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EXPANDING OUR UNDERSTANDING OF HELP-SEEKING BEHAVIOR: IMPLICATIONS
FOR OLDER ADULTS AT ELEVATED RISK OF SUICIDE

by

AFROZE N. SHAIKH

Under the Direction of Catherine Y. Chang

ABSTRACT

Suicide is a serious public health concern, especially among older adults who present with historically high rates of suicide (CDC, 2023). Despite these disproportionate rates of suicide, little research has examined help-seeking behavior among older adults at risk of suicide (Wang et al., 2023). By furthering our understanding of facilitators and barriers to service use among older adults, we can work to inform targeted strategies to promote engagement with services. The primary aim of the present study was therefore to examine predictors of help-seeking behavior among older adults at risk of suicide using the Andersen Behavioral Model of Health Services Use (Andersen, 1995). This cross-sectional, quantitative analysis included a national sample of 806 older adults. Roughly half the sample met at least one clinical cutoff

score for distress due to suicide, however, the majority of participants did not receive services for mental health or suicide concerns over the past year. Age, income, and access to care all served as predictors of proximal suicide risk factors. Further, the odds of engaging in help-seeking behavior among participants at elevated risk of suicide was associated with suicide behavior, psychological distress, and pain-related emotional burden. Overall, these findings emphasize the current need to address belongingness and low mental health service use among older adults.

INDEX WORDS: help-seeking behavior, suicide, older adults, mental health service use, Andersen Behavioral Model of Health Services Use

EXPANDING OUR UNDERSTANDING OF HELP-SEEKING BEHAVIOR: IMPLICATIONS
FOR OLDER ADULTS AT ELEVATED RISK OF SUICIDE

by

AFROZE N. SHAIKH

A Dissertation

Presented in Partial Fulfillment of Requirements for the

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in

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in

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in

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TABLE OF CONTENTS

LIST OF TABLES	iv
CHAPTER 1: PROFESSIONAL HELP-SEEKING BEHAVIOR FOR ADULTS AT RISK OF SUICIDE: A REVIEW OF APPLIED THEORIES TO UNDERSTAND HELP-SEEKING	1
HELP-SEEKING MODELS AND THEORIES	3
PREDICTORS OF PROFESSIONAL HELP-SEEKING BEHAVIOR FOR ADULTS AT RISK OF SUICIDE	15
IMPLICATIONS FOR COUSELORS AND DIRECTIONS FOR FUTURE RESEARCH	22
CONCLUSION	24
REFERENCES	26
CHAPTER 2: APPLICATION OF THE BEHAVIORAL MODEL OF HEALTH SERVICES USE TO ASSESS PREDICTORS OF PROFESSIONAL HELP-SEEKING BEHAVIOR AMONG OLDER ADULTS WITH SUICIDE DESIRE	43
THE BEHAVIORAL MODEL OF HEALTH SERVICES USE	44
SUMMARY	55
THE PROPOSED STUDY	56
METHODOLOGY	56
RESULTS	69
DISCUSSION	75

CONCLUSION	86
REFERENCES	88
APPENDICES	108
A.1 THE BEHAVIORAL MODEL OF HEALTH SERVICES USE	108
A.2 INFORMED CONSENT.....	109

LIST OF TABLES

Table 1. Characteristics of Participants.....	107
Table 2. Average Outcome Scores.....	109
Table 3. Pearson Correlations for Factors Associated with Perceived Burdensomeness and Thwarted Belongingness.....	112
Table 4. Pearson Correlations for Factors Associated with Help-Seeking Behavior.....	113
Table 5. Descriptive Statistics for Study Variables.....	114
Table 6. Linear Regression Model Summaries.....	115
Table 7. Factors Associated with Perceived Burdensomeness.....	116
Table 8. Factors Associated with Thwarted Belongingness.....	117
Table 9. Characteristics of Participants at Elevated Risk of Suicide.....	118
Table 10. Descriptive Statistics for the Adapted-MHSIS.....	120
Table 11. Factors Associated with Help-Seeking Behavior.....	121

CHAPTER 1: PROFESSIONAL HELP-SEEKING BEHAVIOR FOR ADULTS AT RISK OF SUICIDE: A REVIEW OF APPLIED THEORIES TO UNDERSTAND HELP-SEEKING

A growing body of literature has identified discrepancies between an individual's intention to seek help and the performance of said behavior (Armitage & Conner, 2001; Aseltine & DeMartino, 2004; Aseltine et al., 2007; McEachan et al., 2010; Orbell & Sheeran, 1998; Rickwood et al., 2005). More specifically, although an individual may have a positive *attitude* toward help-seeking and *intend* to seek help for suicidal thoughts, there are additional factors that impact their *behavior* to seek help (Aseltine & DeMartino, 2004; Aseltine et al., 2007; Michelmore & Hindley, 2012). Previous studies on help-seeking in relation to suicide have often lacked the guidance of theoretical models and frameworks (Aseltine & DeMartino, 2004; Encrenaz et al., 2012; Milner & De Leo, 2010; Reidenberg & Berman, 2022; Stringer et al., 2012), which can serve as a mechanism for understanding help-seeking behavior as a process or a pathway of decision-making. Further, the use of theory may be beneficial in order to promote positive health actions (Hom et al., 2015; Ogden, 2003), such as informing public health policy and messaging strategies by targeting specific constructs (Campbell et al., 1994). For example, Buckley and Malouff (2005) utilized the principles of cognitive learning theory to develop a video, which they found significantly increased positive attitudes toward mental health treatment. Help-seeking models may thus provide a greater understanding of barriers to care and considerations for mental health counselors in order to ensure individuals at risk of suicide receive necessary, life-saving support.

There also exists a lack of uniformity across models of help-seeking, with some models utilizing steps and stages, others viewing help-seeking as a dynamic process, and some assessing macro-level factors beyond the individual (Rickwood et al., 2005). Current models used to

predict help-seeking behavior may lack the necessary dimensions that could account for additional variance in behavior (Armitage & Conner, 2001; McEachan et al., 2010). Criticisms of models used in health psychology highlight the need for greater specificity of models in order to generate hypotheses around proposed constructs (Ogden, 2003). For example, a framework that has been shown fruitful in explaining condom use to prevent sexually transmitted diseases may not adequately predict help-seeking behavior for suicide.

A model of help-seeking behavior specific to suicidality and based on the current literature has the potential to fill a necessary gap, as opposed to adapting and expanding upon broader theories of behavior. Most models of help-seeking behavior were not developed with suicidality at the forefront, despite use in the literature (e.g. Chu et al., 2011; Stanley et al., 2015; Vasiliadis et al., 2022), therefore potentially missing key predictors as well as contributing to discrepancies between help-seeking intentions and behavior (Armitage & Conner, 2001; Aseltine & DeMartino, 2004; Aseltine et al., 2007; McEachan et al., 2010; Orbell & Sheeran, 1998; Rickwood et al., 2005). In addition, such a model has the potential to address low rates of help-seeking and service use for suicide documented in previous literature (e.g., Czyz et al., 2013; Hom et al., 2015) by identifying areas to target for various populations (Wills & Gibbons, 2009). This is especially important given the rising suicide rates in the United States (U.S.), particularly among adults (Centers for Disease Control and Prevention [CDC], 2023).

Suicide rates have continued to increase each year, barring a slight decrease from 2018-2020 (CDC, 2023). Middle-aged adults account for almost half of all suicides within the U.S., and people over the age of 75 have the highest rates of suicide in the country (CDC, 2022a). Despite these disproportionate rates of suicide, little research has examined help-seeking behavior among adults and older adults at risk of suicide (Wang et al., 2023). This review

provides an overview and critique of current models and theories commonly used to explain help-seeking behavior and their application to service use for individuals at risk of suicide.

Help-Seeking Models and Theories

In order to differentiate between models of health service utilization, approaches may be categorized as either dominant or dynamic (Pescosolido, 1991; Pescosolido & Boyer 1999, 2010). Dominant approaches, such as the Health Belief Model (Rosenstock, 1966), the Theory of Planned Behavior (Ajzen, 1991), and the Behavioral Model of Health Services Use (Andersen, 1968), identify factors that facilitate service use or help-seeking behavior (Pescosolido et al., 2013). Models that work through steps or stages (e.g., Cauce et al., 2002; Saunders & Bowersox, 2007) have been argued to be static or linear (Biddle et al., 2007; Pescosolido & Boyer 1999), with limited capacity to explain the complex mechanisms involved in help-seeking and disproportionate weight placed on barriers as the reason for lack of help-seeking (Biddle et al., 2007). Dynamic models, however, attend to the *process* of service use, including repeated service use and adherence to use, allowing individuals to enter the help-seeking pathway at various stages (Pescosolido et al., 1998; Pescosolido et al., 2013).

This review aims to examine both dominant and dynamic models of help-seeking, limitations to these models, and applications to service use for suicide. The identified models that have been used to understand the help-seeking behavior of individuals at risk of suicide include: the Health Belief Model (HBM; Rosenstock, 1966), the Theory of Planned Behavior (TPB; Ajzen, 1991), the Andersen Behavioral Model of Health Services Use (Andersen, 1968), the Integrated Model of Suicide Help-Seeking (Ko, 2018), and the 7-step model of mental health help-seeking (Saunders & Bowersox, 2007).

The Health Belief Model

The Health Belief Model (HBM; Rosenstock, 1966) is often used as a framework to understand health-related behaviors as determined by an individual's belief patterns (Carpenter, 2010). In other words, this model aims to explain why individuals engage or fail to engage in health-promoting behaviors, such as taking medication or quitting smoking. According to the HBM, individuals will be influenced to pursue a certain behavior based on their perceptions of an illness and treatment efficacy (Rosenstock, 1966). In the context of suicide risk, the action would be seeking help in relation to suicidal thoughts and/or behaviors. Individuals are likely to engage in a behavior based on their perceptions of: 1) risk of contracting the illness (perceived susceptibility); 2) seriousness of the consequences related to contracting the illness (perceived severity); 3) effectiveness of certain actions to reduce the threat of illness (perceived benefits); 4) obstacles to engage in certain actions to reduce the threat of illness (perceived barriers); and 5) confidence in their ability to engage in certain actions (Rosenstock, 1966).

Alongside these five constructs, the model includes cues to action and the addition of self-efficacy. In relation to suicide, cues to action, or triggers that motivate an individual to initiate actions to reduce the threat of illness (e.g. symptom intensity or media campaigns; Rosenstock, 1966), may include advice from a family member to seek care or an alarm reminder to take medication. Self-efficacy encompasses an individual's ability to perform a behavior (Rosenstock, 1966), which may manifest as an individual's belief that attending counseling will reduce their suicide desire. Oftentimes, however, researchers will not include one or both of these additional constructs when using the HBM framework to predict a behavior (Kim & Zane, 2017; Langley et al., 2018).

When examining the predictive validity of HBM constructs, scholars have included additional variables, such as social support (Nobiling & Maykrantz, 2017; O'Connor et al. 2014)

and health knowledge (O'Connor et al. 2014). These added factors play a less direct role in the model (Rosenstock 1990), yet have been identified as predictors of help-seeking and mental health service utilization among individuals who are suicidal (Downs & Eisenberg, 2012; Hom et al., 2015; Kim & Lee, 2017). O'Connor et al. (2014) found that perceived susceptibility, perceived severity, and general health motivation were not significant, unique predictors of mental health help-seeking intentions. Meta-analyses assessing the effectiveness of the HBM in predicting behavior have also identified low predictive power in some of the constructs. Harrison et al. (1992) posited that further research is required to determine the interactions among the model's constructs. Additionally, future studies could explore how constructs are operationalized (Castle et al., 1999), as well as the face validity of studies' selected instruments in measuring HBM constructs (Harrison et al., 1992). For example, one study included health knowledge as its own construct (O'Connor et al. 2014), whereas another operationalized perceived susceptibility as mental health literacy (Kim & Zane, 2017), thereby leading to inconsistency as to how the HBM dimensions are measured despite both studies assessing mental health help-seeking (Kim & Zane, 2017; O'Connor et al. 2014). Furthermore, Carpenter (2010) found that perceived benefits and barriers served as strong predictors of behavior, whereas severity and susceptibility were weak predictors.

Although the HBM has previously been used to assess help-seeking in relation to mental health concerns in general (Henshaw & Freedman-Doan, 2009; Kim & Zane, 2017; Langley et al., 2018; Nobiling & Maykrantz, 2017; O'Connor et al. 2014), it is less frequently used for suicidality. It is hypothesized that there may be limited variability in regard to severity, as suicide may be less frequently identified as a less than severe illness (Harrison et al. 1992). Czyz et al. (2013) assessed self-reported barriers to help-seeking behavior among college students at

elevated risk of suicide and reported their findings were consistent with the HBM: reported barriers to seeking professional help included perceiving help was not needed, lack of time, and preference for self-management. Overall, the HBM has commonly served as a useful framework to guide research regarding proactive health behaviors, yet further research is required to determine its utility in predicting health behaviors (Ogden, 2003), especially in relation to suicide and additional mental health concerns (Henshaw & Freedan-Doan, 2009).

The Theory of Planned Behavior

The Theory of Planned Behavior (TPB; Ajzen, 1991) is one of the most frequently applied theories in the health sciences (Bosnjak et al., 2020) and has been used to explain health behaviors and intentions across a wide array of topics and populations, including adults completing substance use treatment (Zemore & Ajzen, 2014), healthy eating behaviors among Native American youth (Fila & Smith, 2006), and utilization of mental health care services among veterans who served in Iraq (Stecker et al., 2007). According to the theory, individuals' intentions to perform a behavior is dependent on their motivation to engage in a behavior (intention) and ability to do so (behavioral control), though both of these predictors are not required in tandem for behavioral outcomes (Ajzen, 1991). Accordingly, an individual will be more likely to engage in a behavior, such as seeking help for suicidality, if they have a stronger intention, or motivation, to engage in that behavior (Ajzen, 1991). Further, an individual's intentions are determined by their: 1) evaluation of outcomes for performing a behavior (attitude toward a behavior); 2) perceived social pressure to perform a behavior (subjective norms); and 3) perceived ability to perform a behavior (perceived behavioral control).

However, an individual's ability to engage in a specific behavior is also related to their help-seeking. The TPB serves as an extension of the Theory of Reasoned Action (Ajzen &

Fishbein, 1980; Fishbein & Ajzen, 1975) in that it identifies *perceived* behavioral control as a critical factor, and defines this as separate from *actual* behavior control. Although actual behavior control includes factors such as resources or opportunities that may influence the likelihood of performing a behavior, perceived behavioral control refers to one's perception of their ability to perform a behavior based on the ease or difficulty of engaging in said behavior (Ajzen, 1991). The TPB, however, acknowledges variability across contexts and behaviors; therefore, not all intentions may be predicted by all three constructs (Ajzen, 1991).

