensable skill for mental health clinicians. Current research has shown a gap between clinical practice and suicide-assessment knowledge and self-efficacy (Jiménez-Chafey et al., 2013). Trainings on suicide assessment, which are usually low-cost and time-effective options, have helped close this gap (Cross et al., 2010), and IPT has been a valuable tool for both assessing risk level and considering risk factors (Van Orden et al., 2008).

The target journal for this study is *Suicide and Life-Threatening Behavior*. This journal, with an impact factor of 2.726, was selected because it covers scientific research on suicidal and other life-threatening behaviors, including risk factors for suicide, ethical issues in intervention research, and mental health needs of those bereaved by suicide. The present research explores IPT as an assessment tool for informing appropriate and accurate interventions. The journal has not provided articles on IPT workshops, but it has published an article titled “Proximate Outcomes of Gatekeeper Training for Suicide Prevention in the Workplace” (Cross et al., 2007). In that work, researchers explored the impact of suicide-assessment training on nonclinical staff at a university hospital, because nonclinical staff were seen as gatekeepers needing increased education around suicide assessment and intervention. The study recruited staff to participate in a one-hour in-service training, with the opportunity to role-play newly learned skills. Results showed positive changes in participant knowledge and attitudes (self-efficacy).

The specific research questions guiding this study were as follows: (a) What is the impact of IPT-based suicide-assessment training on preservice mental health clinicians’ knowledge of IPT-based suicide assessment?, and (b) What is the impact of IPT-based suicide-assessment training on preservice mental health clinicians’ suicide intervention self-efficacy? The present study employed a nonconcurrent, multiple-baseline, multiple-probe design (Barlow et al., 1973; Barlow et al., 2009; Gast et al., 2014; Watson & Workman, 1981), a design characterized by repeated measurements of an outcome over time using a single subject or groups, followed by identification of effects by comparisons of individual or group outcomes in the presence or absence of treatment, across different points in time (Pustejovsky, Hedges, & Shadish, 2014). The independent variable was online training in Thomas Joiner’s interpersonal-psychological theory of suicide assessment (Van Orden et al., 2008). The dependent variable was participant

knowledge around suicide assessment and the self-efficacy of participants in accurately assessing risk level. Phase A was the baseline phase, and Phase B was the intervention phase.

Data analysis for this study included both visual analysis and the statistical analysis approach of Nonoverlap of All Pairs (NAP). Lane and Gast's (2014) protocol aided in visual analysis. Visual analysis of graphical data, in contrast to the statistical analysis of data, is the most frequently used data-analysis strategy for single-subject research designs (Gast, 2010). The extent to which data do not overlap in the baseline phases versus the intervention phases is an accepted indicator of the amount of performance change (Parker & Vannest, 2009). NAP analysis was conducted using an online NAP calculator (Vannest, Parker, & Gonen, 2011), and the alpha level for all NAP analyses was set at .05. Wilcoxon's Signed Rank Test was used for pre- and posttest data from the IPT Knowledge Scale.

Description of the Second Manuscript

The second research manuscript in this dissertation examined the impact of workshop-style IPT trainings on the suicide-assessment ability and self-efficacy of K–12 rural school counselors. Accurately assessing a client's suicide risk is an indispensable skill for educators and counselors in the K–12 system. This skill becomes even more important in a rural school system, as outside resources for suicide and mental health are often limited (Gruman et al., 2013). Research has shown that individuals assessing risk in the school setting often lack the necessary education and self-efficacy (Liebling-Boccio & Jennings, 2013). As mentioned in the description of the first study, trainings on suicide assessment, which are usually low-cost and time-effective, have been shown to help close this gap (Cross et al., 2010). Rural communities may also benefit from the web-based platform of the training, considering that distance can be a barrier to

accessing training. Thomas Joiner's IPT has been presented as a valuable tool for assessing risk level and for considering contributing risk factors (Van Orden et al., 2008).

The target journal for this study was *The Journal of Rural Mental Health*, a journal chosen because it publishes articles focused on rural mental health research, practice, and policy. Rural mental health does not receive the research that many other areas of psychology do, but research on suicide assessment within a rural school district fits well within the scope of this journal. This is a journal likely read by psychologists and school counselors in rural areas. The journal's impact score is 1.279, and a recent study within it, "Determinants of Adolescent Suicidal Ideation: Rural Versus Urban" (Murphy, 2014), looked at youth suicide in rural and urban areas, exploring the variation of risk factors for youths living in different geographic environments. The study discovered several significant differences between groups. Rural youths, for example, reported higher rates of being bullied as well as higher levels of confidence in obtaining a handgun, and the results illustrated the potential that rural youths may possess increased risk factors for suicide when compared to their urban counterparts.

The specific research questions guiding the second study were as follows: (a) What is the impact of IPT-based suicide-assessment training on rural K–12 school counselors' knowledge of IPT-based suicide assessment?, and (b) What is the impact of IPT-based suicide-assessment training on the suicide intervention and self-efficacy of rural K–12 school counselors? As in the case of the first research manuscript, described above, this study employed a nonconcurrent, multiple-baseline, multiple-probe design (Barlow et al., 1973; Barlow et al., 2009; Gast et al., 2014; Watson & Workman, 1981). This design is characterized by repeated measurements of an outcome over time using groups or a single subject, followed by identification of effects by comparisons of individual or group outcomes in the presence or absence of treatment and across

time (Pustejovsky et al., 2014). The independent variable was online training on Thomas Joiner's interpersonal-psychological theory of suicide assessment (Van Orden et al., 2008); the dependent variable was participant knowledge around suicide assessment and the self-efficacy of participants in accurately assessing risk level. Phase A was the baseline phase; Phase B was the intervention phase.

Data analysis for this study was the same as it was in the first study, including both visual analysis and the statistical analysis approach of NAP. Lane and Gast's (2014) protocol aided in the visual analysis of the data, which, in contrast to the statistical analysis of data, is the most frequently used data-analysis strategy for single-subject research designs (Gast, 2010). The extent to which data in the baseline phases versus the intervention phases do not overlap is an accepted indicator of the amount of performance change (Parker & Vannest, 2009). NAP analysis was conducted utilizing an online NAP calculator (Vannest et al., 2011), and the alpha level for all NAP analyses was set at .05. Wilcoxon's Signed Rank Test was used for pre- and posttest data from the IPT Knowledge Scale.

Glossary of Specialized Terms

Acquired Capability

The ability to follow through with ending one's life due to continued exposure to pain and provocation (especially, but not limited to, intentional self-injury) and to have habituated to the fear and pain of self-injury—so much so that the impulse toward self-preservation can be suppressed.

Interpersonal-Psychological Theory of Suicide (IPT)

This theory suggests that people die by suicide because of two overarching factors; the ability to kill oneself and the desire to do so. Individuals have become desensitized toward pain and habituated toward violence; and they typically have no sense of belonging to a valued group or relationship, often feeling like they have become a burden to loved ones.

Perceived Burdensomeness

A self-view that includes low self-esteem but that also encompasses the notion that individuals are defective or flawed, leading them to feel like a burden to family, friends, and society.

Suicide

Death caused by self-directed injurious behavior with an intent to die from the behavior.

Suicide Attempt

A non-fatal, self-directed, potentially injurious behavior that might not result in injury but that is perpetrated with an intent to die from the behavior.

Suicidal Ideation

Thinking about, considering, or planning suicide.

Thomas E. Joiner

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Thwarted Belongingness

The experience that one is alienated from others or is not an integral part of a family, circle of friends, or other valued group.

Thematic Links Between Studies

Both studies within this dissertation employed an online training format while looking at the impact that a training on interpersonal-psychological theory might have on suicide-assessment self-efficacy and knowledge. The differentiating factor between these inquiries was the population utilized: The first study used preservice mental health clinicians as participants while the second study used K–12 rural school counselors. Both populations could have frequent contact with suicidal individuals; therefore, strong suicide-assessment skills, as well as a belief in one’s efficacy in doing so, are essential. Fortunately, both populations showed the ability to increase their knowledge base around suicide assessment, specifically the IPT model of suicide assessment. Although brief, and carried out via an online platform, the training appeared to facilitate learning and skill acquisition among all study participants. Thus, while K–12 rural school counselors and preservice mental health clinicians see clients with different risk factors and barriers to treatment, both groups can learn how to appropriately assess risk on behalf of their clients and can, as well, start them on a path to treatment.

Organization of the Dissertation

Following this Introduction, Chapter 2 presents a review of recent literature that includes an examination of (a) the impact suicide has on today’s society, (b) the amount of contact mental health clinicians have with suicidal clients, (c) the lack of suicide-assessment knowledge and self-efficacy among those most often treating suicidal individuals, (d) how trainings can be an effective way of closing the suicide-education gap many clinicians face, and (e) IPT and its 3-

factor model, along with the research supporting it. After reviewing the pertinent literature, Chapter 2 presents a study attending to two research questions: (a) What is the impact of IPT-based suicide-assessment training on preservice mental health clinicians' knowledge of IPT-based suicide assessment?, and (b) What is the impact of IPT-based suicide-assessment training on preservice mental health clinicians' suicide intervention self-efficacy?

Chapter 3 begins with a review of the literature exploring (a) possible barriers to effective suicide assessment in rural areas, (b) current trends in rural suicide, as well as how these trends compare to trends in more urban areas, (c) the lack of suicide-assessment knowledge and self-efficacy among K–12 educators and counselors and, (d) suicide training as a possible solution—with specific attention to the 3-factor model of IPT, as well as the research supporting it. After reviewing the leading work in this field, Chapter 3 presents a study answering the following research questions: (a) What is the impact of IPT-based suicide-assessment training on preservice mental health clinicians' knowledge of IPT-based suicide assessment?, and (b) What is the impact of IPT-based suicide-assessment training on preservice mental health clinicians' suicide intervention self-efficacy? Finally, Chapter 4 explores themes and conclusions that emerged in the data obtained from both studies, while also uniting the two manuscripts.

Chapter 2: A Research Manuscript

The Impact of an Interpersonal-Psychological Theory of Suicide (IPT) Workshop on Preservice
Mental Health Counselors' Assessment Knowledge and Self-Efficacy

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Abstract

Rates of death by suicide continue to increase across the United States. Mental health clinicians often have contact with individuals expressing suicidal ideation, but research suggests clinicians may not be appropriately prepared to assess a client's suicide risk. Numerous models and theories explain and assess suicidal ideation. In 2009, Thomas Joiner and his colleagues proposed the interpersonal-psychological theory of suicide (IPT), which focused on three main factors strongly supported by research over the preceding decade. The present study utilized a nonconcurrent, multiple-baseline, multiple-probe design as well as a one-group pretest–posttest design to examine the impact of an IPT-based training model. Participants were preservice mental health clinicians currently enrolled in Master's degree programs. Participants completed assessments on IPT knowledge and suicide-assessment self-efficacy, and results from this study indicated a significant increase in knowledge after completion of the training, as well as a slight decrease in self-efficacy. This study suggests that suicide-assessment training, even when done remotely, can increase suicide-assessment knowledge. Future research should explore preservice mental health clinicians' self-efficacy as well as those factors influencing the confidence these professionals feel in their assessments of risk.

Keywords: suicide assessment, interpersonal-psychological theory of suicide, IPT, Thomas Joiner, self-efficacy

The Impact of an Interpersonal-Psychological Theory of Suicide (IPT) Workshop on Preservice Mental Health Counselors' Assessment Knowledge and Self-Efficacy

Suicide rates continue to go up in almost every state. From 1999 to 2016, according to the Centers for Disease Control and Prevention (CDC), overall suicide rates for both women and men showed a gradual but steady increase across the United States (2018). In the United States alone, there are approximately 115,580 mental health counselors and 607,300 social workers (Bureau of Labor Statistics, 2016a, 2016b). Unfortunately, research has shown that clinicians on the forefront of this issue often lack the suicide education necessary to treat such an increasingly high-risk population (Jiménez-Chafey, Serra-Taylor, & Irizarry-Robles, 2013). In the next five years, approximately one million veterans will leave military service and return to civilian life (U.S. Government Accountability Office, 2019), and studies have shown that military veterans are at an increased risk for suicide. Therefore, the need for a sound foundation in suicide knowledge, as well as a sense of self-efficacy when conducting risk assessments, is greater than ever (Bryan, Clemans, & Hernandez, 2012; Bryan & Cukrowicz, 2011; Hyman, Ireland, Frost, & Cottrell, 2012).

Accurately and confidently assessing a client's suicide risk should be a graduate program requirement for mental health clinicians; however, current research suggests a gap between clinical practice and suicide-assessment knowledge and self-efficacy (Jiménez-Chafey et al., 2013). Trainings that teach suicide-assessment theories and skills, which tend to be economical and efficient, have helped to close this gap (Cross, Matthieu, Lezine, & Knox, 2010). Thomas Joiner's interpersonal-psychological theory of suicide (IPT) is a valuable model for assessing risk and considering contributing risk factors (Van Orden, Witte, Gordon, Bender, & Joiner,

2008); research, however, has yet to explore the ability of IPT training to increase knowledge and self-efficacy among individuals preparing to become mental health clinicians. Hence, the need to study the impact IPT training could have on suicide risk assessment.