Recent works have begun to adjust and expand upon the current TPB model in order to account for additional interactions and variables to explain behavior (e.g., Canova & Manganelli, 2020; La Barbera & Ajzen, 2020; Willis et al., 2020). For example, self-efficacy (Hagger et al., 2002) and past behavior (Hagger et al., 2002; McEachan et al., 2010) have been identified as important predictors that should be added to the model. Further, meta-analytic reviews exploring the efficacy of the TPB have had varied results. Armitage and Conner (2001) found that the TPB accounted for 39% of the variance in intention and 27% of the variance in behavior across studies. When considering health-related behaviors, McEachan et al. (2009) identified that the TPB accounted for 44.3% of the variance in intention and 19.3% of the variance in behavior. The discrepancies between variation in intention and behavior accounted for by the TPB presents a significant limitation, as individuals may have the intention to perform a behavior but fail to do so (Orbell & Sheeran, 1998). For example, an individual may intend to seek help for suicide desire but encounter barriers following through on the intention, such as lacking the necessary transportation means to see a provider or the physical or cognitive capacity to contact a provider without support. Based on the model, the discrepancy between the variance in intention and behavior would therefore be accounted for in totality by actual behavioral control (Ajzen, 1991),

yet the construct remains largely unspecified and therefore is challenging to represent in research.

Multiple scholars have applied the TPB to explain individuals' intentions to intervene and support others at risk of suicide (Aldrich, 2015; Aldrich & Cerel, 2009; Cox, 2021; Kuhlman et al., 2017). Little research, however, has used this model to focus on the individual at risk of suicide and to understand their help-seeking behavior. A potential explanation may be the lack of specified factors that have been previously identified as predictive of mental health service use. For example, past suicide behavior has significantly predicted help-seeking intentions (Reynders et al., 2015) and behavior (Mackenzie et al., 2010), thereby serving as an important construct absent from the original TPB.

The Behavioral Model of Health Services Use

The Andersen Behavioral Model of Health Services Use (Andersen, 1968; Appendix A.1) was developed in order to examine determinants of family health service use, including *predisposing*, *enabling*, and *need* factors. Predisposing factors include demographic characteristics, social structures, and health beliefs that influence health service use. For example, age and gender may be characteristics that require individuals to use services. Social structures include resources and an individual's ability to cope within their physical environment. Lastly, health beliefs encompass attitudes, values, and knowledge that influence the perceived need to use services. Enabling factors include personal and community resources that allow for access to service use, including means of transportation, health insurance, and knowledge of services (Andersen, 1995). Whereas some scholars argue the model does not account for social relationships (Pescosolido, 1992), Andersen (1995) notes that this concept serves as an enabling resource. Finally, need factors consist of the perceived need and evaluated

need for care. This includes an individual's perception of their health and how they experience their symptoms (Andersen, 1995).

This model has since been revised, adapted, expanded, and refined numerous times (Aday & Andersen, 1974; Andersen, 1995; Andersen, 2008; Andersen et al., 1995; Andersen et al., 1970; Andersen & Newman, 1973; Andersen & Davidson, 2001). These changes shifted the focus of the model toward individual consumers and equitable healthcare access (Andersen, 1968). There is a substantial body of evidence for this theory of health service utilization. Prior studies have used this framework in assessing mental health service use among individuals with depression (Graham et al., 2017; Schomerus et al., 2013), anxiety (Byers et al., 2012; Scott et al., 2010), and suicidal ideation and/or behaviors (Alonzo; 2016; Freedenthal, 2007; Nam et al., 2018; Pagura et al., 2009; Stanley et al., 2015; Vasiliadis et al., 2022). Discrepancies in predictors of service use may be accounted for by the use of different versions of the model, leading to differences in how studies have categorized variables between the predisposing, enabling, and need factors (Babitsch et al., 2012). This emphasizes the need for greater specificity among constructs when assessing help-seeking behavior in relation to suicide through this framework (Ogden, 2003).

In regard to suicidality, predisposing factors have included sex (Nam et al., 2018; Stanley et al., 2015; Vasiliadis et al., 2022), race/ethnicity (Freedenthal, 2007; Nam et al., 2018; Stanley et al., 2015; Vasiliadis et al., 2022), age (Alonzo; 2016; Stanley et al., 2015; Vasiliadis et al., 2022), gender (Alonzo; 2016; Stanley et al., 2015), sexual orientation (Nam et al., 2018; Vasiliadis et al., 2022), marital status (Stanley et al., 2015; Vasiliadis et al., 2022), education (Vasiliadis et al., 2022), veteran status (Stanley et al., 2015), and mental health stigma (Nam et al., 2018). Enabling factors have included income (Alonzo; 2016; Freedenthal, 2007; Nam et al.,

2018; Stanley et al., 2015; Vasiliadis et al., 2022), employment status (Vasiliadis et al., 2022) barriers to care (Alonzo; 2016; Pagura et al., 2009), health insurance (Alonzo; 2016; Freedenthal, 2007; Stanley et al., 2015; Vasiliadis et al., 2022), and urbanicity (Freedenthal, 2007; Vasiliadis et al., 2022). Lastly, need factors included the presence of psychiatric disorders (Freedenthal, 2007; Nam et al., 2018; Pagura et al., 2009; Vasiliadis et al., 2022), psychological distress (Nam et al., 2018; Stanley et al., 2015), suicidal ideation (Nam et al., 2018; Stanley et al., 2015; Vasiliadis et al., 2022), suicide behaviors (Nam et al., 2018; Pagura et al., 2009; Vasiliadis et al., 2022), perceived health (Alonzo; 2016; Vasiliadis et al., 2022) and perceived need (Pagura et al., 2009; Nam et al., 2018). Although this is not an exhaustive account of all predisposing, enabling, and need factors in relation to suicidality, this does provide indication of the numerous factors that may be considered, as well as the variation in how constructs are operationalized (Babitsch et al., 2012).

The Integrated Model of Suicide Help-Seeking

Cauce et al. (2002) attempted to address the necessary addition of cultural and contextual factors, while exploring the mental health help-seeking process of ethnic minority adolescents. The three stages of the help-seeking pathway include 1) problem recognition, 2) the decision to seek help, and 3) the selection of a help provider. This framework has been used to assess help-seeking for suicidality, with low rates of help-seeking attributed to low perceived need (Chu et al., 2011) and fewer decisions to seek help (Chu et al., 2011).

Ko (2018) further expanded on this model to understand help-seeking as a process-oriented model. This is the only model to date that specifically addressed help-seeking behavior among adults with suicidal ideation. The Integrated Model of Suicide Help-Seeking (Ko, 2018) infuses the principles of The Andersen Behavioral Model of Health Services Use (Andersen,

1995; Andersen, 2008) into the framework of the three-stage model of mental help-seeking (Cauce et al., 2002). In this regard, predisposing and enabling factors influence one's progress in the decision-making pathway (Ko, 2018). More specifically, predisposing and enabling factors will lead to the transition from a perceived need to problem recognition, problem recognition to the decision to seek help, and the decision to seek help to service selection (Ko, 2018). Given the novelty of this model, further research is required to determine applicability across populations, including groups that may be more vulnerable and have fewer enabling resources.

The Integrated Model of Suicide Help-Seeking (Ko, 2018) combines useful aspects of The Andersen Behavioral Model of Health Services Use (Andersen, 1995; Andersen, 2008) and the three-stage model of mental help-seeking (Cauce et al., 2002), while also negating key tenets of other theories. For example, attitudes toward seeking help, as identified in the TPB (Ajzen, 1991), has been identified as a significant predictor of help-seeking behavior (Carlton & Deane, 2000; Downs & Eisenberg; Stanley et al., 2015). This thereby suggests the potential need for additional stages within the help-seeking pathway to account for the development of attitudes and health beliefs.

The Process of Seeking Treatment for Mental Health Problems

This matter was addressed in the development of a 7-step model of mental health help-seeking (Saunders & Bowersox, 2007). Saunders and Bowersox (2007) continued to view help-seeking as a process consisting of multiple distinct steps: 1) recognize that there is a problem; 2) decide the problem is mental health related; 3) decide change is needed; 4) make efforts to effect change; 5) decide professional help is needed to effect change; 6) decide to seek professional help; and 7) seek professional help. In addition, this model accounts for deviations to those processes, as well as factors associated with each step (Saunders & Bowersox, 2007).

Ko (2018) argued that the three-stage model of mental help-seeking (Cauce et al., 2002) lacked clarity regarding potential factors that may impact each step. Although this 7-step model of mental health help-seeking (Saunders & Bowersox, 2007) considers these potential factors (e.g. insight, distress, social support for change), they are not incorporated into the model in a way that accounts for relationships between these factors. For example, although attitude toward mental health treatment is considered a factor associated with Step 5, there is not a mechanism of understanding how these attitudes develop, which is essential in targeting the alternative decisions and actions (i.e. continue change efforts; cease change efforts; modify efforts; return to denial) made in this step (Saunders & Bowersox, 2007). Expansions to this model may consider infusing concepts from other models, such as the Integrative Model of Attitudes Towards Seeking Psychological Help (Hantzi et al., 2019), in order to provide further explanation of the factors associated with each step.

In relation to help-seeking intentions for suicidal ideation, Wilson and Deane (2009) suggested that suicidal ideation impedes the help-seeking process, and has the greatest impact on the planning and action steps (Steps 4-6). As suicidal ideation increased, university students' intentions to seek help for suicidal thoughts from both informal and formal help-sources decreased (Wilson and Deane, 2009). If indeed intention is a predictor of help-seeking behavior (Armitage & Conner, 2001), and suicidal ideation negatively impacts intention, suicidal ideation may therefore indirectly decrease help-seeking behavior. This suggests further research is required to understand when individuals are most likely to seek help based on where they are situated in the suicide pathway, as opposed to viewing seeking care as an inevitable endpoint (Biddle et al., 2007).

Strengths and Limitations of Current Models

As demonstrated, both dominant and dynamic models have been used to understand the help-seeking behavior of individuals at risk of suicide. The outlined models above provide useful guidance to further our understanding of help-seeking and relative factors. The individual models possess varied strengths, such as the attention to cultural factors (Cauce et al., 2002), viewing help-seeking as a process (Biddle et al., 2007; Ko, 2018; Saunders & Bowersox, 2007), and specifying the stages of help-seeking (Cauce et al., 2002; Ko, 2018; Saunders & Bowersox, 2007); however, there remain limitations across the models, as there are dimensions of help-seeking that are not considered, especially in relation to suicidality. Further, help-seeking is often modeled as a rational process. This thus has the potential to negate the impact of an individual's cognitive state, which is especially important to consider among individuals with active suicidality (Wills & Gibbons, 2009; Wilson & Deane, 2010).

Despite these limitations, Ogden (2003) argued that scholars may be less likely to examine the validity of a help-seeking theory and instead question their own study, such as how constructs are operationalized, when their results are incongruent with theoretical assumptions. Future research should approach theoretical frameworks with a critical lens that allows for rejection and challenge of models. This is especially important when assessing the help-seeking of marginalized groups who are excluded from the literature (Hussain-Gambles et al., 2004) and therefore may not have been considered during theory development.

Although help-seeking frameworks help researchers and practitioners understand factors that influence health outcomes on communal and societal levels, they often encompass a deficit-based model that identifies barriers faced by the individual, without acknowledging the historical and contextual factors that led to current attitudes and intentions. Tambling et al. (2022) suggested reframing barriers to help-seeking that are faced by clients as social determinants, that

require effort on the part of providers and systems to address. The use of a social-ecological model to assess help-seeking determinants across multiple levels allows for greater targets of intervention, including policies and procedures, such as education and health literacy access and insurance coverage (Alegria et al., 2012), that have historically led to unequal access and exclusion from health systems (Bowdler & Harris, 2022).

Another limitation lies in assessing help-seeking. There are multiple measures of help-seeking, such as the Attitudes Toward Seeking Professional Psychological Help short form scale (ATSPPH-SF; Fischer & Farina, 1995), the Mental Help Seeking Intention Scale (MHSIS; Hammer, 2018), and the General Help-Seeking Questionnaire (GHSQ; Wilson et al., 2005); however, the literature lacks a valid and reliable measure that adequately assesses help-seeking behavior. Based on Yonemoto and Kawashima's (2023) systematic review, it is evident that studies often reduce help-seeking behavior into a single-item, binary outcome measure of if an individual sought help or not. Confining help-seeking behavior into a single item of service use may minimize the behaviors enacted by individuals to seek help. For example, someone may attempt to seek help (e.g. calling a provider to schedule an appointment) but end up not receiving professional services due to systemic barriers (e.g. being put on a waitlist). Help-seeking behavior is therefore multifaceted beyond just service utilization. Professional help-seeking behavior for suicidal thoughts may include walking to a college counseling center, researching available providers, or taking prescription medications. Further, minimizing behavior into a dichotomous item may lend to the lack of variability between help-seeking intentions and behavior that has been documented in the literature (Aseltine & DeMartino, 2004; Aseltine et al., 2007; Michelmore & Hindley, 2012). There is therefore a need for a measure of help-seeking behavior for suicidality that captures the complex nature of behavior. In addition, further

research is required to validate this model across samples, including individuals with marginalized identities who are often excluded from the literature (Hussain-Gambles et al., 2004; Larson, 1994), yet experience suicide (CDC, 2022a) and mental health service use (Byers et al., 2012; Chow et al., 2003) at disproportionate rates.

Predictors of Professional Help-Seeking Behavior for Adults at Risk of Suicide

Future frameworks for understanding help-seeking behavior for suicide should include empirically-supported predictors to address some of the aforementioned limitations. Middle-aged and older adults present with significant risk of suicide (CDC, 2022a), yet there is a dearth of research exploring help-seeking behavior within this population (Wang et al., 2023). Thus emphasizing a critical need to determine facilitators and barriers to service use and treatment for suicidality that influence the help-seeking pathway in adults. These efforts have implications to inform practical efforts toward understanding help-seeking by identifying targets for interventions, public policy, and messaging strategies. For example, if suicide stigma is identified as a facilitator of help-seeking behavior, efforts should focus on increasing public knowledge around suicide. This section aims to provide an understanding of evidence-based factors that promote and inhibit service use in order to aid in the specificity of a model of help-seeking behavior for adults at risk of suicide.

Mental Health History

Multiple mental health factors appear to be influential in the help-seeking process. Among individuals with suicide ideation, mental health service use has been positively associated with poor general health (Stanley et al., 2015), depression (Kim & Lee, 2017; Vasiliadis et al., 2013), past suicide attempts (Han et al., 2016; Kim & Lee, 2017), and more severe psychological distress (Stanley et al., 2015). In addition, suicidal ideation had positive

associations with increased mental health service use (Mok et al., 2020; Vasiliadis et al., 2013) and antidepressant use (Vasiliadis et al., 2013) among adults in France (Vasiliadis et al., 2013) and Australia (Mok et al., 2020). Han et al. (2016), however identified low rates of service use for adults in Korea with suicidal ideation, which may be explained by cultural contexts that influence help-seeking attitudes and intentions. Among data collected through the Korean Community Health Survey (KCHS) conducted by the Korea Centers for Disease Control and Prevention, smoking status and frequency of alcohol use were significantly associated with the use of mental health services for suicidal ideation (Kim & Lee, 2017). Furthermore, treatment history significantly predicted receiving some form of treatment among individuals who engaged in suicidal behavior (Bruffaerts et al., 2011). Milner and De Leo (2010) compared service use among individuals with past suicide attempts and found that individuals who had previously received treatment were more likely to report a history of psychological problems, previous suicide attempts, and help-seeking behaviors. These findings indicate the significant influence of mental health factors on service use and help-seeking behavior, as well as the potential for unmet mental health concerns in adults at risk of suicide.

Contextual Factors

Individuals with suicidal thoughts reported structural barriers to health service use, including financial concerns, accessibility, transportation means, and the inconvenience of attending treatment (Bruffaerts et al., 2011). These factors have significant implications for individuals who live in rural areas with less access to resources and those with disabilities or conditions that impact their ability to commute, such as older adults who are homebound. Corna et al. (2010) noted the impact of social support among community-dwelling older adults, with those reporting more support less likely to use services. Among college students with suicidal

ideation, correlates of treatment use include higher perceived stigma and fewer positive relationships (Downs & Eisenberg, 2012). In addition, frequent contact with friends was also associated with low mental health service use among Korean adults (Kim & Lee, 2017). These findings suggest greater efforts are required to promote connection and belonging, as well as training social networks to understand and identify suicide risk factors.

Intrapersonal Factors

Reported barriers to treatment for individuals with suicidal ideation have included wanting to handle the problem on their own (Bruffaerts et al., 2011), not perceiving a need for treatment (Bruffaerts et al., 2011; Downs & Eisenberg, 2012; Mackenzie et al., 2010; Pagura et al., 2009), not viewing the problem as severe, doubting treatment efficacy (Bruffaerts et al., 2011), and stigma (Bruffaerts et al., 2011; Downs & Eisenberg, 2012). Across countries, however, stigma was less frequently reported as compared to other barriers among individuals with suicidal thoughts (Bruffaerts et al., 2011). Although stigma toward people who die by suicide has been identified as stronger predictor of help-seeking attitudes and help-seeking intentions for suicidal ideation (Calear et al., 2014), there is a lack of research exploring how it relates to help-seeking behavior for individuals at risk of suicide. Further research is thus required to determine the mechanism by which stigma influences treatment use among adults at risk of suicide.

Demographic Factors

Race and Ethnicity

Multiple studies have identified racial differences in help-seeking and mental health service utilization among individuals at elevated risk of suicide. Scholars have reported that individuals who identified as Asian, Black, and Latino/Hispanic had lower rates of service use as

compared to non-Hispanic White individuals (Downs & Eisenberg, 2012; Stanley et al., 2015). These differences may be accounted for based on the barriers or facilitators of care among racial groups. For example, Samlan et al. (2020) found that White college students with suicidal ideation were more likely to report time as a barrier as compared to Black students. Additionally, Latino students were more likely to report financial barriers than White students (Samlan et al., 2020). Wong et al. (2014) found that Asian American college students who had considered attempting suicide received advice from fewer individuals to seek professional help, as compared to White students, which was associated with lower odds of seeking help. Additional systemic factors may contribute to racial discrepancies in service use, such as access to quality healthcare (Alegría et al., 2008), health insurance (Alegría et al., 2008), racism and discrimination (Lee et al., 2009), culturally competent providers (Lin et al., 2018; Samlan et al., 2020), and providers that reflect the communities they serve (Lin et al., 2018). Further research is required to explore differences based on ethnic groups within racial demographics (Kim & Lee, 2022).

Gender and Sex

Sex and gender have often been reported as predictors of help-seeking for suicide, with males (Ko, 2018; Leavey et al., 2016; Milner & De Leo, 2010; Stanley et al., 2015) and men (Mok et al., 2020; Shaw & Chiang, 2019) less likely to seek help than females and women. Scholars, however, have found mixed results in regard to these constructs. Downs and Eisenberg (2012) identified no significant differences in mental health service or prescription medication use among college students with suicidal thoughts based on gender or sexual orientation. Similarly, Vasiliadis et al. (2013) identified no differences in service use based on sex among community-dwelling older adults with suicidal ideation. This thus lends to the notion of

intersectionality, as there may be gender differences among certain age groups or communities and not others, requiring further exploration of overlapping identities.

Discrepancies in treatment use may also be accounted for by the differences in barriers perceived among genders. Samlan et al. (2020) found that men in college with suicidal ideation were significantly more likely than women to prefer to deal with issues on their own, question how serious their needs are, not identify a need for services, and worry someone will inform their parents. Kim and Lee (2017) found that living in an urban area and being widowed were associated with low service use among males with suicidal ideation, whereas frequent contact with friends and low levels of religious activity were associated with low use among females. Furthermore, sex and gender are not always identified as separate constructs in the help-seeking literature (e.g., Vasiliadis et al., 2013), with gender often only consisting of men and women, therefore requiring further research to explore differences among various gender identities, especially gender minorities.

Sexual Orientation

There is a significant lack of research examining help-seeking behavior among sexual minorities, despite the heightened risk of suicide as compared to heterosexual adults (CDC, 2022b; Hottes, 2016). Among college students with suicidal thoughts, those who identified as sexual minorities were more likely to report treatment use, including therapy or medication, as compared to students who identified as heterosexual (Downs & Eisenberg, 2012). Further, a greater amount of White sexual minority adults were found to have sought mental health or medical treatment prior to a suicide attempt, than Black or Latino sexual minorities (Meyer et al., 2014). Barriers to care within this population include stigma, lack of culturally appropriate care, and previous negative and discriminatory mental health care experiences (Holt et al., 2023),

emphasizing the need to determine quality and affirming suicide prevention efforts for sexual minority populations.

Age

Scholars have found differences in behaviors based on age (Leavey et al., 2016), with younger adults with suicidal ideation more likely to engage in mental health service use (Kim & Lee, 2017), as compared to those aged 50 and above (Han et al., 2016). It has also been identified that there are discrepancies among age brackets. For example, younger older adults (aged 65 to 74) with suicidal ideation were found to be more likely to use antidepressants, as compared to those aged 75 and older (Vasiliadis et al., 2013). The findings suggest the need for further research to identify facilitators and barriers to service use among older adults with suicidal ideation to determine differences based on age within this demographic.

Marital Status

There are mixed findings in relation to the impact of marital status on help-seeking among adults with suicidal ideation. Stanley et al. (2015) identified no significant differences in service use among married and nonmarried individuals. Among Korean samples, however, being widowed has been significantly associated with underuse of mental health services (Han et al., 2016; Kim & Lee, 2017). Bruffaerts et al. (2011) also found that across the globe, those who had never married were significantly more likely to receive mental health treatment, whereas those who were married were significantly more likely to receive general health treatment. These findings suggest further exploration on national differences to determine the relationship between country of origin, marital status, and help-seeking.

Region and Urbanicity

Differences in help-seeking have been established based on country. Bruffaerts et al. (2011) found that treatment for suicidality was greatest in high-income countries (56%) as compared to middle- (28%) and low-income (17%) countries. Urbanicity is also influential. Kim et al. (2017) reported males living in urban areas were less likely to use mental health service as compared to those in rural areas. Barry et al. (2023), however, found that those living in rural areas were less likely to seek help from a psychiatrist or general practitioner. Interestingly, female adults living in rural areas that attempted suicide were more likely to visit an emergency department as compared to those in urban and small town areas, whereas males who attempted suicide in rural areas were least likely to visit an emergency department (Barry et al., 2023). Among adults in Ireland who died by suicide, individuals living in smaller towns were significantly less likely to contact a provider one year prior to their suicide compared to those living in urban areas (Leavey et al., 2016). However, Leavey et al. (2016) found no differences in contact within one or three months before suicide. These findings suggest the need for further investigation as to the impact of rurality, as individuals may be receiving inappropriate care that is based on convenience and their area of residence, such as the use of emergency departments (Barry et al., 2023). Additional research is required to assess the impact of urbanicity among adults at risk of suicide residing in the U.S. Differences based on region and urbanicity have implications for access to treatment, access to quality treatment, and allocation of resources to support individuals at risk of suicide in areas with fewer service connections (Bruffaerts et al., 2011).

Education and Income

There are different effects on mental health service use based on income and education among adults at risk of suicide. Higher education was associated with greater use mental

health services among adults with suicidal ideation in France (Vasiliadis et al., 2022) and Korea (Han et al., 2016; Kim & Lee, 2017). For example, adults with 10-12 years of education were less likely to use services than those with 13 or more years (Han et al., 2016). Bruffaerts et al. (2011) also found higher education and income predicted mental health treatment when assessing a representative sample of twenty-one countries. Among male community-dwelling older adults, however, higher income and education were associated with lower use of mental health services and antidepressants (Vasiliadis et al., 2013). Alternatively, Corna et al. (2010) found no significant effect of education or income on the likelihood of mental health service use among older adults. The findings have significant implications for mental health and suicide literacy, as well as the interaction between education, income, and age. Calear et al. (2014) found that higher suicide literacy was associated with more positive help-seeking attitudes and greater help-seeking intentions, however, further research is required to understand the impact of mental health and suicide literacy on help-seeking behaviors among adults at risk of suicide. These efforts thus have the potential to inform public messaging and psychoeducation programs, thereby increasing rates of service use.

Implications for Counselors and Directions for Future Research

Thus far, we are still developing our understanding of the multitude of factors that lend toward an individual's behavior to seek help for suicide. Our current understanding is based on models that may lack the foundation and factors necessary to assess help-seeking behavior for suicide, given the complex nature of suicidality. Further research is required in order to inform models that specifically address the complexity of suicide. The Integrated Model of Suicide Help-Seeking (Ko, 2018) provides promise in specifically addressing help-seeking behavior among adults with suicidal ideation, yet additional research is required to determine the validity

of this model among differing groups. For example, there is a lack of research on mental health service use among populations at greatest risk of suicide, such as LGBTQIA+ youth and older adults. Counselors and researchers should therefore utilize these models with a critical lens when applying to clients and populations of varying cultural backgrounds. Providers may also consider approaching these models with caution when applying to collective cultures that seek help as a community or from providers that may not have been considered within these models, such as a shaman or spiritual medium (Constantine et al., 2004). In addition, we require a greater understanding of the mechanisms of help-seeking among individuals with intersecting identities, such as sexual and gender minority older adults. Counselors should therefore be sure to explore clients' varying cultural identities, how these identities intersect, and structural barriers that disproportionately impact certain groups and result in lower help-seeking and greater deaths by suicide.

Although help-seeking frameworks help researchers and practitioners understand factors that influence health outcomes on communal and societal levels, they often encompass a deficit-based model that identifies barriers faced by the individual, without acknowledging the historical and contextual factors that led to current attitudes and intentions. Tambling et al. (2022) suggested reframing barriers to help-seeking that are faced by clients as social determinants, that require effort on the part of providers and systems to address. The use of a social-ecological model to assess help-seeking determinants across multiple levels allows for greater targets of intervention, including policies and procedures, such as education and health literacy access and insurance coverage (Alegria et al., 2012), that have historically led to unequal access and exclusion from health systems (Bowdler & Harris, 2022).

Premature discontinuation of mental health services is a crucial concern, with provider level of experience impacting continued service use (Swift & Greenberg, 2012). Clients may thus have only one opportunity to connect with a mental health provider during the initial intake session, which may impact future help-seeking behavior. This thus emphasizes the need to ensure counselors-in-training gain the necessary training and skills to engage in conversations on continuation of care and assess for suicidality across the lifespan. Counselors can consider using this opportunity to provide clients with resources and coping skills as early as their first session in order to mitigate suicide risk factors. Additionally, efforts on the part of counselors may extend beyond the counseling room in order to ensure individuals at risk of suicide are receiving the support they need. Previous research has highlighted that the majority of individuals who engage in suicidal behavior had made note of their intentions to someone in their lives (Owen et al., 2012) emphasizing the need to train lay people in suicide intervention. Additionally, psychoeducation on the signs of suicide, mental health resources, and the efficacy of counseling services may assist in bridging the gap between help-seeking intention and behavior.

Conclusion

Adults, especially those 65 and older, present with significant suicide risk (CDC, 2022), requiring a greater focus on efforts to ensure these individuals are seeking help from mental health professionals. However, because help-seeking intentions are often incongruent with behaviors, existing help-seeking models may not adequately explain how people access services for suicide prevention. This limits providers' abilities to engage with adults at the greatest risk of suicide. Individuals at risk of suicide may therefore encounter barriers to accessing health systems. Counselors and researchers can therefore work to engage in and with the community to learn new strategies to address these concerns. Current help-seeking models can provide

guidance in order to consider specific factors to assess for in the community, however further research is required to determine additional challenges that impact mental health service use for adults at risk of suicide.

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CHAPTER 2: APPLICATION OF THE BEHAVIORAL MODEL OF HEALTH SERVICES USE TO ASSESS PREDICTORS OF PROFESSIONAL HELP-SEEKING BEHAVIOR AMONG OLDER ADULTS AT ELEVATED RISK OF SUICIDE

Suicide is a serious public health concern (Centers for Disease Control and Prevention [CDC], 2023b), especially among older adults who present with historically high rates of death by suicide (CDC, 2023a). According to the CDC (2023a), 49,449 people died by suicide in the United States (U.S.) in 2022, with suicide rates highest among adults aged 85 and older. Older adults, or those aged 65 and older (National Institutes of Health, 2022), accounted for roughly 20% (10,433) of all suicide deaths (CDC, 2023a). This population has grown rapidly and is expected to account for 21% of the U.S. population by 2030 (Vespa, 2018). Given the disproportionate risk of suicide and the projected increase in population size, there is a critical need to explore the prevalence of current suicide risk and potential risk factors within this demographic.

Healthcare providers are on the frontline for suicide prevention and health promotion efforts. Mental health professionals, in particular, serve as a mechanism to alleviate suicide risk through the use of effective, evidence-based interventions (Substance Abuse and Mental Health Services Administration (SAMHSA), 2020). In addition, providers, such as mental health counselors (MHCs) and marriage and family therapists (MFTs), recently became eligible to bill Medicare for services, thereby opening up possibilities for older adults with Medicare to gain increased mental health care. There is, however, limited research that examines older adults' efforts to seek professional help, or their professional help-seeking behavior, when at risk of suicide (Wang et al. 2023). According to a systematic review conducted by Wang et al. (2023), older adults who attempted suicide were less engaged with mental health services, as compared to middle-aged adults. By furthering our understanding of facilitators and barriers to service use

among older adults, we can then work to inform targeted strategies to promote engagement with services. The primary aim of the present study was therefore to examine predictors of help-seeking behavior among older adults at elevated risk of suicide.