This introduction reviews five relevant areas of the literature: (a) the impact suicide has on today's society, (b) the amount of contact mental health clinicians have with suicidal clients, (c) the lack of suicide-assessment knowledge and self-efficacy among those most often treating suicidal individuals, (d) how trainings can close the suicide-education gap many clinicians face, and, (e) IPT and its 3-factor model, along with the research supporting it. Following this review of the literature, the research question guiding this study will be presented.

Suicide is preventable. The Centers for Disease Control and Prevention (as cited in Crosby, Ortega, & Melanson, 2011) defined suicide as "death caused by self-directed injurious behavior with any intent to die as a result of the behavior" (p. 25). Suicide has been the 10th leading cause of death in the United States, accounting for 36,891 deaths, while also ranking as the 13th leading cause of death worldwide (DeLeo, Bertolote, & Lester, 2002). Around the world, a suicide occurs every 40 seconds, making for a rate of 14.5 individuals per 100,000 (DeLeo et al., 2002). Among young people, approximately 8.1% of female high school students reported attempting suicide, along with 4.6% of male students (CDC, 2014). A suicide attempt is defined as "a non-fatal self-directed potentially injurious behavior with any intent to die as a result of the behavior. A suicide attempt may or may not result in injury" (Crosby et al., 2011, p. 21). Suicide impacts individuals who take their own lives, but it also affects those around them; on average, one completed suicide touches at least six survivors, often family or friends (Jacobson, Osteen, Sharpe, & Pastoor, 2012).

At the forefront of the suicide epidemic are graduate-level mental health clinicians, individuals who often see suicidal clients in outpatient counseling centers. One study counted 92.8% of social workers having worked with at least one suicidal client, while more than one third were working with a suicidal client at the time of the study, and more than half reported working with a suicidal client in the previous month (Feldman & Freedenthal, 2006). Another study on social workers, specifically those entering the counseling field, found that 71% had worked with at least one actively suicidal client at their current field practicum sites in the previous six months (Jacobson et al., 2012). Lastly, and perhaps most unfortunately, 55% of clinical social workers reported that, at some point in their careers, at least one of their clients completed suicide (Sanders, Jacobson, & Ting, 2008).

Thankfully, clinicians have contact with suicidal clients, which is the first step in preventing a suicide; however, it appears this contact is not always successful at preventing the loss of life. Rates of contact with mental health services within one month before a completed suicide average approximately 19%. In the year before suicide, rates of contact average 32%, and lifetime rates of contact with mental health services average 53% (Luoma, Martin, & Pearson, 2002). When looking at gender differences, the Luoma et al. (2002) study found that 36% of women had contact with mental health services prior to their suicides, but only 18% of men had such contact. This highlights the need to utilize any contact clinicians have with suicidal clients, especially men, who appear more hesitant to seek professional help.

If actively suicidal individuals are having contact with mental health clinicians prior to their deaths, why are they still completing suicide? Within a hospital setting, suicide is one of the most frequent sentinel events in recent years. The Joint Commission (TJC, 2019), a nonprofit organization that certifies and accredits more than 20,500 health care organizations in the United

States, defined a sentinel event as “an unexpected occurrence involving death or serious physical or psychological injury, or the risk thereof” (p. 1). The organization found that insufficient or absent patient assessment was the root cause in over 80.5% of suicide deaths, followed by communication errors, which registered at 58% (TJC, 2019).

A survey of social workers found that only 21.2% indicated they had received any formal training related to suicide in their Master’s-level social work programs (Feldman & Freedenthal, 2006). Two large groups of community health workers ($n = 1,336$ and $1,507$) were evaluated and the results showed that many professionals were unaware that individuals aged 65 years and older were at an increased risk for suicide. More than two thirds of the health workers did not know that mental health issues significantly increase suicide risk (Smith, Silva, Covington, & Joiner, 2014). A 2012 article in the journal *Suicide and Life-Threatening Behavior* reported that “State licensing boards for clinical social workers, and psychologists, whose mission is to protect the public’s health and safety from untrained and unqualified providers, do not require exam items on the assessment and management of suicidal clients” (Schmitz et al., 2012, p. 295). The Schmitz et al. (2012) article further discussed the American Association of Suicidology’s task force recommendations for improved suicide prevention, and specifically the fifth recommendation, which states: “Individuals without appropriate graduate or professional training and supervised experience should not be entrusted with the assessment and management of suicidal patients” (p. 9). This suggestion is currently only a recommendation and not yet a standard practice.

Severely depressed clients are slipping through the cracks because of training deficits. A study published in *Clinical Child Psychology and Psychiatry* found that only 8% of adolescents evaluated received a diagnosis of depressive disorder using a clinical diagnosis, which involved

an unstructured clinical interview considering collateral information and mental status but still leaving the final diagnosis to a doctoral-level clinician's discretion. However, adolescents assessed using a semi-structured interview, via the Schedule for Affective Disorders and Schizophrenia for School-Aged Children, Present and Lifetime Version, received a diagnosis of depressive disorder 28% of the time (a 20% increase in diagnoses). Those receiving a diagnosis of depressive disorder had higher instances of comorbidity, suicidal acts, self-harm, and greater overall functional impairment (Fitzpatrick et al., 2012); this study also highlighted the discrepancy between various forms of assessment for depression and suicide risk.

It appears a lack of training extends beyond U.S. borders. A 2013 study found that mental health clinicians in Puerto Rico had inadequate suicide-screening practices, difficulty exploring and appropriately assessing suicidal ideation, and a lack of knowledge of risk factors (Jiménez-Chafey et al., 2013). The same study found that 51% of participants received neither suicide training nor education in graduate school. Research internationally has shown the increased need for suicide-assessment training, which is significant because countries other than the United States, such as Greenland and Lithuania, rank highest in suicides per 100,000 individuals, registering averages of 83 and 31, respectively (World Health Organization, 2011).

The present study looked at how training might resolve this hazardous situation. Mental health clinicians need a better understanding of appropriate and effective suicide assessment, and short-term trainings could prove to be the connecting force. Studies have shown that training around suicide increases clinician knowledge, skills, and/or assessment self-efficacy (Crepeau-Hobson, 2013; Fry, 2012; Jacobson, et al., 2012; Reis & Cornell, 2008; Robinson et al., 2013; Taub et al., 2013). School counselors, mental health clinicians, medical professionals, nonclinical community members, and even university resident assistants have all shown

increased understanding and knowledge of suicide after receiving training outside their professional or academic educations (Crepeau-Hobson, 2013; Cross, Matthieu, Cerel, & Knox, 2007; Cross et al., 2010; da Silva Cais, da Siliveira, Stefanello, & Botega, 2011; Fry, 2012; Jacobson et al., 2012; Matthieu & Hensley, 2013; McNiel et al., 2008; Neimeyer, 2001; Pisani, Cross, & Gould, 2011; Reis & Cornell, 2008; Robinson et al., 2013; Schmitz et al., 2012; Slaven & Kisely, 2002; Sockalingam, Flett, & Bergmans, 2010; Taub et al., 2013; Tompkins & Witt, 2009).

An article in the journal *Suicide and Life-Threatening Behavior* found that even high school students felt more confident in their ability to identify high-risk friends and to refer those friends to resources upon receiving education and training (King, Vidourek, & Strader, 2008). This research is extremely promising, as preventative trainings tend to be short-term and cost-effective. The American Association of Suicidology offers a two-day training costing approximately \$4,500 to present to a group of 50 people (American Association of Suicidology, 2014). In contrast, society spends approximately \$34.6 billion annually on the combined medical and loss-of-work costs of suicide (Centers for Disease Control and Prevention, 2018). Trainings could undoubtedly save U.S. individuals and institutions significant money over the long term.

Most current suicide risk assessments rely heavily on risk factors versus protective factors (CDC, 1999; VA, 2013). The CDC identifies 15 risk factors and six protective factors (CDC, 1999), while the VA lists 49 risk factors, with an additional nine for those in the military, as well as 17 protective factors (VA, 2013). Individuals assessed for suicide are often under psychological distress, and thus their ability to accurately disclose 50 or more risk/protective factors could be compromised. The clinician assessing for risk will also face obstacles, as a healthy adult can only store approximately four items at a time in short-term working memory

(Unsworth & Robison, 2015; Taylor, Thomson, Sutton, & Donkin 2017). A further complication with this type of assessment criteria is that many risk and protective factors also apply to non-suicidal individuals; thus, generalizing from this method could result in high false-positive predictions (Rudd, 2006).

Thomas Joiner's interpersonal-psychological theory of suicide (IPT) is at the heart of the present study (Joiner, Van Orden, Witte, & Rudd, 2009). This theory was selected due to its parsimony regarding suicide assessment, parsimony achieved by consolidating the risk and protective factors from preexisting models into one approach with three prongs. For individuals to be considered at risk for suicide under Joiner's IPT, they must (a) have relatively high levels of perceived burdensomeness, (b) feel a sense of failed belongingness, and (c) have the acquired capability to end their own lives. Expanding on emotional dysregulation and IPT, an article by Joiner et al. from 2009 explained: "Early empirical work examining these variables has supported their utility in predicting suicidal desire, with multiple studies demonstrating that the two-way interaction of perceived burdensomeness and thwarted belongingness predicts a distinct but highly related construct: suicidal ideation" (p. 603).

Perceived burdensomeness is indicated when an individual believes they make no meaningful contributions to the world, while instead acting as a liability to others. Individuals with this type of cognitive distortion believe they are defective or flawed, and they see themselves as more valuable in death than they are in life (Joiner et al., 2009). Perceived burdensomeness exists across populations. Research has shown that individuals with a military background, anger issues, an American Indian tribal affiliation, an age over 50 years, clinical obesity, identification as a sexual minority, and chronic pain could feel like a burden to those around them (Bryan et al., 2012; Cukrowicz, Jahn, Graham, Poindexter, & Williams, 2013;

Dutton, Bodell, Smith, & Joiner, 2013; Hawkins et al., 2014; Hill & Pettit, 2012; Jahn, Van Orden, & Cukrowicz, 2013; Kanzler, Craig, McGeary, & Morrow, 2012; McWilliams, Wilson, Kowal, Henderson, & Peloquin, 2013; O’Keefe et al., 2014).

Contrary to popular belief, research has found a stronger correlation between perceived burdensomeness and suicidal ideation than between hopelessness and suicidal ideation. This correlation was found in participants who had attempted suicide and even more so in those who were actively suicidal (Van Orden, Lynam, Hollar, & Joiner, 2006). A 2012 study looked at perceived burdensomeness in deployed military service members both with and without traumatic brain injuries. Both groups showed a significant relationship between suicidal ideation and perceived burdensomeness beyond the effects of other risk factors for suicide (Bryan et al., 2012). Perceived burdensomeness has also been significantly correlated with suicidal ideation in university students—a population rarely viewed as a burden to society (Van Orden et al., 2008). Surprisingly, in chronic pain patients, suicidality had a stronger correlation with perceived burdensomeness than it did with endorsed depressive symptoms, pain severity, age, or gender (Kanzler et al., 2012).

Thwarted (or failed) belongingness is the second factor leading to increased suicidal desire. Thwarted belongingness is closely related to loneliness and social isolation. Individuals with a sense of failed belongingness may feel alienated from family, friends, society, or any other valued group (Joiner et al., 2009). Teens who have experienced parental displacement (such as those who were abandoned or who grew up in foster care) after age 15 have higher rates of attempted suicide than do those who have been in consistent contact with their parents. Teens with more suicide attempts also rate themselves as having low levels of belonging and social

support, factors that directly align with IPT's concept of thwarted belongingness (Timmons, Edward, Lewinsohn, & Joiner, 2011).

Patients in a methadone maintenance program were assessed for thwarted belonging using the Interpersonal Needs Questionnaire (Van Orden, Cukrowicz, Witte, & Joiner, 2012) and were asked about previous suicide attempts and accidental overdoses. Those who had attempted suicide in the past had considerably higher feelings of thwarted belongingness than did those who had not attempted suicide ($d = .75$). These individuals also showed higher levels of aggression, depression, and hopelessness (Conner, Britton, Sworts, & Joiner, 2007). Similar results have been found with incarcerated populations and older adults (Cramer, 2012; Cukrowicz et al., 2013).