The Behavioral Model of Health Services Use

Studies that have assessed help-seeking among older adults with suicidal ideation have often lacked a guiding framework to conceptualize the factors that impact their behavior (Corna et al., 2010; Vasiliadis et al., 2013). The Andersen Behavioral Model of Health Services Use (Andersen, 1995; see Appendix A.1) provides said theoretical framework to understand health service use, which has been applied to various populations at risk of suicide, including adults in the United States (Nam et al., 2018; Stanley et al., 2015), Canada (Pagura et al., 2009), Hong Kong (Law et al., 2010), and France (Vasiliadis et al., 2022). This model posits that service use is influenced by three factors: predisposing, enabling, and need factors.

Predisposing Factors

Predisposing factors refer to demographic characteristics, social structure, and health beliefs, which have important implications for service use by influencing one's need for services (Andersen, 1995). The following predisposing factors will be discussed in this study: age, gender, race, education, and stigma toward suicide.

Age

Age is a crucial factor to consider, as scholars have suggested the potential for suicide rates to increase with age, even after age 65 (McKeown et al., 2011). Age has previously been examined as a predisposing factor to assess help-seeking in relation to suicide (Law et al., 2010; Stanley et al., 2015; Vasiliadis et al., 2022). Scholars have identified that older adults aged 65 to 75 were significantly less likely to report service use for mental health reasons, as compared to

younger adults, whether or not they experienced past-year suicidal ideation (Vasiliadis et al., 2022). Luoma et al. (2002) found that older adults had significantly higher rates of service engagement with primary care providers one month prior to suicide, as compared to younger adults, yet lower rates of contact with mental health services. In addition, younger community-dwelling older adults, aged 65 to 75, with suicidal ideation have also been shown to be more likely to use antidepressants than those aged 75 and older (Vasiliadis et al., 2013). These findings highlight the fact that older adults may be receiving some form of care, though lack specialized mental health services that are intentionally equipped to address and treat suicide within this population. Furthermore, ageism within healthcare settings may result in further impacts to help-seeking behavior as individuals get older (Polacsek et al., 2019).

Gender

Scholars have claimed to examine gender as a predisposing factor that influences mental health service use among adults with suicidal ideation (e.g., Law et al., 2010; Stanley et al., 2015); however, oftentimes this construct was misconstrued with sex. For example, when assessing gender differences among community dwelling older adults with suicidal ideation, scholars reported differences among male and female older adults (Vasiliadis et al., 2012). This misinterpretation of gender emphasizes the need for furthering our understanding of the impact of gender identity on help-seeking behavior. In relation to sex, males with suicidal ideation are reportedly less likely to use mental health services (Stanley et al., 2015; Vasiliadis et al., 2022). Among community-dwelling adults, there are mixed findings. Scholars have found that females with suicidal ideation were more likely to report mental health service use (Corna et al., 2010) and also a lack of association between sex and service use (Vasiliadis et al., 2012). For the purposes of this study, help-seeking behavior will be assessed across gender identities. Although

there is minimal research assessing gender differences in the help-seeking behavior of adults experiencing suicidality, scholars have found that older adult women experienced suicidal ideation more frequently than men (Koo et al., 2014). These findings highlight the need to determine if gender is indeed a predictor of help-seeking behavior, which may therefore be impacting the rates of reported ideation.

Race

Race has less commonly been utilized as a predisposing factor for help-seeking behavior among adults with suicidal ideation, likely due to the racial homogeneity within the countries that have examined this topic. Within the U.S., Nam et al. (2018) reported that race was not a significant predisposing factor associated with mental health service use among college students. Among older adults, the greatest reported rates of suicide are among White males (CDC, 2023c). Scholars argue, however, that suicides among racial minorities are often underreported and misclassified (Ali et al., 2022; Rockett et al., 2010).

Racial minorities have historically faced challenges in receiving adequate healthcare (Heckler, 1985), such as affordability (Williams et al., 2016), access (Williams et al., 2016), discrimination (Lee et al., 2009), and diverse providers (Lin et al., 2018; Williams et al., 2016). These challenges result in lower use of mental health services and a lack of mental health diagnoses, as compared to White adults (Clay, 2016). Medical examiners, therefore, have less information to inform the cause of death among racial minorities, lending to misclassified suicides (Ali et al., 2022; Rockett et al., 2010), and documented lower rates among racial minorities. By furthering our understanding of suicide risk and behavior across racial groups, we can move toward eliminating disparities in healthcare and developing culturally-responsive suicide intervention practices.

Education

Although education has been examined as a predisposing factor, there have been mixed findings as to the impact of this predictor on service use for mental health reasons among individuals with varying levels of suicidality. Vasiliadis et al. (2022) identified that adults with suicidal ideation in France had higher odds of using health services for mental health reasons when they had obtained a higher education degree. Among individuals in Hong Kong aged 15 to 59 who had died by suicide, there were no differences in education level based on individuals who did and did not engage with psychiatric services within six months prior to their suicide (Law et al., 2010). Among community-dwelling older adults specifically, males with higher levels of education were less likely to engage with mental health services or use antidepressants (Vasiliadis et al., 2012). Level of education has important implications for help-seeking behavior, as it may influence mental health literacy and an individual's ability to recognize the need for help (Wang et al., 2023). Batterham et al. (2013a) found that older age and less education were associated with lower levels of suicide literacy. These findings suggest that targeted psychoeducation interventions that work to increase suicide literacy may be beneficial in order to influence help-seeking for suicidality (Batterham et al., 2013a).

Stigma toward Suicide

Stigma has less commonly been observed as a predisposing factor, yet has important implications given the role of stigma as a health belief. Nam et al., (2018) previously examined mental health stigma and its influence on service use, though found no association with service use among college students with suicidal ideation. Wang et al. (2023) conducted a systematic review examining help-seeking among middle- to old-age adults at risk of suicide and reported that greater levels of stigma toward suicide were associated with more negative help-seeking

attitudes and lower levels of help-seeking behavior. Stigma toward suicide, therefore, has the potential to serve as a significant barrier to seeking mental health services among older adults (Wang et al., 2023). More specifically, older adults who have more negative attitudes toward individuals who die by suicide may be less inclined to engage with health services.

Enabling Factors

Enabling factors include personal and community resources that have the potential to facilitate an individual's use of services (Andersen, 1995). Based on the literature, the following enabling factors will be examined as predictors of help-seeking behavior: urbanicity, income, health insurance, access to care, and social support.

Urbanicity

Urbanicity has been utilized as an enabling factor among adults in France with suicidal ideation. Researchers found no differences in service use based on living in a rural area, as compared to an urban area (Vasiliadis et al., 2022). Other scholars have reported mixed findings based on urbanicity. Adults living in rural areas have been found to be both more (Barry et al., 2023) and less likely (Leavey et al., 2016) to use services as compared to those living in urban areas. There is validity to these mixed findings, as adults in rural areas may be more likely to use services, however, these may refer to emergency departments (Barry et al., 2023), or primary care settings, as opposed to mental health-specific services. Older adults in rural settings in particular may have limited access to mental health resources, and therefore be more inclined to utilize emergency departments (Bessey et al., 2018). It is imperative to determine if help-seeking behavior is indeed impacted by urbanicity in order to inform the need for increased access to mental health services in rural areas and adequate mental health training for emergency department providers.

Income

Income has previously been examined as an enabling factor to assess its impact on service use for mental health reasons among adults with suicidal ideation (Law et al., 2010; Nam et al., 2018; Stanley et al., 2015; Vasiliadis et al., 2022). Adults in France with higher incomes had increased odds of utilizing health services (Vasiliadis et al., 2022), whereas adults in Hong Kong with higher incomes were less likely to have contacted health services, though reported more concerns in relation to financial debt (Law et al., 2010). Among U.S. adults, there were no differences in mental health service use based on income (Nam et al., 2018), including among those with past-year suicide ideation, plans, or attempts (Stanley et al., 2015). Male community-dwelling older adults in France with higher incomes, however, were shown to be less likely to engage with mental health services or use antidepressants, as compared to those with lower incomes (Vasiliadis et al., 2012). Income has the potential to serve as an enabling factor to allow for older adults to obtain healthcare in the U.S., as access to mental health services may be influenced by one's financial resources.

Health Insurance

Differences persist in relation to the impact of health insurance as an enabling factor impacting service use among adults with suicidal ideation (Stanley et al., 2015; Vasiliadis et al., 2022). Vasiliadis et al. (2022) reported no significant association between complementary medical insurance and health service use for mental health reasons among adults in France. Stanley et al. (2015), however, noted past year mental health service use among U.S. adults with past-year suicidal ideation was significantly more common among individuals with health insurance. Interestingly, health insurance was not significantly associated with service use among adults with a past-year suicide plan or attempt. Limited insurance coverage may serve as

a significant barrier to mental health service use, especially in relation to reimbursement policies that have impacted mental health providers' abilities to serve older adults (Pepin et al., 2010).

Access to Care

Older adults face numerous barriers to healthcare access, such as financial challenges, appointment wait time, and lack of transportation (Okoro et al., 2005). Wetherell et al. (2004) found that older adults may also be less likely to seek out health services as compared to their younger counterparts. Furthermore, the Coronavirus (COVID-19) pandemic impacted access to health care due to the rapid transition of services to telehealth settings (Vahia et al., 2020). With new barriers to healthcare access, older adults may not receive proper treatment for their health, thereby resulting in increased poor mental health outcomes.

Scholars identified that 22% of older adults missed their scheduled healthcare appointments for chronic disease care over a period of three months during the COVID-19 pandemic (Wong et al., 2020). Furthermore, Klap et al. (2003) reported that older adults who met the diagnostic criteria for a mental health disorder were less likely to perceive a need for mental health services, as compared to their younger counterparts. Older adults who receive home and community-based services may encounter further difficulties receiving mental health services given mobility restrictions and a lack of access to mental health professionals (Choi & McDougall, 2007); therefore, they remain without a critical diagnosis and necessary in-home care until a physical concern necessitates attention (Qiu et al., 2010). Access to care thus has the potential to influence older adults' help-seeking behaviors due to the limited access to quality health care (Bessey et al., 2018).

Social Support

Social support is an important factor to consider in relation to the help-seeking behavior of older adults, given the propensity for decreased social networks as individuals age (Cornwell et al., 2008). When examined as an enabling factor of service use for adults with suicidal ideation, there were no differences found between those who contacted psychiatric services and those who did not based on their levels of social support, which was defined as participants' accessibility of support (Law et al., 2010). Among older adults, however, those with lower social support were found to be more likely to experience suicidal ideation (Harrison et al., 2010; Vanderhorst, 2005). Furthering our understanding on the impact of older adults' social support (e.g., social interactions and satisfaction with social support) on their help-seeking behavior may inform targeted interventions that work to increase connection and belongingness, thereby having the potential to promote engagement with mental health services.

Need Factors

Finally, need factors refer to concerns that influence an individual's perceived need and evaluated need for care (Andersen, 1995). Need factors have often included dimensions of suicidality when assessing help-seeking for suicide, including suicidal ideation (Nam et al., 2018), suicide attempts (Nam et al., 2018; Pagura et al., 2009; Vasiliadis et al., 2022), and suicide risk factors (Nam et al., 2018; Stanley et al., 2015). More specifically, individuals with past-year suicidal ideation (Vasiliadis et al., 2022), who attempted suicide within the past year (Vasiliadis et al., 2022), and experienced serious psychological distress (Stanley et al., 2015) had increased odds of utilizing services for mental health reasons.

The Interpersonal Theory of Suicide

The Interpersonal Theory of Suicide (IPTS; Van Orden et al., 2010) provides a theoretical framework to identify the mechanisms that lead to suicide desire and behavior in

older adults. According to this theory, death by suicide is likely through the simultaneous presence of desire for suicide and capacity for suicide behavior. Furthermore, suicide desire is caused by the simultaneous presence of perceived burdensomeness and thwarted belongingness. Suicide desire then escalates to suicidal intent as individuals acquire the capability to die by suicide (Van Orden et al., 2010).

Perceived Burdensomeness. Perceived burdensomeness (PB) is comprised of two factors: liability and self-hate (Joiner, 2005; Van Orden et al., 2010). Older adults who experience PB may feel as though they are a burden to individuals in their social network. For example, older adults may require caregiving services in order to complete daily tasks of living, such as cleaning, eating, and bathing, thereby depending on support from others to complete these tasks. Older adults have also expressed concern with burdening family members in regard to their health. Cahill et al. (2009) identified three themes related to feelings of burden among older adults: guilt related to health problems, not wanting to bother their children with their health problems, and being concerned that their children may worry too much. Additionally, older adults may feel burdensome to society as a whole (Kessler & Bowen, 2020). Older adults are highly susceptible to illness and therefore may require increased healthcare (CDC, 2021). They may, however, avoid seeking the medical care they need when they are sick due to self-perceived burdensomeness (Leyva et al., 2020). Kowal et al. (2012) conducted a study among 238 patients within an outpatient chronic management program and found that 70% reported self-perceived burden upon admission, which was also found to be significantly correlated with pain intensity, functional limitations, and suicidal ideation.

Furthermore, PB has been identified as a significant predictor of suicide ideation among older adults (Cukrowicz et al., 2011; Kinory et al., 2020). PB has also found to be a more

proximal predictor of suicidal ideation, as compared to thwarted belongingness (Bryan et al., 2010; Okan et al., 2023; Van Orden et al., 2008). Scholars have also noted potential risk factors for PB among older adults, such as personality disorders (Eades et al., 2019) and impairments in activities of daily living (Mournet et al., 2020), however further research is required to identify additional predictors, especially within older adult samples.

Thwarted Belongingness. Thwarted belongingness (TB) can also be understood by two factors: loneliness and lack of reciprocally caring relationships (Joiner, 2005; Van Orden et al., 2010). Loneliness may manifest in older adult populations as members within their social networks die (Cornwell et al., 2008), such as friends and partners. They may also encounter barriers connecting with others, such as lack of transportation or mobility restrictions (Rosso et al., 2013). Additionally, older adults may lack reciprocal relationships, whereby they lack the capacity to care for others or individuals that they can rely on for support. This may manifest through a divorce or the death of a partner (Van Orden et al., 2010). Older adults may also become homebound, due to functional limitations as a result of aging, disability, and pain, thereby increasing their potential for social isolation and loneliness (Choi & McDougall, 2007). Among older adults, TB has been identified as a significant predictor of death ideation (Guidry & Cukrowicz, 2016). Few studies, however, have examined predictors of TB in older adults, focusing instead on the more proximal predictor (Bryan et al., 2010; Okan et al., 2023; Van Orden et al., 2008), PB (e.g., Cukrowicz et al., 2011; Jahn et al., 2013).

Suicide Behavior. Scholars have suggested that individuals who exhibit suicidal behavior are more likely to engage with mental health services as compared to those without suicidal behavior (Brook et al., 2006; Pagura et al., 2009; Pirkis et al., 2001; Vasiliadis et al., 2022). According to the IPTS, individuals acquire the capability to die by suicide as they are

repeatedly exposed to and habituated to pain, thereby developing a higher pain tolerance. As individuals develop this sensitivity to a heightened degree of pain and fearlessness, the idea of suicide becomes less threatening and the individual's self-preserving orientation decreases (Joiner, 2005; Van Orden et al., 2010). As older adults have experiences with chronic pain (Zelaya et al., 2020), it is thus suggested that they develop an increased pain threshold (Dagnino & Campos, 2022). Acquired capability will therefore be assessed in relation to chronic pain.

Chronic Pain

Chronic pain presents as a significant public health concern, which results in detrimental impacts to the mental health and quality of life in older adults (Zelaya et al., 2020). Chronic pain has been described as the experience of pain most days or every day over the course of three months (Zelaya et al., 2020). Individuals with chronic pain have challenges engaging in social activities, working, and receiving support from social networks (Karos et al., 2020). Older adults with chronic pain may be even less likely to engage in meaningful activities (Emerson et al., 2018). Chronic pain in older adults thereby has the potential to increase levels of both PB and TB. Results from the 2019 National Health Interview Survey (NHIS) identified that chronic pain was highest among individuals aged 65 and over (Zelaya et al., 2020), with scholars estimating that 30.8% of adults aged 65 and above experience chronic pain in the U.S. (Zelaya et al., 2020). This high prevalence of chronic pain has been linked to social isolation (Karayannis et al., 2019), loneliness (Emerson et al., 2018), anxiety (Dersh et al., 2002), depression (Arnou et al., 2006), and suicidality (Joiner, 2005; Racine, 2018).

Chronic pain serves as a need factor among older adults, as it has the potential to manifest as acquired capability for suicide (Van Orden et al., 2010). In addition, it is one of the most common reasons adults seek medical care in the U.S. (Schappert & Burt, 2006; Zelaya et

al., 2020). Braden et al. (2008) conducted a cross-sectional analysis and reported that having pain experiences was found to increase the likelihood that an older adult might seek out mental health services. An older adult experiencing chronic pain and suicidality may therefore be more likely to seek help from a mental health professional than an older adult without pain.

Psychological Distress

Psychological distress has the potential to serve as a need factor that influences service use among older adults with suicidal ideation, as an individual may then exhibit a more severe clinical picture (Stanley et al., 2015). Adults with suicidal ideation and psychological distress were found to be more likely to use mental health services as compared to those without psychological distress (Nam et al., 2018; Stanley et al., 2015). In addition, greater levels of psychological distress have been shown to increase the likelihood of suicide ideation among older adults (Corna et al., 2010). As a need factor, psychological distress may therefore influence an older adult's perceived need for help, thereby resulting in increased help-seeking behavior.

Summary

Based on the literature, the current study utilized the Andersen Behavioral Model of Health Services Use (Andersen, 1995) to guide our understanding of facilitators and barriers to service use among older adults at elevated risk of suicide. It was hypothesized that the following predisposing factors will significantly predict help-seeking behavior: age, gender, race, education, and suicide stigma. More specifically, older adults at elevated risk of suicide who are younger, White women, with higher levels of education, and lower levels of stigma toward individuals who died by suicide are hypothesized to report greater levels of help-seeking behavior. Next, the following enabling factors are predicted to influence help-seeking behavior: urbanicity, income, health insurance, access to care, and social support. More specifically, older

adults living in more urban areas, with higher incomes, health insurance, less difficulty accessing care, and more social support are hypothesized to report greater levels of help-seeking behavior. Finally, the following need factors are anticipated to impact help-seeking behavior: suicide behavior, chronic pain, and psychological distress. More specifically, older adults with greater levels of suicide behavior, chronic pain experiences, and psychological distress are hypothesized to report greater levels of help-seeking behavior.

The Proposed Study

This study explored the help-seeking behavior of older adults at elevated risk of suicide, using the Andersen Behavioral Model of Health Services Use (Andersen, 1995) as a conceptual framework to understand behavior. The aim of the present study was therefore to examine the relationships between predisposing, enabling, and need factors and help-seeking behavior for mental health concerns. The following research questions therefore guided this study:

1. What are the current reported levels of thwarted belongingness, perceived burdensomeness, and suicide behavior among a sample of older adults?
2. What demographic characteristics predict thwarted belongingness and perceived burdensomeness among a sample of older adults?
3. What predisposing, enabling, and need factors predict help-seeking behavior among older adults at elevated risk of suicide?

Method

This cross-sectional, quantitative analysis utilized descriptive statistics and regression analyses in order to understand the prevalence of suicide risk, factors associated with suicide risk, and predictors of help-seeking behavior among older adults.

Participants

Participants included a national sample of 806 older adults throughout the United States. Participants' demographics are provided in Table 1. Participants' ages ranged from 65 to 95 ($M = 72.73$, $SD = 5.56$). Participants identified as White ($n = 677$, 84.0%); Black/African American ($n = 46$, 5.7%); Asian ($n = 13$, 1.6%); Hispanic, Latino/a, or Spanish origin ($n = 12$, 1.5%); American Indian, Native American, or Alaskan Native ($n = 7$, 0.9%); biracial/multiracial ($n = 8$, 1.0%); and another unidentified race ($n = 4$, 0.5%). The majority of participants identified as women ($n = 463$, 57.4%; $n = 302$, 37.5% men). Roughly half of participants had either an associates or technical degree ($n = 120$, 14.9%); bachelor's degree ($n = 189$, 23.4%); or graduate or professional degree ($n = 114$, 14.1%). Participants largely had incomes below \$99,999 and utilized Medicare as a primary health coverage plan. Participants identified as living in mainly suburban areas ($n = 413$, 51.2%), followed by rural ($n = 238$, 29.5%) and urban ($n = 114$, 14.1%).

Procedures

Before initiating data collection, the primary researcher received approval of the study procedures by the Institutional Review Board (IRB) in a large urban university. The researchers received funding support through the Association for Assessment and Research in Counseling (AARC) Sponsored Scholarship Program, allowing them to utilize CloudResearch to obtain data (CloudResearch, n.d.). CloudResearch is an online research tool, which provides access to a large pool of vetted, diverse participants (Chandler et al., 2019). This research tool reports high-quality data through the use of Mechanical Turk (MTurk) and Prime Panels (CloudResearch, n.d.). Prime Panels was selected as the sole research recruitment panel, as scholars have reported greater participant diversity as compared to MTurk (Chandler et al., 2019). CloudResearch

distributed the survey to potential participants in September 2023 and directly compensated participants for survey completion.

Participants were invited to participate in this study if they were a) aged 65 and older; b) residing within the U.S.; and c) English-speaking. Prior to data collection, the survey was pilot-tested among 20 volunteers who met eligibility criteria. Responses from the pilot test resulted in the inclusion of a new item assessing suicide behavior detailed below. Data were collected through Qualtrics, a web-based survey tool. Participants were randomly assigned a participant identification code prior to starting the survey through the use of Qualtrics' assignment of random identification codes. Participants provided informed consent online before initiating the survey. Participants were presented with basic information about the project, as well as details on the potential risks and benefits associated with their participation, in order to inform them of their decision to participate. Participants who did not provide consent were not permitted to participate in the study. Participants had the option to skip any questions and stop participation at any time. Given the emotional nature of the questions, participants were provided with the contact information of national crisis resources at the end of the survey. The survey consisted of 70-items and took on average 15.84 minutes to complete. All downloaded Qualtrics data were securely stored in a Dropbox folder, accessible only to the research team.

A total of 930 individuals accessed the Qualtrics survey through CloudResearch. Of those 930 individuals, 100 did not consent to the survey and did not provide any responses. Additionally, participants were removed from the survey for completing the survey under 6 minutes ($n = 3$); straightlining, or providing identical survey responses for each item ($n = 2$); consenting but not completing any survey items ($n = 5$); and reporting an age under 65 ($n = 4$).

Participants were excluded from the sample if they completed less than 15.7% of the survey, which equates to completing only the first measure.

Attention Checks

In order to ensure accurate reporting, participants were asked to complete two instructional manipulation checks throughout the survey. These attention checks allow for further scrutiny of participants who may not be carefully reading through each question and providing reliable data (Oppenheimer, 2009). Participants read: “This question is to help the researchers stay organized. Please select the option that says ‘Yellow’” and “Please select the option that says ‘Green’”. All participants answered at least one attention check correctly and therefore no participants were excluded from the analysis for this reason.

Measures

Participants were asked to complete a battery of validated measures and a demographic questionnaire to assess predisposing, enabling, and need factors within this population. Demographic items included: a) age, gender, race, education (predisposing factors), and b) urbanicity, income, and health insurance (enabling factors).

Predisposing Factors

Stigma Toward Suicide. The Stigma of Suicide Scale-Short Form (SOSS-SF; Batterham et al., 2013b) was used to assess attitudes toward individuals who died by suicide. The 16-item short form of the SOSS includes one-word descriptors of individuals who died by suicide, to which participants rate how much they agree or disagree with each description. Higher scores indicate a greater degree of stigma toward individuals who died by suicide. The SOSS-SF contains three subscales: stigmatizing attitudes toward suicide (8-items), attribution of isolation or depression on suicide (4-items), and glorification or normalizing suicide (4-items). For this

study, the subscale assessing stigmatizing attitudes was utilized. Participant responses are scored on a 5-point Likert-type scale, ranging from “Strongly disagree” to “Strongly agree”. Subscale scores are calculated based on the mean of the items in each subscale. Sample descriptors include “*pathetic*” and “*shallow*” (stigma). The scale has previously yielded an overall internal consistency of .70, and the subscale has demonstrated adequate internal consistency (.89; Batterham et al., 2013b). The SOSS-SF stigmatizing attitudes toward suicide subscale had an internal consistency of .95 in the present study.

Enabling Factors

Access to Medical Care. Healthcare access was assessed based on the questionnaire assessing the impact of the COVID-19 pandemic and accompanying mitigation efforts on older adults (QAICPOA; Cawthorn et al., 2020). The adapted item of interest for this study asked: “*How much difficulty have you had over the past six months with getting routine medical care?*”. Responses included “no difficulty”, “some difficulty”, “much difficulty”, and “unable to or very difficult”. This item was used to assess the range of difficulty participants experienced with accessing care.

Social Support. The Duke Social Support Index (DSSI; Koenig et al., 1993) was used to assess participants' levels of social support. This 11-item scale includes two subscales: social interaction (4-items) and satisfaction with social support (7-items; Goodger et al., 1999). Responses include “none”, “1-2 people”, and “more than 2 people” for item one; “none” to “seven or more times” for items two through four; and “hardly ever” to “most of the time” for items five through 10. Item 11 asks “*How satisfied are you with the kinds of relationships you have with your family and friends?*”. The original item responses include “very dissatisfied”, “somewhat dissatisfied”, and “satisfied”. For the purposes of the study, the responses for this

item were adapted to allow for greater variation in responses: “very dissatisfied”, “somewhat dissatisfied”, “neither satisfied nor dissatisfied”, “somewhat satisfied”, and “very satisfied”.

Higher scores indicate greater social interaction and support. A total summed score is calculated across each subscale. Sample items include “*Other than members of your family how many persons in your local area do you feel you can depend on or feel very close to?*” (social interaction) and “*When you are talking with your family and friends, do you feel you are being listened to?*” (satisfaction with social support). Among samples of older adults, the subscales have yielded internal consistencies of .58 (Goodger et al., 1999) and .60 (Powers et al., 2004) for social interaction and .80 (Goodger et al., 1999; Powers et al., 2004) for satisfaction with social support. In the present study, the DSSI social interaction subscale had an internal consistency of .60, similar to previous studies (e.g., Goodger et al., 1999; Powers et al., 2004). The satisfaction with social support subscale had good internal consistency of .88.

Need Factors

Suicide Behavior. The Suicidal Behaviors Questionnaire-Revised (SBQ-R; Osman et al., 2001) is a 4-item measure of suicide risk. The SBQ-R was used to assess the following four dimensions of suicidality: lifetime ideation and/or attempts, frequency of ideation, the threat of attempts, and the likelihood of future behavior. The scale is scored by calculating a summed score, with scores ranging from 3 to 18. Higher scores indicate greater suicide risk. Sample items include “*Have you ever thought about or attempted to kill yourself?*” and “*Have you ever told someone that you were going to commit suicide, or that you might do it?*”. Responses range from “never” to “I have attempted to kill myself, and really hoped to die” for item one; “never” to “very often” for item two; “no” to “yes, more than once, and really wanted to do it” for item three; and “never” to “very likely” for item four. The scale has yielded internal consistencies of

.72 (Lutz & Fiske, 2016) and .74 (Golding et al., 2015) among older adult samples. In the present study, the SBQ-R had an internal consistency of .70.

Following a pilot test of the survey, a volunteer suggested clarifying the final item of the measure, which asks “*How unlikely or likely is it that you will attempt suicide someday?*”, to acknowledge physician-assisted suicide (PAS). As participants may respond differently based on this specificity, an additional item was included to ask, “*How unlikely or likely is it that you will seek out physician assisted suicide or (active) euthanasia someday?*”. A separate summed score was calculated to describe differences between the original SBQ-R score and the PAS-SBQ-R score.

Chronic Pain. The Profile of Chronic Pain: Screen (PCP:S; Ruhlman et al., 2005) is a 15-item scale that was used to assess the chronic pain experience among older adults. The PCP:S contains three subscales: pain severity, pain interference, and pain-related emotional burden. The pain severity subscale (4-items) was used to assess the intensity of pain experienced in the past six months). The emotional burden subscale (5-items) was used to assess the emotional burden associated with chronic pain. Subscale scores are calculated by summing each subscales’ items. Sample items include: “*What was your average level of pain on days when you had pain during the past 6 months?*” (pain severity); and “*How often over the past six months has your pain caused you to feel sad or depressed?*” (emotional burden). Responses range from “never” to “daily” for items one and three; “very little pain” to “unbearable pain” for items two and four; and “never” to “extremely often” for items five through nine. Among a national sample of community-residing adults, the subscales have yielded internal consistencies of .89 and .91 for severity and emotional burden, respectively (Ruhlman et al., 2005). In the present study, the PCP:S subscales had internal consistencies of .90 for severity and .92 for emotional burden.