As a theory, IPT assumes the will to live is stronger than the will to die. To successfully complete suicide, an individual must have endured a significant amount of pain and provocation, endurance often created through past self-harm behaviors such as previous suicide attempts. An individual must be able to overcome the fear and pain associated with carrying out the acts necessary to complete a lethal act of self-injury (Joiner et al., 2009). Engaging in or witnessing violence (e.g., military combat, police work, or bullying) and repeated exposure to pain (e.g., illness or multiple injuries) increases one's acquired capability (Bryan & Cukrowicz, 2011; Chopko, Palmieri, & Facemire, 2014; Hyman et al., 2012; Ilgen et al., 2013; Kanzler et al., 2012; Luntamo et al., 2014; McCarthy et al., 2012; McWilliams et al., 2013; Okifuji & Benham, 2011; Van Orden et al., 2008; Van Tilburg, Spence, Whitehead, Bangdiwala, & Goldston, 2011).

Most theories on suicide purport that previous suicide attempts increase future risk, reasoning that appears accurate through the lens of acquired capability (Hawkins et al., 2014; Smith, Cukrowicz, Poindexter, Hobson, & Cohen, 2010; Van Orden et al., 2008). Increased pain

tolerance often comes through repeated acts of self-harm. A *Psychiatry Research* study found that individuals who engaged in repeated self-harm behaviors reported little to no pain during acts of self-harm. Being essentially numb to pain, after repeated acts of harm to self, is consistent with the idea that habituated self-harm acts help individuals develop the capacity to commit more serious injuries. This habituation could eventually lead to a lethal act of self-harm (Glenn, Michael, Franklin, Holey, & Knock, 2014). Finally, international research also supports IPT. A large Australian study of 6,133 citizens, for example, found significant correlations between suicidal ideation and all three factors. The Australian study tested IPT against multiple age groups across adulthood and by gender (Christensen, Batterham, Soubelet, & Mackinnon, 2013).

With the evident literature gaps and needs, research on training mental health counselors in IPT is necessary. As such, two research questions guided the present study. The first was: What is the impact of IPT-based suicide-assessment training on preservice mental health clinicians' knowledge of IPT-based suicide assessment? And the second was: What is the impact of IPT-based suicide-assessment training on preservice mental health clinicians' suicide intervention self-efficacy?

Method

Design

This study employed a nonconcurrent, multiple-baseline, multiple-probe design as well as a one-group pretest–posttest design (Barlow, Hersen, & Jackson, 1973; Barlow, Nock, & Hersen, 2009; Gast, Lloyd, & Ledford, 2014; Watson & Workman, 1981). The noted designs involve repeated measurements of an outcome over time using a single subject or groups, followed by identification of effects by comparisons of individual or group outcomes in the presence or

absence of treatment, across time (Pustejovsky, Hedges, & Shadish, 2014). This multiple-baseline, multiple-probe design controlled for threats related to history, testing, maturation, and statistical regression (Barlow et al., 2009; Biglan, Ary, & Wagenaar, 2000; Christ, 2007). The independent variable was online training on IPT; the dependent variables were participant knowledge around suicide assessment and participants' self-efficacy in accurately assessing risk. Phase A was the baseline phase, and Phase B was the intervention phase.

Participants

Adults aged 24 to 29 (seven) and 30 to 35 (three), respectively, were recruited with flyers sent out via email through college professors. Nine participants self-identified as Caucasian. The participants included eight females and two males. To fully engage in the online training platform, students needed access to high speed Internet and a camera on their computer. Inclusion criteria also included speaking English and enrollment in a Master's-level counseling program. Students were at varying levels throughout their counseling program; two had taken fewer than 15 credits, four had taken between 15 and 30 credits, three had taken between 31 and 45 credits, and one had taken between 46 and 60 credits.

Measures

IPT knowledge scale (IPT-KS). The IPT-KS was designed for the current study; it consists of six true–false questions covering the material presented in the slideshow training. A pilot of the questionnaire was conducted, and the mean score of IPT-naive preservice mental health clinicians was 2 ($SD = 1.3$).

Intervening on suicide self-efficacy scale (ISSE). The ISSE was designed to assess teacher self-efficacy and experiences when intervening with adolescent suicidality (King, Price, Telljohann, & Wahl, 1999a). This technique assesses efficacy expectations, and each of its six

items is measured on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*), allowing totals between 7 and 42. Slight modifications were made to the wording because populations were professional educators but also preservice clinicians (i.e., *student* changed to *individual*). The measures possess adequate validity and reliability with counselors (King, Price, Telljohann, & Wahl, 1999b).

Apparatus

The trainings were delivered via Zoom, a video- and web-conferencing program. According to the product website, over 200,000 organizations use Zoom, including UCLA, Ticketmaster, Stanford Continuing Studies, Uber, and GoDaddy (Zoom, 2019). Zoom allowed participants to log in through the Internet and to join other participants in various locations to learn as a group in a “virtual” classroom. Participants could see the PowerPoint presentation and could engage verbally and through text via a chat box with the trainer and one another. There was no need for participants to download software; the trainer paid for two months of Zoom, costing \$30.00. Internet connection speed was determined using Speedtest.net, an Internet speed-testing program, and a speed above 12 was required (Ookla, 2015).

Posttest and pretest assessments were provided to participants through a web-based survey system known as Qualtrics. The Qualtrics website describes the company as “the leading global provider of data collection and analysis products for academic research, giving professors and students alike an all-in-one platform to capture real-time insights and draw solid conclusions” (Qualtrics, 2015). Organizations using Qualtrics include Disney, Harvard, Microsoft, and NBC (Qualtrics, 2015).

Procedures

Participants were aware of the training topic prior to inclusion. All participants gave informed consent according to university guidelines. To attend the training, participants needed access to a computer and a high-speed Internet connection. Study participants were recruited through an e-mail invitation; a list of potential participants was created through the researchers' contacts with doctoral professors, their students, and colleagues. Three groups were created, two with three participants and one with four. Participants were randomly assigned baseline lengths of three, five, or seven sessions, using a random number generator at random.org. Random assignments were as follows: (a) Group A—five-session baseline, (b) Group B—three-session baseline, and (c) Group C— seven-session baseline.

Given the multiple-probe aspect of the design, the knowledge assessment for Group A occurred at times one and six. For Group B, the knowledge assessments occurred at times one and eight. And, for Group C, knowledge assessments occurred at times one and ten. Each group completed the knowledge scale once during the baseline period and once after intervention. For the self-efficacy assessment, Group A completed baseline assessment at times one, three, four and five, while completing intervention assessments at times six, seven and eight. Group B completed self-efficacy baseline assessments at times one, two and three, with intervention assessments given at times four, five and six. Finally, Group C completed baselines at times one, five, six and seven, with intervention assessments at times eight, nine and ten.

In the end, Group A completed seven self-efficacy assessments, Group B completed six assessments, and Group C completed seven assessments. Three nonconcurrent study periods were conducted, one for each group. Groups met on Tuesdays and Thursdays to either complete a baseline assessment measure or to attend intervention training followed by an assessment measure. Three training sessions were presented via an online web platform (Zoom, 2019), and

assessment measures were completed online (Qualtrics, 2015) through direct links provided to participants via e-mail. The study lasted a total of five weeks.

Treatment

The study followed protocol on IPT as covered in the preceding literature review section. The trainer had completed doctoral-level testing on the protocol and had supervised clinical hours. Three trainings were presented via an online web platform. The first training consisted of a PowerPoint presentation on IPT, which was created and presented by the first author. This training session lasted approximately one hour. The second training, lasting approximately 30 minutes, consisted of a brief case presentation followed by a discussion on how a client would be assessed for suicide risk using IPT. At the end of this training session, participants were asked to utilize IPT skills with family or friends in a role-play situation. The third and final training, also lasting approximately 30 minutes, encouraged participants to discuss their experiences utilizing newly learned skills.

Trainer. The first author conducted the training. This trainer has a Master's degree in counseling psychology from a CACREP university, is a licensed professional counselor with the Oregon Board of Licensed Professional Counselors, and is a certified alcohol and drug counselor level III in Oregon. In terms of professional experience, the trainer spent two years working as a mental health consultant in a large metropolitan maximum-security jail and has done several hundred suicide assessments. The trainer currently works as a mobile crisis clinician with a local sheriff's office. The trainer had been supervised by doctoral-level supervisors while using IPT in a clinical setting.

Treatment Fidelity. The trainer utilized fidelity checklists at the end of every training session, and these checklists are available from the first author. The two fidelity raters were

doctoral students from a counselor education program. Both raters were trained on IPT and both were supervised throughout the process.

Data Analysis

For the first research question, a Wilcoxon signed rank test was used to examine the difference between pretest and posttest results. The statistics reported below include the obtained standardized test statistic, \hat{z} , and the corresponding probability value, p . The observed effect size metric, Cohen's d , will also be reported. For the second research question, data evaluation will include both visual analysis and the statistical analysis approach of Nonoverlap of All Pairs (NAP). Lane and Gast's (2014) protocol will facilitate visual analysis. Visual analysis of graphical data, in contrast to statistical analysis of data, is the most frequently used data-analysis strategy for single-subject research designs (Gast, 2010). The extent to which data in the baseline phases as opposed to the intervention phases do not overlap is an accepted indicator of the amount of performance change (Parker & Vannest, 2009). For the NAP test, the statistics reported include the NAP scores for each group and the corresponding confidence intervals. Both research questions relied on a significance level of 0.05. To conduct each statistical hypothesis test, the R programming language was used, and the data were plotted with Microsoft Excel.

Results

Knowledge (RQ #1) For a lower-tailed Wilcoxon signed rank test, $\hat{z} = -2.7683$. The corresponding p value (using a normal approximation of the W distribution) equaled $0.0028 < 0.05 = \alpha$. This test suggests significant evidence against the null hypothesis in favor of the alternative; intervention is likely associated with increased test scores. The effect size for the

sample was $d = |\hat{z}|/\sqrt{n} = 0.8754$, which is “large” according to Cohen’s criterion (Cohen, 1998). See Figure 1 for a graphical representation of these results.

Self-Efficacy (RQ #2) Plots of the self-efficacy data revealed a slight decrease in scores after intervention. For all three groups, the mean score in Phase B was lower than it was for Phase A. Meanwhile, the overlap-based effect size for Groups A, B, and C was $NAP = 8.33\%$, $NAP = 0\%$, and $NAP = 0\%$, respectively. These are all small values indicating a large effect size in the negative direction. In other words, the data reveal that intervention was strongly associated with decreased self-efficacy scores in the student population. For Group A, the 95% confidence interval for $NAP = 8.33\%$ was $[0\%, 31.4\%]$. The trend of diminishing self-efficacy was statistically significant, because the null value of 50% was not contained in the confidence interval. While reliable confidence intervals cannot be constructed for Groups B and C, $NAP = 0\%$ was the smallest possible value, because there was no overlap between phases in each of these groups. See Figure 2 for a graphical representation of these results.

Discussion

In terms of the first research question spelled out above, pertaining to increased IPT knowledge, there are two probable reasons for the obtained results. One reason is that participants were able to absorb, process, and retain knowledge due to the creation of an environment conducive to both learning and exposure to new material. Social cognitive theories of learning suggest that self-regulated learning is determined by personal processes as well as by processes influenced by environmental and behavioral events in reciprocal fashion (Zimmerman, 1989). Participants met remotely online during training sessions but were able to interact and ask clarifying questions as needed; so, while the learning environment may not have been a

traditional setting, participants were still able to engage in self-regulated learning in an interactive environment, leading to an increase in overall knowledge.

An alternative explanation is that participants absorbed the new knowledge through modeling. This suggests that the trainer's interaction with the material, while also providing mock assessments, presented participants with a model they could use for skill acquisition. However, the former explanation, involving increased knowledge, seems more appropriate, because modeling throughout the training was not substantial enough to facilitate a significant increase in IPT knowledge. Participants are current students, so they were accustomed to self-regulated learning environments.

Two explanations also exist for obtained results indicating decreased self-efficacy among the student population. The first is that student participants came into the study believing they had more risk assessment knowledge and skills than they did. The literature on knowledge and skill acquisition includes multiple studies exploring the phenomenon of presenting new material to professionals. Students' behavioral performances are assumed to influence their perceptions of self-efficacy, with the reverse also being true (Zimmerman, 1989). If students felt their performance on the initial knowledge scale was not as desirable as they had expected, self-efficacy could have been significantly impacted; however, lower self-evaluations will not necessarily diminish overall self-efficacy and motivation if individuals believe they can succeed but that their present approach is what is actually ineffective (Schunk, 2003). A phenomena referred to as "reality shock" proposes that individuals may have unrealistically positive views about their abilities prior to entering a specific career field (Sindu, Richardson, & Watt, 2018). Thus, exposure to real challenges once immersed in the career may quickly decrease the self-efficacy of these individuals. In this way, after completing the training, students realized they did

not initially have the skills and knowledge needed to assess something as significant as suicidal ideation, leading to an overall diminished sense of self-efficacy.