Psychological Distress. The Kessler Psychological Distress Scale (K6; Kessler et al., 2002) is a 6-item measure that was used to assess levels of psychological distress over the past 30 days. The K6 uses a 5-point Likert scale ranging from 0 (None of the time) to 4 (All of the time), with higher scores indicating a greater frequency of symptoms. The measure is scored by calculating a summed score of the 6-items, ranging from 0 to 24. Sample items include “*During the last 30 days, about how often did you feel... nervous?*” or “*...hopeless?*”. Scholars have suggested that the K6 has good factor construct validity among adults with suicidal ideation (Ko & Harrington, 2016) and has yielded an internal consistency of .94 among an older adult sample (Bryant & Kim, 2013). For the present study, the K6 had an internal consistency of .87.

Outcome Variables

Proximal Risk Factors of Suicide Desire. The Interpersonal Needs Questionnaire (INQ; Van Orden et al., 2012) was used to assess proximal risk factors of suicide desire. The INQ contains two subscales: Perceived Burdensomeness (PB; 6-items) and Thwarted Belongingness (TB; 9-items). Each item is scored on a 7-point Likert-type scale, with 1 representing “Not true at all for me” and 7 representing “Very true for me.” Appropriate items were reverse-coded and subscale scores are calculated by summing all the subscale items. Higher scores indicate greater levels of PB and TB. Sample items include “*These days, the people in my life would be better off if I were gone*” (PB) and “*These days, I often feel like an outsider in social gatherings*” (TB). The subscales have yielded internal consistencies of .75 (Marty et al., 2012), .84 (Lutz & Fiske, 2016), and .94 (Lutz & Fiske, 2016) for PB and .91 (Marty et al., 2012) and .94 (Golding et al., 2015) for TB with older adult samples. Both PB and TB had good internal consistency in the present study: .93 and .90 respectively.

Help-Seeking Behavior. Multiple scholars have assessed help-seeking behavior as an outcome variable through the use of a dichotomous single-item to determine if individuals used services or not (Yonemoto & Kawashima, 2023). This thus has the potential to invalidate help-seeking behaviors that go beyond service use. Unfortunately, however, there is a lack of a valid and reliable measure that accurately assesses help-seeking behavior. The Mental Help Seeking Intention Scale (MHSIS; Hammer & Spiker, 2018) is a 3-item instrument that uses a mean score to measure the intention of an individual to seek help from a mental health professional. The MHSIS has been identified as a valid and reliable measure of help-seeking intention among a sample of community-dwelling U.S. adults with mental health concerns (Hammer & Spiker, 2018). Each item is scored on a 7-point Likert scale, ranging from 1 (Extremely unlikely; Definitely false; Strongly disagree) to 7 (Extremely likely; Definitely true; Strongly agree). The 3 items include: 1) *“If I had a mental health concern, I would intend to seek help from a mental health professional”*; 2) *“If I had a mental health concern, I would try to seek help from a mental health professional”*; and 3) *“If I had a mental health concern, I would plan to seek help from a mental health professional”*.

For the purposes of this study, the MHSIS was adapted to address help-seeking *behavior* as opposed to help-seeking *intention*. Additionally, the items were specified to assess behavior if an individual were to experience suicidal thoughts, as opposed to a mental health concern. The 3 adapted items, therefore, include: 1) *“If I had thoughts of suicide, I would seek help from a mental health professional”*; 2) *“If I had thoughts of suicide, I would take steps to reach help from a mental health professional (e.g. researching a provider, scheduling an appointment with a provider)”*; and 3) *“If I had thoughts of suicide, I would make a plan to seek help from a mental*

health professional (e.g. identifying transportation, blocking time off on a calendar, calling health insurance)”. The adapted-MHSIS had an internal consistency of .95.

Help-seeking behavior was also assessed using two items to assess health service use. Participants were asked: “*In the past year, have you received services for mental health concerns?*” and “*In the past year, have you received services for suicide concerns?*”, to which participants could respond “yes” or “no”. Participants were also asked the type of provider they received support from (e.g. mental health professional, general practitioner, emergency department, etc.).

Statistical Analysis

Statistical analyses were conducted using IBM SPSS Statistics Version 29. Research question 1 was answered using descriptive statistics. Mean, range, and standard deviation levels of proximal suicide risk factors (i.e. thwarted belongingness and perceived burdensomeness) and suicide behavior were calculated using the INQ-15 (Van Orden et al., 2012) and the SBQ-R (Osman et al., 2001) respectively. Research question 2 was addressed through linear regression analyses to assess which demographic variables were predictors of proximal suicide risk factors (i.e. thwarted belongingness and perceived burdensomeness).

Research question 3 was addressed through a logistic regression analysis to explore which predisposing, enabling, and need factors predicted help-seeking behavior among participants that meet suicide risk cutoff scores (Mitchell et al., 2017). A Spearman’s rank correlation was computed to assess the relationship between the adapted-MHSIS and the binary help-seeking item. A hierarchical binomial logistic regression was then conducted to determine predictors of mental health service use using the single-item assessing service use at the outcome variable. Variables were entered into the regression model in a hierarchical manner, with

predisposing factors entered in Model 1, enabling factors in Model 2, and need factors in Model 3, as demonstrated in previous literature (e.g., Kim et al., 2010; Pickard & Guo, 2008).

Categorical variables were dummy-coded for each analysis and continuous variables were mean-centered. Due to smaller sample sizes and similar average outcome scores (Table 2), participants were combined into broader categories. Participants who identified as Black or African American ($n = 46$); American Indian or Alaskan Native ($n = 7$); Asian ($n = 13$); Hispanic/Latino/a, or Spanish Origin ($n = 12$); biracial or multiracial ($n = 8$); or another racial or ethnic identity ($n = 4$) were combined into a single group of participants with non-White identities ($n = 90$). Similarly, participants with educations of some high school or less ($n = 8$), high school diploma or GED ($n = 136$), and some college but no degree ($n = 199$) were combined into a single group of participants with educations of some college or less ($n = 343$). Participants with either an associates or technical degree ($n = 120$), bachelor's degree ($n = 189$), or graduate or professional degree ($n = 114$) were also combined into a single group of participants with educations of a college or graduate degree ($n = 423$). Urbanicity was categorized into participants living in rural ($n = 238$) or non-rural areas ($n = 527$). Participants with incomes between \$25,000 and \$99,999 were combined into a single group ($n = 540$). Additionally, participants with incomes of \$100,000-\$149,999 ($n = 58$) and \$150,000 or more ($n = 29$) were combined into a single group of participants with incomes of \$100,000 or more ($n = 87$). For insurance, participants were combined into a single group if they used a primary insurance other than Medicare ($n = 163$). Lastly, participants who reported at least some difficulty accessing medical care were combined into a single group ($n = 110$). The reference groups were determined based on sample sizes and outcome scores: women (gender); White

(race); a college or graduate degree (education); non-rural (urbanicity); less than \$25,000 (income); Medicare (insurance); and no difficulty accessing care (access to care).

Missing Data

Of the 806 participants that completed the survey, 93.18% of participants fully completed the survey and 6.82% partially completed the survey. The 6.82% of participants who partially completed the survey were not included in all of the analyses due to missing responses, such as not completing measures for the outcome variables.

A Little's MCAR test was run to assess if data were Missing Completely at Random (MCAR). Data were MCAR for the following measures: SOSS-SF ($\chi^2(62, 810) = 56.38, p = .68$), DSSI ($\chi^2(88, 810) = 71.07, p = .91$), SBQ-R ($\chi^2(14, 810) = 12.58, p = .56$), PCP-S ($\chi^2(63, 810) = 66.64, p = .35$), INQ ($\chi^2(258, 810) = 258.75, p = .48$), and the adapted-MHSIS ($\chi^2(3, 810) = 5.29, p = .15$). Data were not MCAR for the K6 ($\chi^2(21, 810) = 35.80, p = .02$). Upon further review, only 4.07% of data were missing for this measure and there were 31 participants with missing K6 data that only partially completed the entire survey. These 31 participants also did not complete PB and TB outcome measures and thus would not be included in the analysis. Additionally, given that less than 5% of the total K6 data were missing, missing data were considered negligible (Montelpare et al., 2020; Tabachnick & Fidell, 2012); therefore, the researchers elected to not impute data and used the default complete case analysis method within SPSS (Bennett, 2001; Van Buuren, 2018).

Assumption Checking

For research question 2, the researchers assessed the following assumptions underlying linear regression models: normality, linearity, homoscedasticity, independence of errors, and independence of variables (Tabachnick & Fidell, 2012). Scatterplots of standardized predicted

values with standardized residuals were inspected to assess normality, linearity, and homoscedasticity. A normal probability plot (i.e., a P-P plot) for the regression with PB as the outcome variable indicated that the residuals were not normally distributed, and PB demonstrated a positive skewness and positive kurtosis. Given the large sample size, the researchers opted not to transform the data (Tabachnick & Fidell, 2012). In assessing the scatterplots and probability plot for the regression with TB as the outcome variable these assumptions were met. Multicollinearity between predictor variables of PB and TB were assessed via Pearson correlation values (Table 3). Autocorrelation was also assessed via the Durbin-Watson statistic, which was 2.133 and therefore fell within acceptable range between 1 and 3 (Field, 2009). For predictors of PB, Cook's distance values were less than 1, ranging from 0.000 to 0.072, and therefore no outliers were identified (Cook, 1977). Autocorrelation was also assessed via the Durbin-Watson statistic, which was 1.920 and therefore fell within acceptable range (Field, 2009). For predictors of TB, Cook's distance values ranged from 0.000 to 0.029, and therefore no influential data were identified (Cook, 1977).

For research question 3, the researchers assessed the following assumptions underlying logistic regression models: a dichotomous dependent variable with mutually exclusive and exhaustive categories; independence of observations; absence of outliers; absence of multicollinearity; and linearity in the logit for continuous variables (Tabachnick & Fidell, 2012). The outcome variable was dichotomous, in that participants engaged in service use in the past year or they did not. These groups were mutually exclusive and exhaustive. The only participants included in this analysis are participants who responded to this question and met recommended clinical cutoff scores for distress due to suicide ($n = 370$), and therefore each participant is categorized into service use or no service use. Multicollinearity was assessed via Pearson

correlation values (Table 4). Cook's distance values all fell below 1 and no outliers were identified (Cook, 1977). A Box-Tidwell test was conducted to assess for a linear relationship between the continuous predictors and the logit transformation of the dependent variable (Tabachnick & Fidell, 2012). The interaction terms between the continuous predictors and their logs were not significant and this assumption was therefore met.

Results

Research Question 1

Descriptive statistics for study variables are reported in Table 5. The majority of participants presented with low PB scores ($M = 7.84$, $SD = 4.34$), however TB scores varied ($M = 23.57$, $SD = 12.11$). Based on Mitchell et al.'s (2017) recommended clinical cutoff scores for distress due to suicide, 6.1% ($n = 46$) of participants met PB cutoff criteria ($PB \geq 17$), whereas 49.3% ($n = 369$) of participants met TB cutoff criteria ($TB \geq 22$). Accordingly, for the purposes of this study, 370 participants met at least one clinical cutoff score for distress due to suicide. In regard to suicide behavior, overall scores were fairly low ($M = 4.25$, $SD = 1.99$). When considering the adapted PAS-SBQ-R score, however, scores were slightly higher ($M = 4.94$, $SD = 2.40$). Furthermore, 12.4% ($n = 95$) of participants met recommended SBQ-R cutoff scores for the general adult population ($SBQ-R \geq 7$; Osman, 2001).

Research Question 2

Predictors of PB

A linear regression was conducted to assess demographic predictors of PB. The model included the following demographic predictor variables: 1) age, 2) gender, 3) race, 4) education, 5) income, 6) insurance 7) urbanicity, 8) access to care. The model was statistically significant, and the predictor variables accounted for roughly 3.9% of the variance in PB scores, $R^2 = .039$,

$F(9, 738) = 3.366, p < .001$ (Table 6). The model had a small effect size, $f^2 = 0.041$. Income was a significant predictor: Participants with incomes of \$100,000 or more had significantly lower PB scores than participants with incomes less than \$25,000 ($\beta = -1.482, p = .018, 95\% \text{ CI } [-2.711, -0.253]$). Access to care was also a significant predictor, indicating that participants who experienced some level of difficulty accessing medical care had greater PB scores as compared to participants with no difficulty accessing care ($\beta = 2.113, p < .001, 95\% \text{ CI } [1.210, 3.016]$). Age, gender, race, education, insurance, and urbanicity were not statistically significant predictors of PB.

Predictors of TB

A linear regression was conducted to assess demographic predictors of TB. The model included the following demographic predictor variables: 1) age, 2) gender, 3) race, 4) education, 5) income, 6) insurance 7) urbanicity, 8) access to care. The model was statistically significant and the predictor variables accounted for roughly 8.3% of the variance in TB scores, $R^2 = .083, F(9, 728) = 7.332, p < .001$ (Table 6). The model had a small effect size, $f^2 = 0.091$. Age was a significant predictor of TB, and with every increase in age, TB scores decreased by 0.247 on average ($\beta = -0.247, p = .002, 95\% \text{ CI } [-0.403, -0.092]$). Income was also a significant predictor: Participants with incomes between \$25,000 and \$99,000 had significantly lower TB scores than participants with incomes less than \$25,000 ($\beta = -4.058, p < .001, 95\% \text{ CI } [-6.348, -1.768]$). Similarly, participants with incomes of \$100,000 or more had significantly lower TB scores than participants with incomes less than \$25,000 ($\beta = -7.178, p < .001, 95\% \text{ CI } [-10.519, -3.837]$). Lastly, participants with at least some difficulty accessing medical care had significantly greater TB scores as compared to participants with no difficulty accessing care ($\beta =$

6.864, $p < .001$, 95% CI [4.387, 9.342]). Gender, racer, education, insurance, and urbanicity were not statistically significant predictors of TB.

Research Question 3

Suicide Risk Subsample

Descriptive characteristics of the 370 participants who met at least one clinical cutoff score for distress due to suicide are provided in Table 9. Within this subsample, only 12.7% ($n = 47$) reported service use for mental health concerns within the past year. Participants reported seeing a mental health professional ($n = 37$), a general practitioner ($n = 6$), or both ($n = 3$). Furthermore, only 2 participants (0.54%) reported service use for suicide concerns in the past year and both saw a mental health professional.

Use of the Adapted-MHSIS

The researchers assessed the appropriateness of using of the adapted-MHSIS in measuring help-seeking behavior among participants at elevated risk of suicide. Descriptive statistics for each of the three items are reported in Table 10. A reliability analysis was conducted assessing if the three adapted-MHSIS items consistently measured the same construct. The Cronbach's alpha for these items with the subsample was .97. Next, a composite score was created by calculating the mean score for the three items. For the subsample of older adults who met at least one clinical cutoff score for distress due to suicide, average adapted-MHSIS scores ranged from 1 to 7 ($M = 5.22$, $SD = 1.88$). A Spearman's rank correlation was computed between the mean adapted-MHSIS score and the binary help-seeking behavior item. There was a slight positive but statistically significant correlation between the two variables, $r(365) = 0.161$, $p = .002$; however, due to the low correlation between the two variables, the adapted-MHSIS was not used as the outcome variable for research question 3.

Predictors of Help-Seeking Behavior

Using a single-item measure of service use as the outcome variable, hierarchical binomial logistic regressions were run to determine the effects of predisposing, enabling, and need factors on the likelihood that participants who met suicide risk cut off scores engaged in help-seeking behavior. Based on the Andersen Behavioral Model of Health Services Use (Andersen, 1995), the predictors were entered into the model in the following order: 1) predisposing factors (i.e., age, gender, race, education, and suicide stigma), 2) enabling factors (i.e., urbanicity, income, insurance, health care access, social interaction, and satisfaction with social support), and 3) need factors (i.e., suicide behavior, pain severity, pain-related emotional burden, psychological distress). The analysis included 337 participants who all provided survey responses for each of the need factors.

Given the high correlation between the need factors (Table 4), the researchers compared regression models in order to determine the impact of including each of these predictors. Pain-related emotional burden had a strong positive correlation with pain severity ($r(335) = .701, p < .001$) and moderate positive correlations with psychological distress ($r(335) = .673, p < .001$) and suicide behavior ($r(335) = .400, p < .001$). Suicide behavior had a moderate positive correlation with psychological distress ($r(335) = .445, p < .001$) and a weak positive correlation with pain severity ($r(335) = .251, p < .001$). All four variables were positively correlated with the outcome variable. When all four variables were included in the model, pain severity had a negative coefficient, which was incongruent with the positive correlation between pain severity and help-seeking behavior. When examined as the only need factor, pain severity had a positive coefficient. These findings indicate potentially influential multicollinearity, and the four outcome predictors were influencing the effects each had on the outcome variable. In order to avoid

violating the assumption of multicollinearity (Tabachnick & Fidell, 2012), four separate models were estimated to examine the influence of each need factor on help-seeking behavior individually (Ranganathan et al., 2017).

Model 1, including the predisposing factors (i.e., age, gender, race, education, and suicide stigma), was not statistically significant, $\chi^2(5) = 8.125, p = .149$. Next, Model 2, including the enabling factors (i.e., urbanicity, income, insurance, health care access, social interaction, and satisfaction with social support), was also not statistically significant, $\chi^2(7) = 8.304, p = .307$. These findings suggest that the addition of predisposing or enabling factors to the model did not significantly explain variance in help-seeking behaviors among participants. Although gender demonstrated a significant coefficient in Model 1 ($p = .040$), the residual chi-square for the model was not statistically significant ($p = .149$), suggesting that the variables did not have an effect that differed from 0 and the variable should not be interpreted (Field, 2009).

Model 3^a, including suicide behavior as a need factor, was statistically significant, $\chi^2(1) = 6.561, p = .010$. The Hosmer-Lemeshow test was not significant, indicating the model was a good fit for the data ($p = .589$). The Nagelkerke R^2 value was .126, suggesting that the inclusion of Model 3^a accounted for 12.6% of the variance in help-seeking behavior. The odds of engaging in help-seeking behavior was significantly associated with suicide behavior: For each one-point increase in suicide behavior scores, participants were 1.191 times more likely to engage in help-seeking behavior (OR = 1.191, $p = .009$, 95% CI [1.044, 1.358]). None of the predisposing (i.e., age, gender, race, education, and suicide stigma) or enabling (i.e., insurance, health care access, social interaction, and satisfaction with social support) factors were statistically significant predictors of help-seeking behavior.

Next, Model 3^b, including pain severity as a need factor, was not statistically significant, $\chi^2(1) = 0.373, p = .541$. None of the predisposing (i.e., age, gender, race, education, and suicide stigma), enabling (i.e., insurance, health care access, social interaction, and satisfaction with social support), or need (i.e., pain severity) factors were statistically significant predictors of help-seeking behavior.

Conversely, Model 3^c, including pain-related emotional burden as a need factor, was statistically significant, $\chi^2(1) = 8.340, p = .004$. The Hosmer-Lemeshow test was not significant, indicating the model was a good fit for the data ($p = .408$). The Nagelkerke R^2 value was .135, suggesting that the inclusion of Model 3^c accounted for 13.5% of the variance in help-seeking behavior. Pain-related emotional burden was the only significant predictor of help-seeking behavior: For each one-point increase in pain-related emotional burden scores, participants were 1.078 times more likely to engage in help-seeking behavior (OR = 1.078, $p = .004$, 95% CI [1.024, 1.134]). None of the predisposing (i.e., age, gender, race, education, and suicide stigma) or enabling (i.e., urbanicity, income, insurance, health care access, social interaction, and satisfaction with social support) factors were statistically significant predictors of help-seeking behavior.

Lastly, Model 3^d, including psychological distress as a need factor, was statistically significant, $\chi^2(1) = 6.419, p = .011$. The Hosmer-Lemeshow test was not significant, indicating the model was a good fit for the data ($p = .387$). The Nagelkerke R^2 value was .125, suggesting that the inclusion of Model 3^d accounted for 12.5% of the variance in help-seeking behavior. The odds of engaging in help-seeking behavior was significantly associated with psychological distress: For each one-point increase in psychological distress scores, participants were 1.101 times more likely to engage in help-seeking behavior (OR = 1.101, $p = .011$, 95% CI [1.022,

1.186]). None of the predisposing (i.e., age, gender, race, education, and suicide stigma) or enabling (i.e., urbanicity, income, insurance, health care access, social interaction, and satisfaction with social support) factors were statistically significant predictors of help-seeking behavior.

Discussion

In this current study, we examined the prevalence and predictors of suicide risk and help-seeking behavior among a national sample of older adults. Contrary to previous studies, average TB scores were much greater than formerly identified among older adult samples (Beach et al., 2020; Guidry & Cukrowicz, 2016), whereas average PB scores, which were relatively low, were similar to previous reports (Beach et al., 2020; Eades et al., 2018). These high rates of TB are particularly concerning, as TB has been identified as a predictor of future PB and hopelessness (Roeder & Cole, 2018), which are both cognitive risk factors of suicidal ideation (Van Orden et al., 2010). Additionally, it is the combination of TB and PB that increases the likelihood of suicide desire (Van Orden et al., 2010). These findings emphasize the current need to address belongingness among older adults. Given that scholars have suggested that PB may be a more robust predictor of suicide desire as compared to TB (Bryan et al., 2010; Okan et al., 2023; Van Orden et al., 2008), greater efforts may have been placed on addressing PB as opposed to TB. Furthermore, these findings may also call into question the lingering impacts of the COVID-19 pandemic. Researchers have noted slight increases in PB and TB scores from before the pandemic to during the pandemic among older adults (Okan et al., 2023). In addition, older adults reported difficulty maintaining a sense of belonging during the pandemic due to challenges such as meeting with friends and family, maintaining social distancing measures, and feeling especially lonely during holidays (Derrer-Merk et al., 2022); however, the long-term

impacts of the COVID-19 pandemic on feelings of belongingness among older adults remain unclear. Further efforts are therefore needed to examine longitudinal changes in proximal suicide risk factors, especially TB, among older adults, given the potential impact of the pandemic.

Predictors of Proximal Suicide Risk Factors

On average, TB scores decreased with age. Scholars have previously identified the potential for suicide rates to increase with age even into older adulthood (McKeown et al., 2006). These findings underscore the differences between suicide risk and suicide behavior or death rates. More specifically, older adults ages 85 and older may have greater death rates by suicide based on population size (CDC, 2023a), yet younger older adults may currently be experiencing greater levels of suicide risk or desire. Additionally, various efforts were put in place to address social isolation among older adults following the pandemic, such as implementing new ways to connect and communicate (Van Orden et al., 2021). For example, scholars identified an increase in calls made by older adults to a Loneliness Helpline during the pandemic and noted significant decreases in feelings of loneliness (Balta et al., 2023). Additionally, programmatic efforts may have targeted assisted living facilities or long-term care facilities (e.g., Office et al., 2020), thereby identifying sustainable intervention strategies among older groups on average (Zimmerman et al., 2005).

Furthermore, the experiences of loss and grief can become more common as individuals get older, yet the unique experience of the COVID-19 pandemic may have resulted in a rapid amount of loss over a short period of time across age groups. These losses may have included the death of loved ones, loss of income or job, loss of physical connection, or loss of routine (Stats et al., 2023). The pandemic also impacted how individuals were able to grieve their losses, with many not being able to perform bereavement rituals, such as attending a funeral (Goveas et al.,

2020). Younger older adults may therefore have been exposed to an uncommon amount of grief and loss that resulted in significant impacts to loneliness and belonging within this specific age group. These findings highlight the need to identify protective factors that may allow older adults to combat feelings of TB, which may in turn support younger older adults, especially given the potential impact of the COVID-19 pandemic. In addition, suicide risk and behavior throughout older adulthood may vary based on intersection sociocultural characteristics, emphasizing the need to explore differences among the age groups to identify specific targets for intervention (Koo et al., 2017).

Access to care was identified as a significant predictor of both PB and TB in this sample, in that participants with greater difficulty accessing routine medical care had higher rates of PB and TB. These findings substantiate the need to promote efforts that increase mental health access for older adults. Given the recent changes related to Medicare-eligibility among mental health providers, this may result in significant increases in access to care, as the majority of the sample reported Medicare as their primary form of insurance. It is therefore critical that counselors work to meet eligibility criteria and enroll as Medicare providers, as these efforts can help to increase service access and therefore decrease suicide risk. In addition, it is important to note that participants were not asked to provide reasons for difficulty accessing care, which may include mobility limitations (Choi & McDougall, 2007), technological restraints (Vahia et al., 2020), or transportation concerns (Okoro et al., 2005). These barriers to care may have direct impacts to feelings of burdensomeness among older adults, as they may require additional support to navigate these challenges. Providers may work to decreased suicide risk among older adults by identifying opportunities to increase access to care, such as implementing older adult crisis lines or utilizing care managers.

Income was also a significant predictor of both PB and TB. More specifically, older adults with greater incomes had lower levels of PB and TB as compared to older adults with incomes less than \$25,000. A greater income may provide access to necessary resources in order to allow individuals to connect with others, such as attending communal events that require a fee or paying for transportation. Older adults may also experience financial constraints, resulting in feelings of burdensomeness as they become dependent on their social networks for financial support, such as paying for medical care or housing costs. Furthermore, these findings may shed light on additional income-related inequalities, such as access to affordable healthcare that promotes well-being or proximity to communal resources that enhance belongingness. Overall, many of the identified predisposing factors did not significantly predict PB or TB. These findings highlight the need to explore additional factors that may have contributed to current levels of proximal suicide risk factors, such as sexual orientation (Stinchcombe & Hammond, 2021). Additionally, the inclusion of other enabling and need factors, such as depression (Cukrowicz et al., 2009; Hernandez et al., 2020) or impairments to activities of daily living (Mournet et al., 2020), may have resulted in more substantial predictors.

Predictors of Help-Seeking Behavior

Despite meeting clinical cut off scores for distress due to suicide, many older adults did not receive services for mental health concerns within the past year. Even further, the majority of the sample did not receive services for suicidal concerns, which is particularly concerning given the overall high rates of TB. In alignment with our hypothesis, multiple need factors impacted health service use. Older adults with greater levels of suicide behavior, pain-related emotional burden, and psychological distress were more likely to engage in help-seeking behavior. Based on the Andersen Behavioral Model of Health Services Use (Andersen, 1995), these factors have

the potential to increase older adults' perceived need for care. As the need factors were the most influential predictors of help-seeking behavior among older adults at elevated risk of suicide, further effort is needed to increase the perceived need and evaluated need for care among older adults. These findings therefore suggest that older adults who may be at greater risk of suicide may be the ones who are seeking help. It is also possible that older adults' suicide history may impact their service use. For example, among adults in Australia who attempted suicide, those who engaged in help-seeking behavior were more likely to report a history of previous suicide attempts compared to those who did not engage in service use (Milner & De Leo, 2010). Older adults who had previous experiences of suicide behavior may therefore have become more aware of the need for care and were therefore more likely to engage in help-seeking behavior.

Surprisingly, pain-related emotional burden was a significant predictor of help-seeking behavior, yet pain severity was not. Previous research has underscored the impact of pain experiences on older adult service use, noting that these experiences increased the likelihood that an older adult sought out mental health services (Braden et al., 2008). The findings from this study highlight the potential nuances within pain experiences, as the emotional burden related to pain may be more influential than the physical pain alone in regard to service use. Older adults may also seek help in relation to pain severity (Zelaya et al., 2020) and end up seeing their primary care practitioner as opposed to mental health specific supports, especially given the lack of mental health providers, including psychiatrists (Bishop et al., 2014), that have previously accepted Medicare and Medicaid. Scholars have suggested, however, challenges regarding addressing mental health needs within primary care settings, such as time limitations (Poghosyan et al., 2019). These findings emphasize the need for collaborative efforts on behalf of physicians and mental health providers to ensure the identification of suicide risk factors, including chronic

pain (Joiner, 2005; Racine, 2018) and distress (Corna et al., 2010), results in proper suicide assessments and referrals thereby increasing engagement with mental health service use among older adults. Furthermore, as noted with the multicollinearity concerns, pain-related emotional burden may influence other mental health concerns (e.g., psychological distress), resulting in an additional desire to seek out services. These findings underscore the need to further examine the relationship between the examined need factors, which may assist in further understanding the pathway to engaging in service use.

Implications for Professional Counselors

Given the high rates of TB reported by older adults in this sample, further efforts may be needed in order to promote belongingness among older adults and reduce suicide risk.

Professional counselors can support these efforts by identifying and sharing resources for older adults to form connections within the community. Programs, such as the AmeriCorps Senior Companion Program (AmeriCorps, n.d.), provide an opportunity for older adults to form a connection, build a friendship, and receive support completing daily tasks. Scholars have also suggested the potential use of technology to promote connectedness among older adults, such as through communication apps (Barbosa Neves et al., 2019) and wellness calls (Noble et al., 2022). Professional counselors should thus be aware of initiatives that are already implemented in order to provide resources and psychoeducation on opportunities for older adults to combat feelings of loneliness.