Another explanation for decreased self-efficacy results is that students concluded, after taking the training, that the skills presented to them were too difficult to acquire. Participants may have left the training feeling defeated, as if they could not yet utilize the knowledge and skills learned in a way that successfully assessed someone's suicide risk level. Albert Bandura (2012), a leading researcher in self-efficacy, states: "There is a marked difference between possessing knowledge and skills and being able to use them well under diverse circumstances, many of which contain ambiguous, unpredictable, and stressful elements" (p. 25).

Ultimately, the first explanation seems most logical because IPT is used regularly and accurately by many clinicians across many backgrounds and has greater support in the literature.

Limitations

Limitations for this study include history, generalizability, and testing. Regarding history, participants may have received education on suicide assessment before and/or after the test. Participants were actively engaged in a counseling education program during the study, so there is a possibility they encountered a conversation, lecture, assignment, or reading on suicide that could have impacted study results. However, to increase knowledge results, such outside education would have needed to be specific to IPT.

In terms of overall generalizability, participants in this study were preservice mental health clinicians, so it is unclear whether these findings would generalize across other populations. For example, clinicians who have been practicing in the field for many years could respond differently to new material—or the format in which it was presented. The sample size was also small, making it difficult to assess whether results might be the same among a larger

group of participants. Lastly, participants took assessments more than once, and repeated exposure to assessment tools could have decreased scores due to participant fatigue; or, conversely, repeated exposure could have increased scores due to participant learning.

Implications

Research. Future research may benefit from having a larger sample size to increase the generalizability of the results. Future research could also compare incoming students with graduating students to see whether self-efficacy results differ according to student placement in a Master's program. Qualitative research should also investigate preservice mental health clinicians' personal reservations about assessing potentially suicidal clients' needs. Clinicians must be prepared to assess suicide risk and should feel confident doing so; thus, future research should seek to understand the specific issues keeping students from feeling efficacious in this domain.

Practice. Clinically, this study shows the need for suicide-assessment training in Master's level mental health programs. Despite an increase in knowledge, students left the training doubting their ability to effectively and accurately assess suicide risk. Counseling programs need to provide students with a solid foundation in suicide-assessment theory as well as tools they can use upon graduation. Students should be provided multiple opportunities to utilize theory and skills before completing their degrees.

Conclusion

In conclusion, the results of this study show that IPT-based suicide-assessment training increased IPT suicide-assessment knowledge in preservice mental health clinicians. However, the study also showed a slight decrease in suicide-assessment self-efficacy in preservice mental

health clinicians upon completion of the training. These findings suggest that more disciplined education opportunities in Master's-level counseling programs would benefit students but that feelings of efficacy in this area may depend on exposure to real-life situations.

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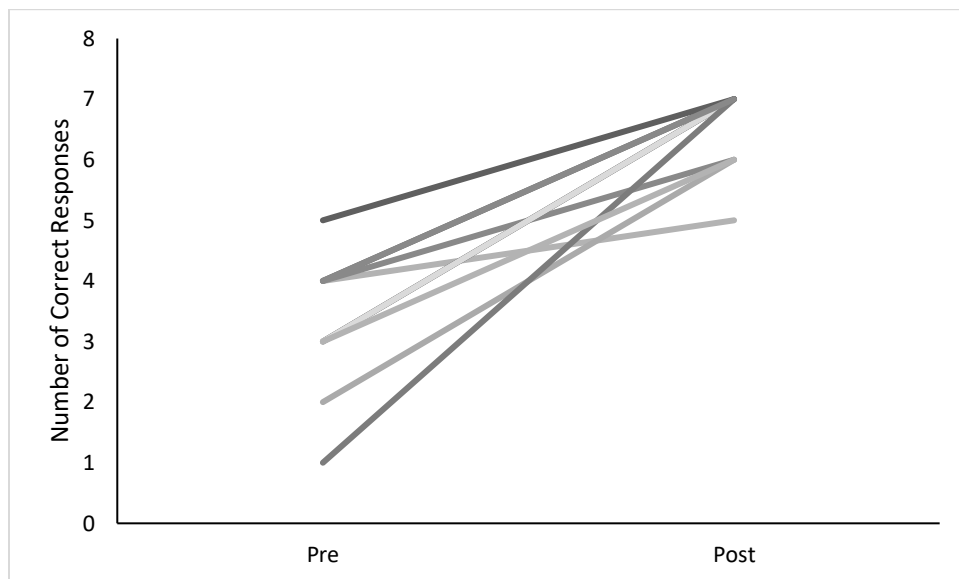


Figure 1. Individual Pretest and Posttest Scores for Knowledge

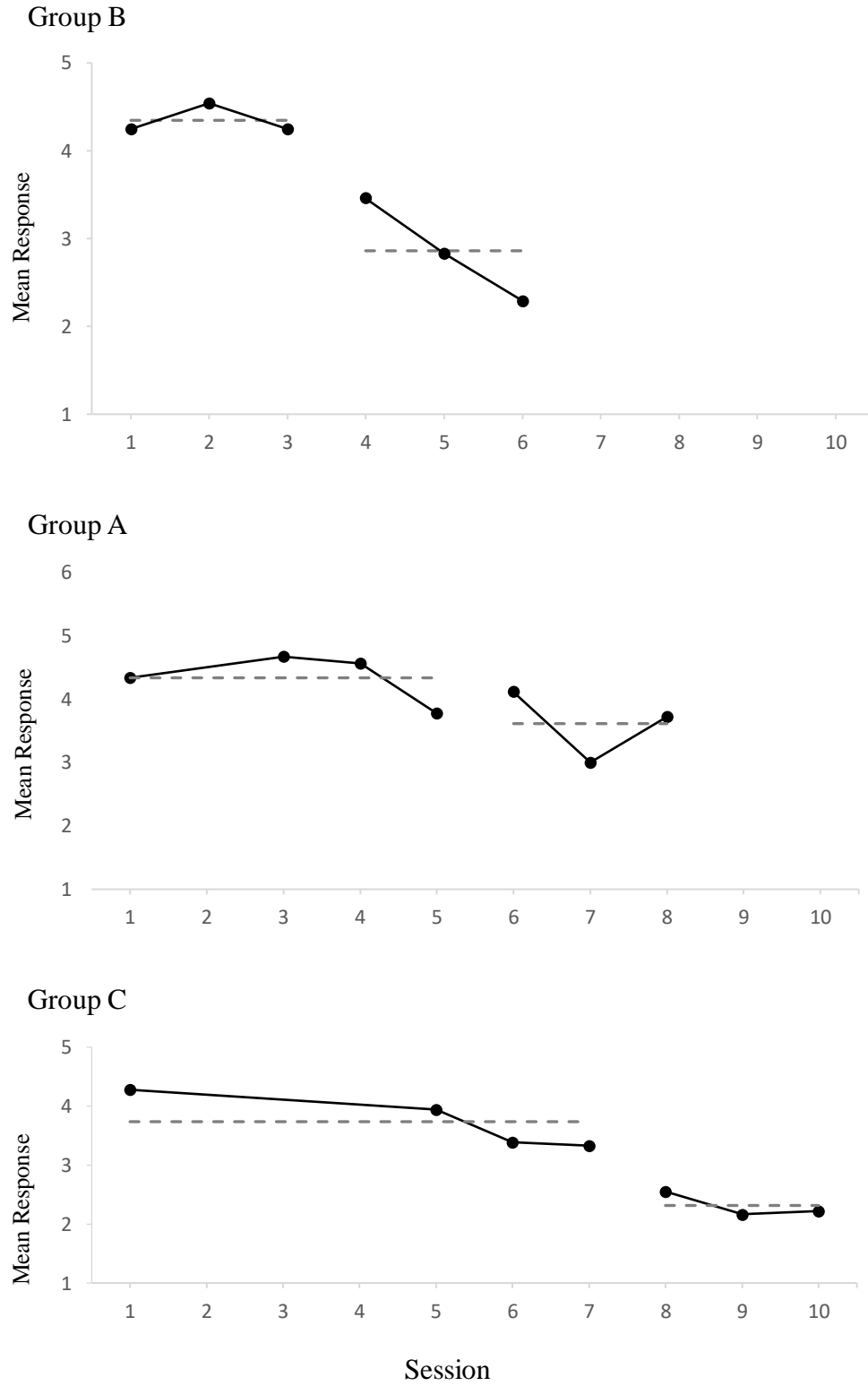


Figure 2. Self-Efficacy Test Scores Over Time

Chapter 3: A Research Manuscript

The Impact of an Interpersonal-Psychological Theory of Suicide (IPT) Workshop on Rural K–12
School Counselors' Assessment Knowledge and Self-Efficacy

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Abstract

Suicide rates across the United States continue to increase steadily. Rural communities tend to face barriers to suicide assessment and treatment that urban communities do not. School counselors working in rural education often serve as the primary screening tool for youths who might be at risk for suicide. Numerous models and theories have served as guidelines for explaining and assessing suicidal ideation. In 2009, Thomas Joiner introduced the interpersonal-psychological theory of suicide (IPT), an approach drawing on three main factors: perceived burdensomeness, thwarted belongingness, and acquired capability. Given the well-supported place of IPT in the literature, the present study utilized a nonconcurrent, multiple-baseline, multiple-probe design to examine the impact of a training model designed on this approach. Participants were K–12 school counselors employed in rural school districts across the United States. The results from this study demonstrated a significant increase in suicide-assessment knowledge, even when training was conducted remotely, but the results did not reveal a measurable change in self-efficacy. This is significant because it suggests increasing clinician knowledge around suicide assessment can be done through a cost-effective, remote platform, making it accessible to most people working in the mental health field. Future research should focus on the self-efficacy of school counselors, especially regarding factors that could influence the confidence of these individuals in making risk assessments.

Keywords: suicide assessment, interpersonal-psychological theory of suicide, self-efficacy, rural schools, school counselors

The Impact of an Interpersonal-Psychological Theory of Suicide (IPT) Workshop on Rural K–12 School Counselors' Assessment Knowledge and Self-Efficacy

According to the National Institute of Mental Health (2010), suicide remains one of the top three causes of death every year for young people between the ages of 15 and 24 years. Meanwhile, on an annual basis across the United States, approximately 157,000 individuals between ages 10 and 24 years receive medical care in emergency rooms for self-inflicted injuries (Centers for Disease Control and Prevention, 2016). Children between 6 and 17 years of age spend 32.5 hours a week in school, over seven hours more than young people did 20 years ago (Juster, Ono, & Stafford, 2004), and those working in K–12 education interact with youths on a regular basis. Moreover, research indicates that 77% of school psychologists have had a student referred to them for suicide risk in the last two years, while 89% of school counselors report having students with suicidal thoughts (King, Price, Telljohann, & Wahl, 1999b). This, even as half of participating school psychologists deem themselves only “somewhat prepared” (Debski, Spadafore, Jacob, Poole, & Hixson, 2007, p. 163) to handle suicide referrals.

Accurately assessing a client’s suicide risk is an indispensable skill for educators and counselors in K–12 systems. This ability is even more important in a rural school system, which tends to enjoy comparatively limited outside resources for managing suicide and mental health concerns (Gruman, Marston, & Koon, 2013). Research has shown that individuals assessing risk in school settings often lack the requisite education and self-efficacy (Liebling-Boccio & Jennings, 2013). A study published in the journal *Psychology in the Schools* asked school psychologists to identify suicide risk factors, and active school psychologists were, on average, able to identify only 6.56 out of 14 risk factors (Debski et al., 2007). Trainings on suicide

assessment, which are usually inexpensive and efficient, have helped close this gap (Cross, Matthieu, Lezine, & Knox, 2010). Thomas Joiner's interpersonal-psychological theory of suicide (IPT) represents a valuable tool for both assessing risk level and considering contributing risk factors (Van Orden, Witte, Gordon, Bender, & Joiner, 2008); however, research has yet to examine the potential of IPT training to increase knowledge and self-efficacy among K–12 educators, principals, and school counselors, and to thus improve their collective capacity in assessing suicide risk.

This study considered the degree to which IPT training increased rural K–12 educators' suicide-assessment self-efficacy and knowledge, and this introduction covers four relevant areas of the literature. The first looks at possible barriers to effective suicide assessment in rural areas. The second examines current trends in rural suicide and considers how they compare to urban trends. The third reviews the lack of suicide-assessment knowledge and self-efficacy among K–12 educators and counselors. And the fourth explores suicide training as a possible solution, with specific attention to the 3-factor model of IPT, as well as the research supporting it.

With respect to the first area considered in this discussion of the literature, rural communities face barriers to accurate suicide assessment that do not exist in more traditional urban communities. As of 2011, 57% of operating school districts were in rural areas (U.S. Department of Education, 2013). Rural areas often encounter increased barriers when dealing with high-risk mental health populations, such as individuals who are actively suicidal. One study highlighted a rural high school in the state of Washington and found a lack of public transportation, as well as limited access to mental health services, including the number of school counselors provided to individual schools (Gruman et al., 2013). Most students assessed in the study were poor enough to receive free school lunches, and most registered at or below average

state passing scores for standardized tests. The same study found that school counselors were spending most of their time working on registration, educational planning, and credit monitoring—not typical school counseling tasks (Gruman et al., 2013).

Some rural schools must function without any school counselors. A report on rural communities found that 87% of the mental health shortage areas (MHPSAs) in the United States were in rural areas (Gamm, Hutchison, Dabney, & Dorsey, 2003). According to the Health Resources & Services Administration (2019), MHPSAs are areas that do not have enough mental health providers to support the community's population; or they have mental health professionals who are overutilized, excessively distant, or inaccessible to residents. The lack of mental health resources outside the school system is concerning in general; but, even more pertinent to the present study, this shortage heightens the need for accuracy in school risk assessments.

A final study examined educators' perceptions of teaching in a rural area. Participants noted difficulties such as issues with salaries and benefits, resistance to change, insufficient mentoring, and preparation for multiple classes (with varying ages and intellectual abilities), as well as lack of access to university resources (Goodpaster, Adedokun, & Weaver, 2012). Rural educators are more stretched than their counterparts in urban areas, and they can count on fewer external resources. Overextended educators and school counselors in rural settings may be more apt to miss suicide risk factors and thus need training as much if not more than those working in urban environments.

The second area of focus in this review of the literature involves current trends in rural suicide and specifically how they contrast with trends in urban areas. The U.S. Department of Veterans Affairs (VA) looked at rural–urban differences among its patients, nationally, between both 2004 and 2005 and 2007 and 2008, respectively, and discovered that overall suicide rates

were higher among rural patients (McCarthy et al., 2012)—a finding shared by an Australian study that noted 62% of suicides were completed by individuals living in rural areas (Sankaranarayanan, Carter, & Lewin, 2010). Even more, the VA study found that rural patients were more likely to have been diagnosed with depression and/or posttraumatic stress disorder, both of which strongly correlate with suicide risk (Bryan & Cukrowicz, 2011; Hyman, Ireland, Frost, & Cottrell, 2012). In stark terms, the VA analysis concluded that simply residing in a rural ZIP code was associated with an increased risk for suicide mortality.

Rural youths show the same tendencies as their rural adult counterparts. A study in the *Journal of School Health* found that 23.4% of rural adolescents had thought about suicide, 15.9% had planned to complete suicide, and 10.0% had attempted suicide. These numbers are higher than the averages, within the same categories of response, across the United States, where 20.1% of adolescents had thought about suicide, 13.3% had planned to complete it, and 8.9% had attempted it (Dunn, Goodrow, Givens, & Austin, 2008). Research from Australia noted the same disparity, with Dudley et al. (1998) finding that significantly more youths in rural areas committed suicide as compared to those in urban areas.

The preferred method of suicide also differs between environments, with firearms being the most common means employed in rural settings—where they are used 2.09 times as often as they are in urban settings (Branas, Nance, Elliot, Richmond, & Schwab, 2004; McCarthy et al., 2012; Searles, Valley, Hedegaard, & Betz, 2014). Research in the *Journal of Public Health*, conducted over an 11-year period, found that rates of suicide by firearm increased by 1.3% each year in most rural areas. The *Journal of Public Health* study relied on data from the National Center for Health Statistics, looking at mortality associated with those ages 19 and under, over a seven-year period, and found that, while the numbers of deaths by firearm did not vary much

between urban and rural communities, the presumptive intentions behind the deaths differed significantly. Suicide was the primary cause of firearm death among rural youths, whereas homicide was a leading cause among urban youths (Nance, Carr, Kallan, Branas, & Wiebe, 2010). Again, international research supports this trend. Coroners' reports from Australia, for example, have shown firearm suicides to be significantly more common among rural adolescents, who register at 57.8%, as opposed to their urban peers, who come in at 24.7% (Dudley et al., 1998).

Considering the third area of focus in this review of the literature, suicide education and training appear to be lacking among those in the best position to treat suicidal clients. One study noted only one fifth of master's-level social workers surveyed reported any formal training in suicidality (Feldman & Freedenthal, 2006). This trend continues in school systems. A study published in the *Journal of School Psychology* found that only 55.3% of directors of school psychology programs said suicide assessment needs should get more coverage in their programs (Liebling-Boccio & Jennings, 2013). The same study found that the main form of evaluating student preparedness for suicide assessment came through practicum and internship supervisor ratings (65.9% of programs), rather than through class examinations (54.1% of programs) or in a review of the content of written assignments and papers (27.1% of programs). And yet, evaluating preparedness through a practicum, as is most common, seems fairly subjective, because the assessment depends on the evaluator's estimation of what counts as being "prepared," as well as the hope that working with a suicidal client might be covered during every practicum and internship, thereby facilitating the proper amount of attention.

In a similar vein, the *American Journal of Health Behavior* published a study that looked at school counselors' confidence in assessing suicidal students. The results from this assessment

of 500 school counselors showed that the majority believed it was their job to identify at-risk students. Despite this belief only one third of these counselors felt they could identify suicidality in students (King et al., 1999b). This is alarming research, showing that school counselors feel they are responsible for but unprepared to assume the task of assessing suicide risk in students.

One large study of school counselors' suicide intervention self-efficacy was completed in Ireland. Boylan (2001) used the same measure as King et al. (1999b) to survey all Irish school counselors. Boylan applied logistic regression to examine suicide intervention self-efficacy in relation to gender, professional experience, ideation exposure, and training background. She reported that respondents exposed to suicide in their work were over 3 times more likely to have high suicide intervention self-efficacy. The relationship encountered between exposure and self-efficacy with school counselors was consistent with research from other professions.

The fourth and final topic in this review pertains to suicide-assessment training as a solution and the three main factors that make up IPT. Short-term interactive training administered from a distance provides a way of effectively disseminating information to rural populations. Studies have shown that training around suicide increases clinician knowledge, skills, and/or assessment self-efficacy (Crepeau-Hobson, 2013; Fry, 2012; Jacobson, Osteen, Sharpe, & Pastoor, 2012; Reis & Cornell, 2008; Robinson et al., 2013; Taub et al., 2013). School counselors, mental health clinicians, medical professionals, nonclinical community members, and even university resident assistants have all shown increased understanding of and knowledge about suicide after receiving training outside their professional training or academic backgrounds (Cross, Matthieu, Cerel & Knox, 2007; Crepeau-Hobson, 2013; Cross et al., 2010; da Silva Cais, da Siliveira, Stefanello, & Botega, 2011; Davis et al., 1999; Fry, 2012; Jacobson et al., 2012; Matthieu & Hensley, 2013; McNiel et al., 2008; Neimeyer, 2001; Pisani, Cross, & Gould, 2011;

Reis & Cornell, 2008; Robinson et al., 2013; Schmitz et al., 2012; Slaven & Kisely, 2002; Sockalingam, Flett, & Bergmans, 2010; Taub et al., 2013; Tompkins & Witt, 2009).

An article in the journal *Suicide and Life-Threatening Behavior* found that even high school students felt more confident in their ability to identify high-risk friends and to refer them to resources after receiving education and training (King, Vidourek, & Strader, 2008). This research is extremely promising, as preventative trainings tend to be short-term and cost-effective. The American Association of Suicidology, for example, offers a two-day training that costs about \$4,500 to present to a group of 50 people (American Association of Suicidology, 2014). In contrast, American society spends approximately \$34.6 billion annually on the combined medical and work-loss costs of suicide (Centers for Disease Control and Prevention, 2018). Trainings could undoubtedly save individuals and institutions within the United States significant money over the long term.

Drawing on the above-described research and trends within the literature, the present study builds on IPT (Joiner, Van Orden, Witte, & Rudd, 2009), a parsimonious approach and a research-based consolidation importing risk and protective factors from preexisting models into a theory that identified three key factors in suicide assessment extending across a lifespan. Specifically, Joiner et al. (2009) suggested that an individual, when at high risk for completing suicide, will have relatively greater levels of perceived burdensomeness, thwarted belongingness, and acquired capability. As these researchers described it,

The three factors previously noted—acquired capability, perceived burdensomeness, and failed [thwarted] belongingness—are proposed as answers to the questions of who can die by suicide and who would want to. Who can? Those, who through habituation, have acquired the capability to enact lethal self-injury. Who wants to? Those who perceive that

they are a burden on loved ones and that they do not belong to a valued group or relationship. Those who both can, and want to, are at highest risk of a serious suicide attempt or lethal self-injury. (p. 6)

Perceived burdensomeness can be compared to a severe form of low self-esteem. Individuals struggling with this feeling often believe they have some moral, mental, or physical defect; and, because of their negative self-perception, they feel like a burden to those closest to them. Owing to this cognitive distortion, such individuals may view their deaths less as harmful or detrimental events and more as beneficial outcomes—something better—for their loved ones (Joiner et al., 2009). Perceived burdensomeness occurs across different populations. Research has found that individuals with a military background, anger issues, an American Indian tribal affiliation, an age above 50 years, clinical obesity, identification as a sexual minority, and/or chronic pain tend to feel like a burden to those around them (Bryan & Cukrowicz, 2011; Chopko, Palmieri, & Facemire, 2014; Hyman et al., 2012; Ilgen et al., 2013; Kanzler, McGeary, Morrow, & Chad, 2012; Luntamo et al., 2014; McCarthy et al., 2012; McWilliams, Wilson, Kowal, Henderson, & Peloquin, 2013; Okifuji & Benham, 2011; Van Orden et al., 2008; Van Tilburg, Spence, Whitehead, Bangdiwala, & Goldston, 2011).

Many clinicians view a sense of hopelessness as a strong precursor for suicide risk; however, Joiner et al. (2009) found a stronger correlation between perceived burdensomeness and suicidal ideation than between hopelessness and suicidal ideation. This correlation existed in participants who had attempted suicide, and it was even stronger in those who were actively suicidal (Van Orden, Lynam, Hollar, & Joiner, 2006). Perceived burdensomeness has also been significantly correlated with suicidal ideation in university students—a population that society rarely views as a burden (Van Orden et al., 2008). Finally, a 2012 study found that, somewhat

surprisingly in the case of chronic-pain patients, suicidality was more correlated with perceived burdensomeness than it was with endorsed depressive symptoms, pain severity, age, or gender (Kanzler et al., 2012).

Thwarted belongingness, which is closely related to loneliness and social isolation, also correlates with the desire to take one's life. Individuals who have a sense of failed belongingness feel alienated from family, friends, society, or any other valued groups (Joiner et al., 2009). A recent study found that teens who have experienced parental displacement (e.g., being abandoned by parents or growing up in foster care) after age 15 have higher rates of attempted suicide than do those who have consistently been in contact with parents during their youth. This research fits within the scope of thwarted belongingness, as these teens also rate themselves as having low levels of belonging and social support (Timmons, Lewinsohn, Joiner, & Thomas, 2011).

In this vein, a study in the *Journal of Rural Health* explored adolescent depression in rural areas and found that youths in rural communities who scored higher on a scale of family closeness had decreased depressive symptoms (Peden, Reed, & Rayens, 2005). A Canadian study, published in the *Journal of Vulnerable Children and Youth Studies*, found similar results with rural youths, showing a positive correlation between rural adolescents' engagement in extracurricular activities and low levels of suicidality (Armstrong & Manion, 2006). When asked about protective factors for suicide, rural youths ranked "close friends" as most important (Evans, Smith, Hill, Albers & Neufeld, 1996). This research supported Joiner et al.'s (2009) belief that relationships and a sense of belonging protect against suicide, a conclusion that appears to be even more robust in small, tight-knit, rural communities.

Lastly, Joiner et al. (2009) realized that taking one's life is not an easy task; to successfully complete suicide, an individual has likely endured a significant amount of pain and provocation, and this endurance is often bolstered by prior self-harm behaviors, such as previous suicide attempts. An individual must overcome the fear and pain associated with carrying out the acts necessary to commit a lethal act of self-injury (Joiner et al., 2009). Witnessing or engaging in violence (e.g., military combat, police work, bullying, etc.) and repeated exposure to pain (e.g., illness or multiple injuries) increases one's acquired capability (Bryan & Cukrowicz, 2011; Chopko et al., 2014; Hyman et al., 2012; Ilgen et al., 2013; Kanzler et al., 2012; Luntamo et al., 2014; McCarthy et al., 2012; McWilliams et al., 2013; Okifuji & Benham, 2011; Van Orden et al., 2008; Van Tilburg et al., 2011).

When looking at rural youths, specifically, those with a friend who has either attempted suicide or experienced a shooting, stabbing, or assault have shown more depressive symptoms than have youths without such relationships (Peden et al., 2005). Research has also indicated that rural youths experience more bullying at school than do their urban peers, with bullying also carried out in a more aggressive manner (Murphy, 2014). What's more, greater witnessing of and facility with lethal weapons is consistent with findings that adults and youths in rural areas have used firearms as their means of suicide more often than any other method (Branas et al., 2004; Dudley et al., 1998; McCarthy et al., 2012; Nance et al., 2010; Searles et al., 2014)

Most theories of suicide have posited that previous suicide attempts increase future risk, an inference that appears accurate through the lens of acquired capability (Hawkins et al., 2014; Smith, Cukrowicz, Poindexter, Hobson, & Cohen, 2010; Van Orden et al., 2008). Repeated acts of self-harm often lead to greater pain tolerance. A study in *Psychiatry Research*, for example, found that individuals who had engaged in repeated self-harm behaviors reported little to no pain

during acts of self-harm. Pain analgesia, after repeated instances of self-harm, is consistent with the idea that habituated acts of harm help individuals develop the capacity to commit more serious injuries, habituation that could eventually lead to lethal self-harm (Glenn, Michael, Franklin, Holey, & Knock, 2014).

Finally, a large study in Australia, involving 6,133 citizens, found significant correlations between suicidal ideation and all three factors related to IPT, giving additional credence to Joiner's theory. The Australian study tested the model against multiple age groups and via gender across adulthood (Christensen, Batterham, Soubelet, & Mackinnon, 2013). These results, taken with the studies outlined above, underscore the need for increased scholarly attention to and training in IPT for mental health counselors. In this spirit, the specific questions guiding the present research were (a) What is the impact of IPT-based suicide-assessment training on preservice mental health clinicians' knowledge of IPT-based suicide assessment?, and (b) What is the impact of IPT-based suicide-assessment training on preservice mental health clinicians' suicide intervention self-efficacy?

Method

Design

This study employed a nonconcurrent, multiple-probe, multiple-baseline design as well as a one-group pretest–posttest (Barlow, Hersen, & Jackson, 1973; Barlow, Nock, & Hersen, 2009; Gast, Lloyd, & Ledford, 2014; Watson & Workman, 1981). Such designs involve repeated measurements of an outcome over time, using a single subject or groups, followed by identification of effects through comparisons of individual or group outcomes in the presence or absence of treatment, across time (Pustejovsky, Hedges, & Shadish, 2014). The multiple-baseline

and multiple-probe approach controlled for threats related to history, testing, maturation, and statistical regression (Barlow et al., 2009; Biglan et al., 2000; Christ, 2007). The independent variable for the present study was online training on IPT, and the dependent variables were participant knowledge of suicide assessment and participants' self-efficacy in accurately assessing the level of risk. Phase A was the baseline phase, and Phase B was an intervention phase.

Participants

Adults ages 36 to 41 years (of which there were two), ages 42 to 47 years (of which there were six), and ages 48 to 53 years (of which there were three) were recruited with flyers sent out via email to administrators at K–12 schools in rural school districts across the United States. All 11 participants self-identified as Caucasian and female. To fully engage in the online training platform, participants required high-speed Internet access and a camera on their computer. Inclusion criteria also included the ability to speak English and employment as a K–12 school counselor in a rural school district. Participants had varying lengths of tenure in their current role; five counselors had under five years of experience, three had 5–10 years of experience, and another three had 11–15 years of experience.

Measures

IPT knowledge scale (IPT-KS). The IPT-KS was designed for the present study, consisting of six true–false questions covering the material presented in the slideshow training. A pilot of the questionnaire was conducted, and the mean score of IPT-naïve preservice mental health clinicians was 2 ($SD = 1.3$).

Intervening on suicide self-efficacy scale (ISSE). The ISSE was designed to assess teacher self-efficacy and experience regarding intervening with adolescent suicidality (King et

al., 1999b). This metric was deployed to assess efficacy expectations, and each of its six items were measured on a 7-point Likert scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*), making for totals between 7 and 42. The ISSE validity and reliability with counselors are well established (King, Price, Telljohann, & Wahl, 1999b).

Apparatus

The trainings were conducted via Zoom, a video-conferencing web program. According to the product's website, over 200,000 organizations use Zoom, including UCLA, Ticketmaster, Stanford Continuing Studies, Uber, and GoDaddy (Zoom, 2019). Zoom allowed participants in this study to log in through the Internet and join other participants in various locations to learn as a group in a "virtual" classroom. Participants did not need to download software; they could see the PowerPoint presentation and engage verbally and through text via a chat box with both the trainer and one another. The trainer paid for two months of Zoom, costing \$30.00. An Internet connection speed above 12 megabits per second was necessary, and the rate was verified using Speedtest.net, an Internet speed-testing program (Ookla, 2015).

Posttest and pretest assessments were provided to participants through a web-based survey system known as Qualtrics. The Qualtrics website describes the company as "the leading global provider of data collection and analysis products for academic research, giving professors and students alike an all-in-one platform to capture real-time insights and draw solid conclusions" (Qualtrics, 2015). Organizations and entities using Qualtrics include Disney, Harvard, Microsoft, and NBC (Qualtrics, 2015).

Procedures

Participants were aware of the training topic prior to inclusion, and all gave their informed consent according to university guidelines. To attend the training, participants needed

access to a computer and a high-speed Internet connection. Study participants were recruited through an e-mail invitation, and a list of potential participants was created through the researchers' contacts with doctoral professors, their students, and colleagues. Three groups were established, each containing four participants randomly assigned baseline lengths of three, five, or seven sessions through a random number generator at random.org. Random assignments were as follows: Group A—five-session baseline, Group B—three-session baseline, and Group C—seven-session baseline. Given the multiple-probe aspect of the design, the knowledge assessments for Group A were given during sessions one and six. For Group B, the knowledge assessments took place during sessions one and eight. For Group C, knowledge assessments happened at times one and ten. Each group completed the knowledge scale once during baseline and once after intervention.

For the self-efficacy assessment, Group A completed baseline assessment at times one, three, four, and five, while completing intervention assessments at times six, seven, and eight. Group B completed self-efficacy baseline assessments at times one, two, and three, while completing intervention assessments at times four, five, and six. Finally, Group C completed baselines at times one, five, six, and seven, with intervention assessments at times eight, nine, and ten. In total, Group A completed seven self-efficacy assessments, Group B completed six, and Group C completed seven. Each group conducted a nonconcurrent study period. Groups met on Tuesdays and Thursdays, either to complete a baseline assessment measure or to attend intervention training followed by an assessment measure. Three training sessions took place via an online web platform (Zoom, 2019), and assessment measures were completed online (Qualtrics, 2015) through direct links provided to participants via e-mail. The study lasted a total of five weeks.

Treatment

The study followed protocol on IPT, as described in the preceding literature review section. The trainer had completed doctoral-level testing on the IPT protocol and had supervised clinical hours. Three trainings took place through an online platform. The first training, lasting approximately one hour, consisted of a PowerPoint presentation on IPT created and presented by the first author of this study. The second training, lasting approximately 30 minutes, consisted of a brief case presentation followed by a discussion of how to assess a client for suicide risk using IPT. At the end of this training session, participants were asked to utilize IPT skills with family or friends in a role-play situation. The third and final training, lasting approximately 30 minutes, encouraged participants to discuss their experiences utilizing recently learned skills.

Trainer. The first author of this study conducted the training. This author has a Master's degree in counseling psychology from a CACREP university, is a licensed professional counselor with the Oregon Board of Licensed Professional Counselors, and is a certified alcohol and drug counselor level III in Oregon. In terms of professional experience, the trainer spent two years working as a mental health consultant in a large metropolitan maximum-security jail and has done several hundred suicide assessments. The trainer currently works as a mobile crisis clinician with a local sheriff's office and has been supervised by doctoral-level supervisors while using IPT in a clinical setting.

Treatment Fidelity. The trainer utilized fidelity checklists at the end of every training session—checklists available from the first author. The two fidelity raters were doctoral students from a counselor education program. Both raters were trained on IPT and were appropriately supervised while utilizing assessment skills.

Data Analysis

For the first research question, a Wilcoxon signed rank test was used to evaluate the difference between test scores before and after intervention. The reported statistics include the standardized test statistic, \hat{z} , and the corresponding probability value, p . The observed effect size, Cohen's d , will also be reported. For the second research question, both visual and statistical analyses were performed. Specifically, Lane and Gast's (2014) protocol and Nonoverlap of All Pairs (NAP) were used to evaluate changes in self-efficacy over time. Visual analysis of graphic data, in contrast to statistical analysis of data, is the most frequently used data-analysis strategy for single-subject research designs (Gast, 2010). The extent to which data in the baseline phases as opposed to the intervention phases do not overlap is an accepted indicator of the amount of performance change (Parker & Vannest, 2009). For the NAP test, the reported statistics include the NAP scores for each group and the corresponding confidence intervals. For both research questions, the alpha level was set at 0.05. Statistical hypothesis testing was conducted using the R programming language and plots were generated using Microsoft Excel.

Results

Knowledge (RQ #1) For a lower-tailed Wilcoxon signed rank test, $\hat{z} = -2.9040$. The corresponding p value (using a normal approximation of the W distribution) equaled $0.0018 < 0.05 = \alpha$. This test suggested significant evidence against the null hypothesis in favor of the alternative; intervention was likely associated with increased test scores. The effect size for the rural sample was $d = |\hat{z}|/\sqrt{n} = 0.8756$, which was "large" according to Cohen's criterion (Cohen, 1998). See Figure 1 for a graphical representation of these results.

Self-Efficacy (RQ #2) Visual analysis of the self-efficacy data revealed no substantial change from before to after intervention. For all groups, within-phase scores barely fluctuated and the

mean difference before and after intervention was very small. For instance, the group with the largest change in average self-efficacy score after intervention—Group C—only diminished in performance by 0.18 points (on a 1–7 scale).

In terms of statistical analysis, the overlap-based effect size for Groups A, B, and C was $NAP = 62.5\%$, $NAP = 50\%$, and $NAP = 12.5\%$, respectively. Interpretations of these statistics varied based on their corresponding 95% confidence intervals: (38%, 87%), (0%, 100%), and (0%, 38%). Group A showed a very small treatment effect in the positive direction; however, the true direction of this effect (if one exists at all) could not be reliably inferred from the data, because Group A had many pairwise ties before and after intervention, and the confidence interval contained 50%. For Group B, the NAP value suggested no treatment effect. Unfortunately, the corresponding confidence interval was prohibitively wide due to the small sample size, thereby offering no additional insights. Lastly, Group C showed a moderate negative effect size. When considering all groups, there was likely no outstanding treatment effect; that is, there was no evidence that intervention influenced self-efficacy in the rural population. See Figure 2 for a graphical representation of these results.

Discussion

This study utilized a multiple-baseline, multiple-probe design as well as a one-group pretest–posttest to look at the impact of suicide-assessment training on rural K–12 school counselors. The first objective was to explore the impact of IPT-based suicide-assessment training on rural K–12 school counselors' knowledge of IPT-based suicide assessment. The study's second objective was to determine whether IPT-based suicide-assessment training could impact rural K–12 school counselors' suicide intervention self-efficacy.

There are two reasonable explanations for the increased knowledge of K–12 rural school counselors. One is that participants came into the study with an understanding of suicide assessment, presumably informed by prior experience as a counselor. New material and a new theory for risk assessment perhaps caused a loss of equilibrium and foundational understanding—meaning that, to restore equilibrium, participants had to combine previous and novel information to form an improved cognitive schema allowing space for new skill acquisition (Smith, 2002). A second explanation is that rural school counselors learned through watching another counselor interpret and model the use of the new material. Research has shown that modeling is especially effective if the model is perceived to be similar to the observer (Zimmerman, 1989). Indeed, in the Zimmerman (1989) study, the trainer, who served as the model for new behavior and skills, was in the counseling profession, so it is likely participants found significant commonalities between themselves and the trainer. However, the first rationale for increased knowledge is more practical, as the modeling present in the training was not significant enough in time or depth to create increased knowledge for IPT among all participants.

There are three reasons why these self-efficacy results might have lacked any significant change among rural K–12 school counselors. The first reason is that participants were already practicing counselors in the field, enjoying an ingrained risk assessment acquired through education or experience in the field. A study published in the *American Educational Research Journal* found no change in self-efficacy after 191 participants completed an advanced teaching course. The study proposed that teacher training for those already in the field could have positive and negative effects on overall teacher self-efficacy, but that these effects were likely subtle and difficult to untangle (Hay & Woolfolk, 1990). In regards to the current study, participants were,

in other words, unlikely to feel they had improved self-efficacy created over years of counseling work due merely to a three-session training on a specific suicide-assessment theory.

According to social cognitive theory, self-efficacy is influenced by four primary sources: vicarious experience, physiological arousal, verbal persuasion, and mastery experience (Bandura, 1997). The training for the present study may have been insufficient to impact an already developed self-efficacy among these participants. A second explanation is that participants felt they had already utilized the skills presented during the training and therefore saw neither an increase nor a decrease in their overall mastery of skills related to suicide assessment. Lastly, it is possible that rural school counselors were too distracted and encumbered by the multimedia platform through which the training was presented. That is, perhaps the difficulty of learning remotely contributed to the extent that participants did not feel they had gained anything contributing to their sense of efficiency. Considering the above, the first reason appears most logical, because participants acknowledged that IPT was a new experience for them, and they had few, if any, complaints about the remote nature of the learning environment.

Limitations

Potential limitations to this study include history, generalizability, and testing. In terms of history, school counselors may have received training around suicide theory or assessment, formally or informally, between pretest and posttest evaluations. Suicide prevention is mentioned more and more in mainstream media, and various school-based programs now make a point of addressing suicide assessment in academic settings. Thus, education on matters regarding suicide, offered to participants within their school districts during this study, could have impacted overall results. In terms of the second limitation, study outcomes are not generalizable to all school populations, because participants were K–12 school counselors in rural

communities; urban school counselors, for example, might have responded differently, perhaps entering the training with a different knowledge base and degree of confidence in suicide assessment compared to their rural counterparts. Participants in this study also took assessments more than once, which could have influenced results. And, finally, with respect to the third limitation, repeated exposure to assessment tools could have decreased scores due to participant fatigue—or, conversely, scores could have increased due to participant learning.

Implications

Future research should employ a larger sample size to improve generalizability. Location of rural-school counselor participants could also be varied, perhaps allowing for comparisons between areas of the United States and even according to degrees of “ruralness.” In-person training could also be compared to more remote training when assessing whether technology has any impact on training outcomes—and future research might consider the prior experience of school counselors when evaluating a certain baseline background or skill set affecting IPT-focused training. Finally, it would be fruitful to study urban school counselors, especially because their knowledge and self-efficacy could be significantly different due to their proximity to mental health professionals and other suicide-risk referral sources.

School counselors, especially rural counselors who may not have easy access to mental health referrals, should receive ongoing training and education around suicide risk and assessment. Trainings could be provided at various times and in a variety of ways. Regular staff meetings could contain brief presentations on suicide risk factors, and biannual onsite or offsite trainings could give professionals in the field of suicide risk the opportunity to speak to faculty. Webinars, books, and online videos on suicide assessment are easily accessible, at low or no cost, allowing school counselors to participate in self-regulated learning. So, too, are there

numerous books on suicide assessment that could be made available to staff and faculty. Because rural school counselors practicing in remote areas may not feel efficacious in terms of suicide assessment and/or may not have the knowledge to accurately assess risk level, it is important that they know where to look for professional guidance. School counselors must be knowledgeable on community-based mental health referrals and should feel comfortable providing such referrals to students and parents.

Conclusion

The results of the present study showed that IPT-based suicide-assessment training increased knowledge of IPT-based suicide assessment in rural K–12 school counselors. That said, after participating in the training, rural school counselors showed no change in suicide-assessment self-efficacy. Findings from this study suggest rural school counselors can learn IPT-based suicide-assessment skills through remote training. Future studies should explore school counselor self-efficacy and the factors evoking change with respect to this variable among this population.

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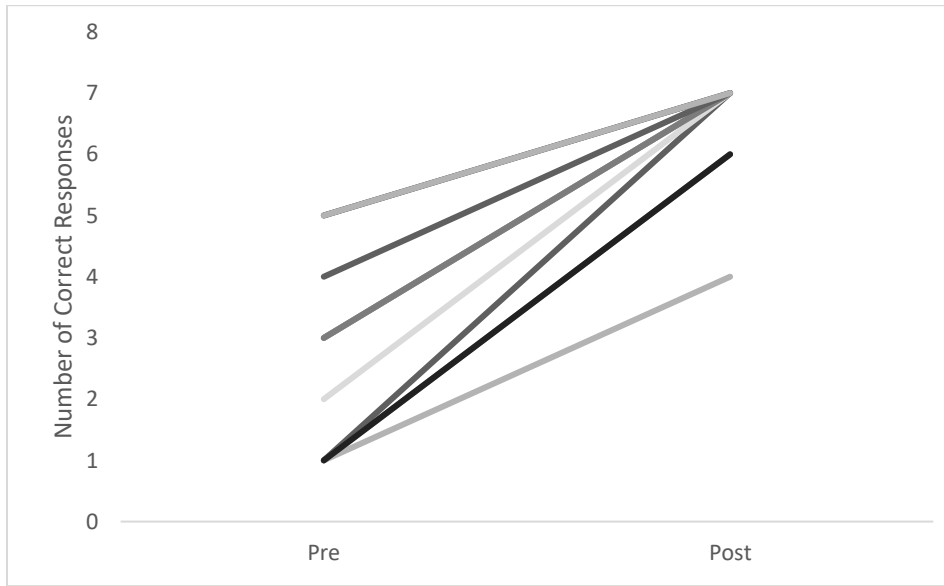


Figure 1. Individual Pretest and Posttest Scores for Knowledge

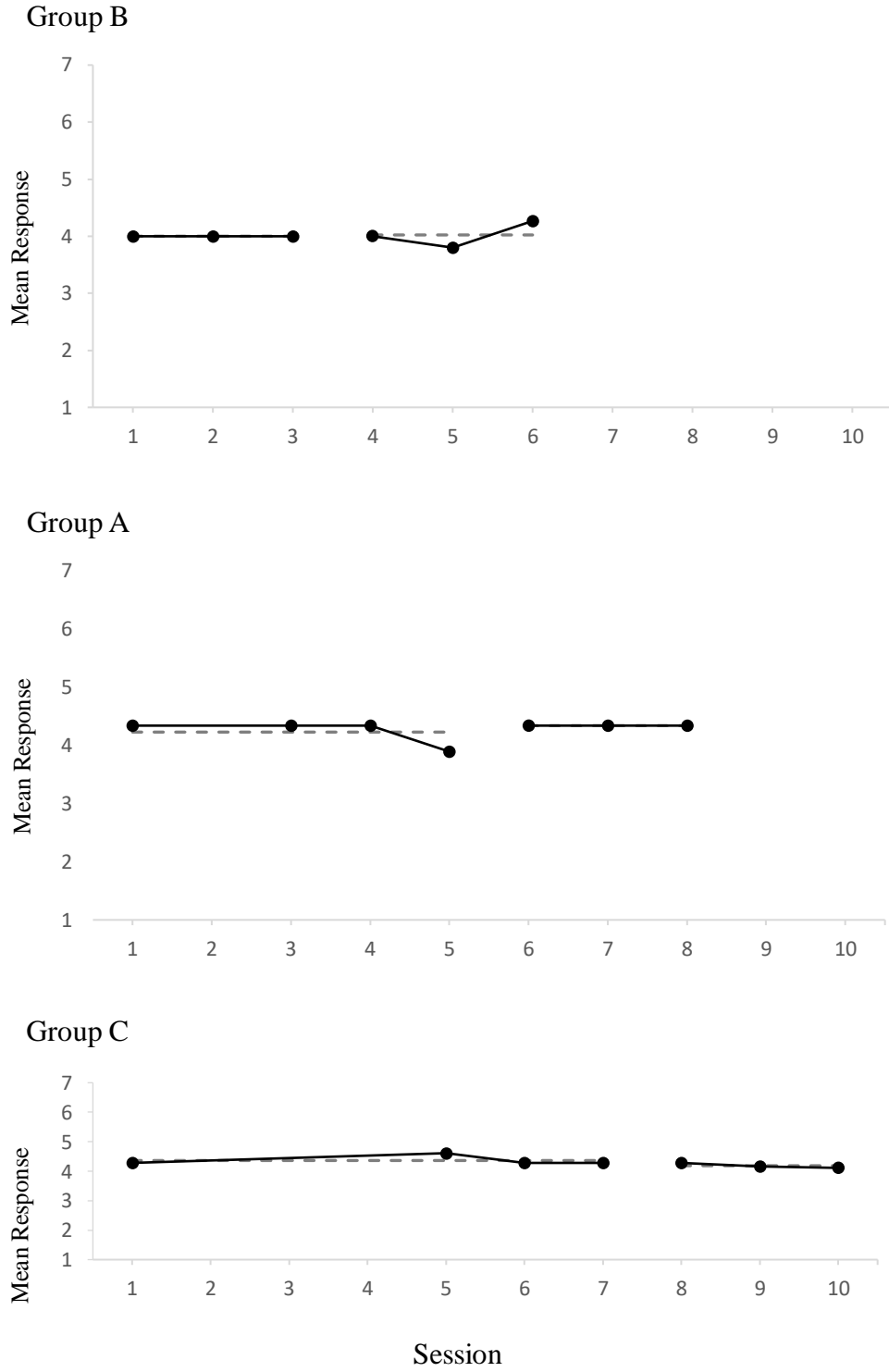


Figure 2. Self-Efficacy Test Scores Over Time

Chapter 4: A General Conclusion

Introduction

This chapter summarizes the research conducted for this dissertation and explicates themes running through the studies at the heart of this work. A brief review of the first research manuscript will summarize the impact that suicide-assessment training had on preservice mental health clinicians, before revisiting the limitations of the study, reconsidering some of the key points of discussion from that chapter, and offering recommendations for future work in this field. Following this refresher on the first manuscript will be a summary of the findings from the second research manuscript, which focused on the impact of suicide-assessment training on K–12 rural school counselors. This summary, too, will include a review of the limitations of the study, plus a reminder of the accompanying discussion and thoughts on future research. An overview of the linkages between the studies, their contributions to the field, the research imperatives presented by this work, and a contemplation of future research objectives will then conclude this dissertation.

Summary of the First Study

The aim of this nonconcurrent, multiple-probe, multiple-baseline study was to assess the impact of suicide-assessment training on preservice mental health clinicians. Thomas Joiner's interpersonal-psychological theory (IPT) afforded theoretical direction for the research query of this chapter, specifically: What is the impact of IPT-based suicide-assessment training on both the knowledge of IPT-based suicide assessment and the suicide intervention self-efficacy of preservice mental health clinicians?

Findings

A Wilcoxon signed rank test helped determine whether knowledge scores increased after the intervention of suicide-assessment training. Findings showed that $W^* = 0 < 11 = W$ for a lower-tailed Wilcoxon signed rank test. The corresponding p value (using a normal approximation of the W distribution) was $p = 0.0028 < 0.05 = \alpha$. This suggested that intervention was associated with negative median test score differences. In other words, there was significant evidence that test results increased after intervention for the student sample.

A Nonoverlap of All Pairs (NAP) helped assess changes in student self-efficacy during the study. The NAP scores for Groups A, B, and C were 8.33%, 0%, and 0%, respectively. These were extremely small values, leading to the conclusion that—in general—effect size was very large in the negative direction. In other words, the data revealed that intervention was associated with decreased self-efficacy scores overall. It is impossible to construct confidence intervals around zero, but for Group A, the 95% confidence interval for $NAP = 0.083$ was $[0, 0.314]$. The trend of diminishing self-efficacy was significant, as the null value of 0.50 was not contained in the confidence interval. This trend is especially apparent in the timeseries plots.

Limitations

These findings are intriguing and encouraging of further study, but they are not without limitations—specifically, with respect to issues of history, generalizability, and testing. Regarding history, and especially concerning contamination, it is possible that participants were in some way educated on suicide-assessment issues or that they otherwise received information through academic sources either before or after the testing (or both). Participants were actively engaged in a counseling education program during the study and could have, for example, taken part in a conversation, attended a lecture, or completed an assignment pertaining to suicide, thereby influencing the study results.

In terms of generalizability, the participants in this study were preservice mental health clinicians, so it is unclear whether the findings associated with their unique circumstances might extend across other professional domains. Put differently, the particularities of preservice mental health clinical experience, and the populations with which these clinicians interact, could have positioned participants to react to the assessments in ways unlike that which might be associated with the typical experiences of other clinicians. It could also be the case that clinicians who have been practicing in the field for some time tend to respond to workshop trainings in a manner different than that of their less pedigreed peers. Finally, in terms of limitations, it is worth noting that participants took assessments more than once, a factor that could have slightly influenced the results.

Discussion

Accepting these limitations, the robust results from this study raise several points for discussion. There are two reasonable explanations for why preservice mental health clinicians' knowledge increased during the study. One explanation is that counselors were presented with new material during the training, causing a loss of equilibrium. Acquisition of a new skill set could have occurred as participants adjusted to this loss of equilibrium, thus creating a new cognitive schema. A second explanation is that participants became more knowledgeable by learning through the observation of modeling during the training. Throughout the training, the trainer provided examples of IPT application to clinical practice, constituting modeling that presented a learning opportunity for students.

There are also two explanations for this study's indication of decreased self-efficacy across the preservice mental health clinician population. First, it is possible participants came into this experience with a false sense of their own knowledge and awareness in terms of suicide

assessment—believing, in other words, that they knew more than they did. After completing the training, students could have realized they did not know what they thought they knew, or as much as they thought they knew, and could have, therefore, registered a decrease in their overall self-efficacy. A second explanation might be that participants believed the IPT model was too advanced for them and assumed utilizing it would not be a realizable or realistic goal. Students might have, in other words, declined in expressed self-efficacy following a training period that they believed was too difficult. Of these two proposed explanations, the first account seems most plausible. The literature on IPT strongly supports it as an accessible tool and model for clinicians of various stripes.

Recommendations

Rounding out this summary of the first study are some recommendations for how to make the best use of these findings. Students in graduate mental health programs lack the knowledge and confidence to accurately assess suicide risk, and so future clinicians and practitioners need workable models of suicide assessment that they can use right away, regardless of their subfield or the specialty they might be entering. This study demonstrated that students can learn IPT-based suicide-assessment techniques through a brief, remote, online-training platform. Online training is cost-effective and easily accessible, especially as more educational institutions move to online degree programs, and these results make it clear that IPT-based suicide-assessment protocols should be part of the larger transition to online-oriented learning and training.

Summary of the Second Study

As was the case with the first study, the second study in this dissertation used a nonconcurrent, multiple-baseline, multiple-probe approach to assess the impact of suicide-

assessment training. Here, however, the subject of inquiry was rural K–12 school counselors. Thomas Joiner’s IPT was the centerpiece of this investigation, as it was in the preceding examination of preservice mental health clinicians; but, in the case of the second study, the specific question considered was: What is the impact of IPT-based suicide-assessment training on both the knowledge of IPT-based suicide assessment and the suicide intervention self-efficacy of rural K–12 school counselors? As in the above summary of the first study, the following sections will review the findings of this research, before turning to a consideration of the limitations of this work, the implications of these data, and recommendations for what to do with this information.

Findings

A Wilcoxon signed rank test helped determine whether knowledge scores increased after the intervention of suicide-assessment training. The results were similar to those outlined in the first study. For a lower-tailed Wilcoxon signed rank test, $W^+ = 0$, $W = 14$, and $p = 0.0018 < 0.05$. This demonstrated significant evidence against the null hypothesis, in favor of the alternative. In other words, intervention was likely associated with increased test scores.

A NAP helped to assess changes in student self-efficacy during the study, and the scores for Groups A, B, and C in the rural sample were 62.5%, 50%, and 12.5%, respectively. Interpretation of these statistics varied based on their corresponding 95% confidence intervals: (0.38,0.87), (0,1), and (0,0.38). Group A indicated a very small treatment effect in the positive direction; however, the true direction of this effect (if one exists at all) could not be reliably inferred from these data, because Group A had many pairwise ties and the confidence interval contained 0.5. For Group B, the NAP value suggested no treatment effect. Unfortunately, the corresponding confidence interval was prohibitively wide due to a small sample size, thus

offering no additional insights. Lastly, there was a moderate negative effect size in Group C. When considering all groups together, there was likely no outstanding treatment effect; that is, there was no evidence of intervention influencing self-efficacy in the rural population. Visual inspection of the timeseries plots confirmed this conclusion.

Limitations

This study also suffered potential limitations of history, generalizability, and testing. On the first front, regarding history, school counselors could have been trained on suicide assessment, formally or informally, during the time between the testing procedures, thus leading to contamination. Suicide prevention, as a topic, is becoming more prevalent within mainstream media, and various school-based programs address suicide assessment in academic settings. Any education on suicide offered to participants within their school districts during this study could have, therefore, impacted outcome results. In terms of the second limitation, results from this study might not extend to others working in school counseling, because these participants were K–12 professionals working in rural environments. Counselors focusing on other age ranges or those working in urban settings verily face different challenges and could have responded differently to training. Finally, participants took assessments more than once, which could have influenced their results.

Discussion

There are two plausible explanations for the demonstrated increase in rural K–12 school counselor knowledge revealed by this study. First, counselors received new material, leading to a loss of equilibrium, calling on them to create a new cognitive schema, and facilitating the acquisition of a new skill set. Second, counselors learned through modeling. During the training, that is, a therapist gave examples of how the material might be applied to actual clinical settings,

and participants recognized this practical application. Seeing someone in the mental health field utilizing the IPT model allowed counselors to learn how to do so themselves. Weighing the two explanations for these results, the first option makes the most sense, given that the modeling set forth during the training was not significant enough for genuine skill acquisition.

Turning to the second major finding, that of self-efficacy showing little change among this population, several explanations are apt. The first accepts that participants were already practicing clinicians. Thus, the self-efficacy of these counselors—those currently working in the field—could have been developed already and thus unlikely to change during a brief, three-session training. A second explanation proposes that participants felt they were already using the skills and knowledge presented in the IPT training—and thus registered no real change in expressed self-efficacy. Finally, it is possible that multimedia influences impacted the possibility for any change in self-efficacy. Participants might have felt confused or less engaged by the multimedia platform, meaning they languished in a sub-par training environment. Of these options, the first proposal seems most plausible; participants reported that, for them, IPT was something new, and there were few, if any, questions or complaints about the remote, multimedia training platform.

Recommendations

Rural areas are unique because of their easy access to firearms, for both sport and protection. Suicide attempts by firearm are more lethal than are attempts carried out by any other method. Having firearms readily accessible increases the number of completed suicides; many people are, however, unaware of this fact (Rand Corporation, n.d.). Training addressing access to lethal means of self-harm could help educate those living in rural communities without seeming to suggest that residents cannot or should not keep guns in the home for self-defense. An

approach like this, separating the issue of prevention from that of protection, should provoke less of a defensive response from gun owners. This type of training can easily be accomplished through an online platform, allowing information to reach more remote areas and communities.

Thematic Links and Contributions to Knowledge

The thematic link between these studies is that they both utilize IPT training workshops to increase the knowledge, attention, perception, and awareness of individuals who are likely to come in contact with people at risk for suicide. Taken together, these studies add to the current knowledge base in this research arena by showing how gaps in suicide assessment and understanding can be filled. The first study showed the research community, through data, how preservice mental health clinicians can better understand and build a more established platform from which to assess their future clients. The second study identified ways rural education systems can increase their ability to successfully assess students who might be at risk for attempting or completing suicide.

Recommendations for Future Research

Most of my clinical work has been in crisis intervention, forensic psychology, and suicide assessment. Currently, I work alongside law enforcement; thus, I see my future research involving mental health and law enforcement, while building on my foundation in crisis work. I would like my research to inform training and education for law enforcement and their families. Being a clinician stationed within a sheriff's office, and spending 10-hour shifts in a patrol car with police, has given me a unique view of law enforcement. The Federal Bureau of Investigation (FBI) website contains an article focusing on the years 2008–2012 and finding that, during that period, 2 times as many officers took their own lives as were killed by felons

(Nanavaty, 2015). These numbers do not include officers who completed suicide after retirement—an outcome likely due, at least in part, to stress incurred during their law enforcement careers. In my view, researchers can and should extrapolate from law enforcement suicides to focus on larger themes of police burnout and compassion fatigue.

Thomas Joiner's IPT, the theory driving the studies presented in this dissertation, can help explain why law enforcement officers might be at greater risk of attempting suicide than are individuals in the general population. Police are exposed to and take part in violence; and constant involvement in or association with violence, whether directed toward officers or not, increases the acquired capability of those in the field. Police work is unlike any other occupation, and the job can be isolating. Public safety is difficult to maintain, and the challenges officers face are hard to appreciate unless experienced firsthand. Although treatment most often focuses on increasing belongingness and decreasing burdensomeness, future research could also explore how static acquired capability is and whether there are interventions that might impact this factor.

Adding to a possible sense of isolation is society's increasingly negative view of law enforcement and the microscope under which officers often work. The ongoing strain of an "us vs. them" mentality can lead to a sense of thwarted belongingness, at least in terms of interactions beyond those of first-responder peers. Many people struggle to leave work stress at work; police are the same, especially if they patrol the community in which they reside. When work stress affects their personal lives, officers could feel they are a burden to those around them. This burden could look like an injury on the job and could mean the inability to return to work and provide, financially, for dependents; however, it most often presents as strained relationships with spouses, as well as other family and friends.

Many deputies have come to me with concerns about their marriage, and anyone who has worked in this environment knows that extramarital affairs run rampant among law enforcement communities. A 2015 study (Karaffa et al.) found that the two main issues contributing to police marriage discord were concerns about finances and work-family conflict—that is, situations where role expectations at work are incompatible with role expectations within the family. My experience has been that, not only is it difficult to leave the stress of a 10-hour police shift at work, thus impacting home life, it is hard for officers to reach out to others in the field for support in dealing with the unique traumas experienced on the job. Along these lines, researchers writing in the *Journal of Organizational Behavior* surveyed 177 metropolitan police officers and their spouses and found that officers' coping strategies often move toward drinking, divorce, and suicide (Beehr, Johnson, & Nieva, 1995). Further research is necessary, particularly focusing on what life looks like for officers when they are off duty. We need deputies and officers who are as healthy as possible, both physically and mentally, so they can function well and meet the high expectations we hold for them.

I can see myself writing about law enforcement suicide and burnout in book chapters or journal articles, however my passion is in translating research into practical training opportunities. Police culture is often slow to evolve, but change is possible. Administrators within public safety agencies realize they need to take better care of their frontline staff, but they may not know how to do that. From my experience, police are unlikely to buy in to “self-care.” There is still a culture of *Just rub some dirt on it and move on*. Researchers and practitioners must meet police where they are, addressing their concerns about work/life balance, inquiring of them how best to assist in making improvements, and developing the trust necessary to facilitate ongoing support and education. A combination of quantitative and qualitative research could

answer some of these questions. I have worked alongside some amazing law enforcement officers who kept me safe while I helped people in crisis. In recognition of their daily contributions to our communities, I want to use my training and education to return the favor.

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Appendices

Appendix A: Copy of IRB Approval Documents



Human Research Protection Program

Institutional Review Board

Office of Research Integrity

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**EXEMPT
DETERMINATION**

Date of Notification	06/02/2017	Date Acknowledged	06/01/2017
Principal Investigator	Cass Dykeman	Study ID	7219
Study Title	Training Counselors to Conduct Suicide Assessment: Interpersonal-Psychological Theory (IPT) Workshops		
Study Team Members	Teal Bohrer, Debbie Rubel		
Review Level	Exempt	Category(ies)	2
Submission Type	Project Revision		
Funding Source	None	PI on Funding	N/A
Proposal #	N/A	Cayuse #	N/A

The above referenced study was reviewed by the OSU Human Research Protection Program (HRPP) office and determined to be exempt from full board review.

EXPIRATION DATE: 02/21/2021

The exemption is valid for **5 years** from the date of approval.

Annual renewals are not required. If the research extends beyond the expiration date, the investigator must request a new exemption. Investigators should submit a final report to the HRPP office if the project is completed prior to the 5 year term.

Appendix B: IPT Knowledge Scale

IPT Knowledge Scale

1. _____ is the term for the variable that separates individuals who desire to die by suicide but do not attempt (or do so using a very low lethality method), from those who actually make a nearly lethal attempt or die by suicide. [AC]
 - a. Acquired lethality.
 - b. Suicidality habituation.
 - c. Acquired capability. *
 - d. Successive capacity.
2. Individuals who experience dysregulated emotions may develop thoughts of suicide due to an internalized sense of being _____. [PB]
 - a. A burden on others. *
 - b. Socially disconnected.
 - c. Out of control.
 - d. Socially awkward.
3. _____ is the term for a psychologically-painful mental state that results when the fundamental need for connectedness is unmet. [TB]
 - a. Excessive reassurance.
 - b. Perceived loneliness.
 - c. Thwarted belongingness. *
 - d. Prolonged disconnectedness.
4. The process of habituation to painful or provocative events that increases one's capacity to engage in lethal self-injury is known as _____. [AC]
 - a. Acquired lethality.
 - b. Suicidality habituation.
 - c. Acquired capability. *
 - d. Successive capacity.
5. Which of the following terms is best represented by a client statement such as: "My death will be worth more than my life to my family." [PB]
 - a. Acquired dependency.
 - b. Perceived burdensomeness. *
 - c. Failed altruism.
 - d. Prolonged alienation.
6. Which of the following terms is reflected in a client statement such as: "I feel like I don't belong" [TB]
 - a. Acquired alienation.
 - b. Induced loneliness.
 - c. Thwarted belongingness. *
 - d. Prolonged alienation.

7. Which of the following is not an effective crisis intervention based on Joiner's IPT?

[Assessment]

- a. No-harm contract. *
 - b. Commitment to treatment statement.
 - c. Hospitalization.
 - d. Removing access to lethal means.
8. The most important element in the construction of a Crisis Card is inclusion of _____.

[Assessment]

- a. Emergency phone numbers.
- b. Pleasurable active activities. *
- c. Pleasurable passive activities.
- d. Thought-stopping techniques.

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