In addition, professional counselors can provide psychoeducation to older adults that focuses on increasing mental health literacy, such as understanding suicide risk factors and prevention efforts. As many of the older adults in this sample reported low help-seeking behavior, these psychoeducation efforts can then support both older adults who attend counseling

and individuals in their community who might not have access to these resources. Additionally, given the low rates of professional health service use, it is important to ensure lay providers have access to this knowledge, as they may be the only individuals who an older adult interacts with. For example, scholars have identified the impact of the connection between older adults who receive home-delivered meals and their meal delivery driver, noting lower levels of loneliness compared to older adults who do not receive home-delivered meals (Thomas et al., 2016). Professional counselor efforts therefore can include providing psychoeducation and training to support systems that are already built into the lives of older adults, such as friends, family members, and staff at living facilities or community centers.

Overall low rates of professional help-seeking behavior underscore the need to address barriers to service use and increase engagement with mental health services among older adults. Efforts to increase access to health services have the potential to reduce suicide risk among older adults. Scholars have provided strategies in order to conduct in-home counseling to address barriers to mental health access (Bettis et al., 2020). Additional barriers may include lack of provider preparedness to support older adult needs (Foster et al., 2009), especially when at risk of suicide (Lund et al., 2017). Further effort may be needed on behalf of counseling programs in order to ensure the counseling workforce is prepared to provide adequate support for older adults, as well as trained to complete culturally-responsive suicide interventions. These efforts may include addressing professional counselors' attitudes toward older adults, such as ageism, which may perpetuate feelings of burdensomeness (Monahan et al., 2020). Scholars have also suggested specific counseling strategies to use with older adults at risk of suicide, including cognitive behavioral therapy (Bhar & Brown, 2012; Coon et al., 2004), cognitive reappraisal techniques (Kiosses et al., 2018), and interpersonal psychotherapy (Heisel et al., 2009).

Professional counselors should thus seek out opportunities to receive education, training, and supervision with the intention of building competence around working with older adults in order to provide a space where older adults feel supported and encouraged to utilize mental health services.

Recent changes in Medicare-eligibility also highlight the impact of advocacy efforts on the part of professional counselors in order to ensure necessary systemic changes are enacted to support older adult health. These changes may result in increased access to care, which was identified as a significant predictor of suicide risk in this sample. Additional advocacy efforts may include conversations on increasing access to mental health education and accessible crisis resources for adults at risk of suicide, such as the use of 24/7 hotlines. Further efforts are needed in order to increase state budgetary funds to allow for more health providers, volunteers, and resources so that older adults may have increased access to care and opportunities to connect with free, 24/7 mental health supports, including the 988 Suicide and Crisis Lifeline.

Limitations

There are multiple limitations to consider while contextualizing the findings of this study. First, the sample was collected through the use of CloudResearch, which includes an online pool of participants who met criteria for this study. The sample thus includes participants who have access to the necessary technology to register with CloudResearch and complete the online survey and may not be inclusive of individuals who cannot afford said technology or have trouble navigating these services (Remillard et al., 2014). Further, U.S. older adults, especially those 85 and older, may simply not use online technology (Mitzner et al., 2010), and therefore not be aware of CloudResearch as an option to sign up to take surveys. This may be a potential explanation of the lack of diversity seen in age, emphasizing the lack of generalizability of these

findings as the sample is not representative of all older adults. Additionally, the sample lacked diversity in areas such as race and gender identities. Although PrimePanels may include an overall more diverse pool compared to other recruitment tools (Chandler et al., 2019), the pool of individuals in the U.S. who are aged 65 and older may lack in diversity. Additionally, participants who opted to take the survey may have been more likely to take the survey based on their experiences, or lack of experiences, with suicide or help-seeking.

This study also included participants who only partially responded to the survey. Participants may not have been able to complete the survey due to survey fatigue (Le et al., 2021) or cognitive limitations, which are associated with loneliness among older adults (Perissinotto et al., 2012). Participants were also asked to complete the DSSI to measure participants' levels of social support, yet the social interaction subscale had a low internal consistency, which should be considered when interpreting the results of this study. Additionally, given the concerns for multicollinearity, the need factors were examined independently, meaning that the regression analyses were unable to control for the other need factors in each separate analysis. These findings highlight the need to carefully consider the interpretation of studies that include the Andersen Behavioral Model of Health Services Use (Andersen, 1995), especially if multicollinearity concerns were not explicitly addressed or mentioned.

Furthermore, this was a cross-sectional study, and the time of which data were collected is imperative to consider. Data were collected in September 2023. Mental health counselors and marriage and family therapists will be eligible to register as Medicare providers and effectively begin billing for services in 2024. As many of the participants reported Medicare as their primary health insurance coverage, help-seeking behaviors have the potential to increase over the next year due to necessary systemic changes that were implemented. Lastly, as noted with previous

studies, help-seeking behavior is often measured with a binary item (Yonemoto & Kawashima, 2023) and therefore does not capture the various dimensions of behavior beyond seeing a provider at one point in time. For this study, help-seeking behavior therefore does not include whether or not an older adult continued to receive mental health services beyond a single time point within the past year. Given that the adapted-MHSIS was not used as the outcome measure, we were only able to assess a portion of help-seeking behavior, thereby missing out on additional potential actions made by participants.

Recommendations for Future Research

Given the lack of diversity within the sample, future research should explore predictors of suicide risk and help-seeking behavior across additional samples, especially among populations at high risk of suicide, such as White men who are ages 85 and older (CDC, 2023a) or lesbian, gay, and bisexual older adults (Capistrant & Nakash, 2019). Greater diversity among the various predisposing factors (e.g., race) and enabling factors (e.g., health insurance) may highlight further predictors to suicide risk and help-seeking. Another noted limitation to the study was the lack of access to older adults who may not have the technological resources to use CloudResearch (Remillard et al., 2014). This research should therefore be replicated among community-based samples in order to connect with older adults who do not use CloudResearch. This might also allow for future studies to be more inclusive of communities that are often excluded from research (Hussain-Gambles et al., 2004), or older adults who are more isolated, and therefore at greater risk of suicide. Scholars have suggested tools, such as a community-based geographic information system, in order access older adult communities that are under-represented in clinical research, such as Asian Americans (Lee et al., 2023). Researchers may

also consider using shortened response scales or orally-administering measures among older adults in order to combat attrition (Parkhurst et al., 2014).

This research also provides initial findings related to the use of the adapted-MHSIS to understand the spectrum of help-seeking behavior, however further research is needed to examine the construct in order to adequately measure the complex forms of behavior that are not properly captured in the commonly used binary item. For example, researchers may consider assessing help-seeking efforts, such as researching providers, scheduling an intake session, or taking medication. Along with enhancing our understanding of help-seeking, there is a need to develop culturally-sensitive, evidence-based interventions that promote well-being and engagement with health services among older adults. Researchers may use the findings from this study to explore opportunities to increase engagement especially among groups who were less likely to see a provider, such as older adults with lower levels of pain-related emotional burden. Additionally, qualitative inquiries may provide greater insight into specific barriers to help-seeking, such as cultural factors (Bruffaerts et al., 2011), which can then be targeted through intervention efforts. Intervention efforts are also needed in order to reduce PB and TB rates among older adults, especially for those with lower incomes or difficulty accessing care.

Future research may also explore necessary systemic changes in order to support older adults in getting mental health services. For example, due to the recent change in Medicare eligibility, older adults may have access to more services yet still encounter other barriers to engagement, such as ageism or discrimination within healthcare settings. The findings from this study call into question other barriers that may be preventing older adults from receiving mental health support, such as a lack of counselor competency, emphasizing the need to review training received within mental health programs in order to prepare the workforce to work with older

adults. Researchers may therefore also want to consider opportunities to decrease suicide risk and promote well-being among older adults outside of typical health care environments, such as training lay providers to deliver treatment interventions (Stanley et al., 2014). Future research might therefore include assessing older adult help-seeking among informal supports, such as family members or religious leaders. Lastly, given the high risk of suicide in the community paired with the low rates of health service use, further research may be needed to ensure older adults have access to mental health services during times of distress, such as implementing free, 24/7 crisis lines specific to older adults.

Conclusion

The primary aim of this study was to examine predictors of help-seeking behavior, particularly among older adults at elevated risk of suicide. Findings from this study highlight the high rates of thwarted belongingness among older adults, along with the overall low rates of help-seeking behavior for mental health concerns. Age, income, and access to health care all served as significant predictors of proximal suicide risk factors, emphasizing the efforts needed on behalf of professional counselors to target these factors to reduce risk among older adults. Furthermore, suicide behavior, pain-related emotional burden, and psychological distress all influenced help-seeking behavior among older adults at elevated risk of suicide. As the need factors were the most influential predictors of service use, further effort is needed to increase the perceived need and evaluated need for care among older adults, especially those at greater risk of suicide. In addition, these findings underscore the need to promote belongingness among older adults, as well as identify and address barriers to mental health service use. Professional counselors can engage in advocacy efforts to support this population to ensure older adults have

access to crisis services and that necessary systemic changes are implemented to support service engagement.

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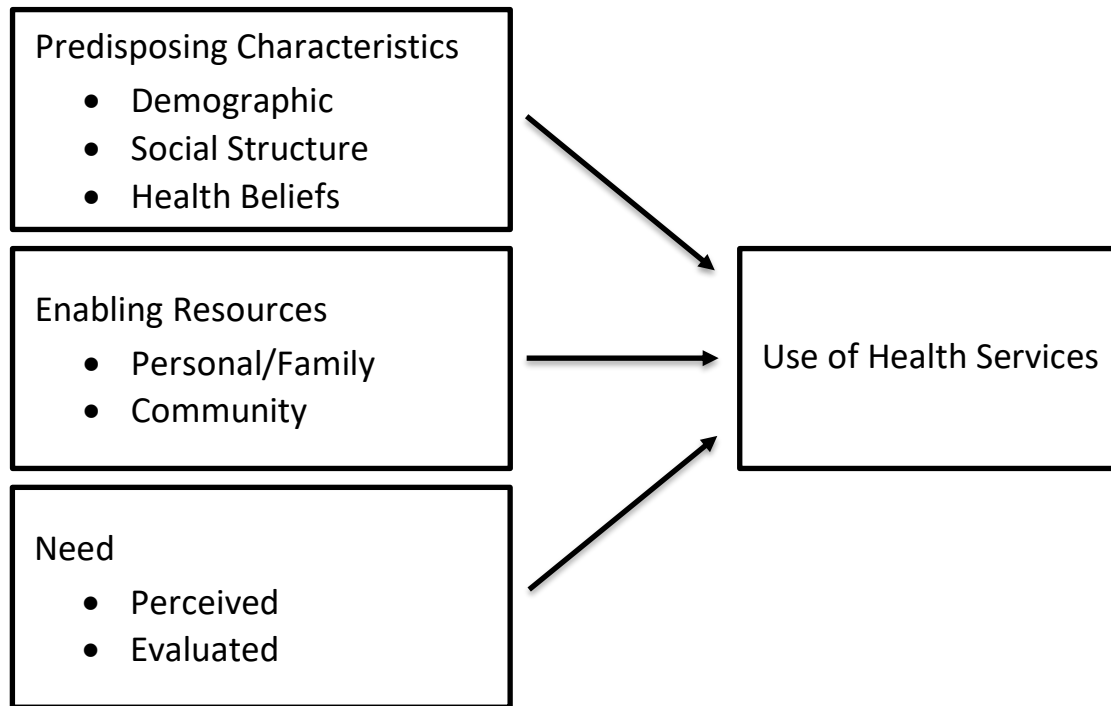
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APPENDICES

Appendix A

Appendix A.1: The Andersen Behavioral Model of Health Services Use (Andersen, 1995)



Appendix B*Appendix B.1: Informed Consent*

Georgia State University
Department of Counseling and Psychological Services
Informed Consent

Title: Expanding our understanding of help seeking behavior: Implications for older adults at elevated risk of suicide

Principal Investigator: Catherine Chang, Ph.D., Georgia State University

Student Principal Investigator: Afroze Shaikh, MA, Georgia State University

You are being asked to take part in a research study to understand who seeks help for mental health concerns. If you decide to take part, you will take an online survey that should take about 10-15 minutes to complete. There are no anticipated risk or benefits to participating.

Compensation

Upon completion of the study, you will receive compensation in the amount that you have agreed to with the platform through which you entered this survey.

Voluntary Participating

You do not have to be in this study. You may skip questions or stop participating at any time.

Contact Information

If you have questions about the study or your part in it, please contact Afroze Shaikh at ashaikh17@student.gsu.edu or Dr. Catherine Chang at cychang@gsu.edu.

Consent

If you are willing to volunteer for this research study and are

- a) aged 65 and older
 - b) reside within the United States AND
 - c) are English-speaking,
- please select "Yes" below.

Yes

No

TABLES

Table 1. *Characteristics of Participants*

Table 1

Characteristics of Participants

Characteristic	<i>n</i>	%
Total	806	
Gender		
Man	302	37.5
Woman	463	57.4
Race/Ethnicity		
White	677	84.0
Black or African American	46	5.7
American Indian or Alaskan Native	7	0.9
Asian	13	1.6
Hispanic, Latino/a, or Spanish Origin	12	1.5
Biracial/Multiracial	8	1.0
Another	4	0.5
Age		
65-74	502	62.2
75-84	240	29.8
85+	25	3.1
Education		
Some high school or less	8	1.0
High school diploma or GED	136	16.9
Some college, but no degree	199	24.7
Associates or technical degree	120	14.9
Bachelor's degree	189	23.4
Graduate or professional degree	114	14.1
Income		
Less than \$25,000	134	16.6
\$25,000 - \$49,999	268	33.3
\$50,000 - \$74,999	172	21.3
\$75,000 - \$99,999	100	12.4
\$100,000 - \$149,999	58	7.2
\$150,000 or more	29	3.6
Health Insurance		
Insurance through a current of former employer or union	63	7.8
Insurance purchased directly from an insurance company	19	2.4
Medicare	602	74.7

Medicaid or Medical Assistance	21	2.6
TRICARE or other military healthcare	9	1.1
VA healthcare	31	3.8
Another	20	2.5
Urbanicity		
Rural	238	29.5
Suburban	413	51.2
Urban	114	14.1
Difficulty Accessing Medical Care		
No difficulty	691	85.7
Some difficulty	99	12.3
Much difficulty	8	1.0
Unable to access or very difficult	3	0.4

Table 2. *Average Outcome Scores*

Table 2

Average Outcome Scores

Predictor	<i>n</i>	Perceived Burdensomeness	Thwarted Belongingness	Help-Seeking Behavior
Total	806			
Race/Ethnicity				
White	677	7.894	23.700	0.095
Black or African American	46	7.222	21.378	0.152
American Indian or Alaskan Native	7	10.286	30.429	0.000
Asian	13	8.231	24.167	0.077
Hispanic, Latino/a, or Spanish Origin	12	6.727	21.300	0.083
Biracial/Multiracial	8	6.250	16.857	0.000
Another	4	8.750	32.250	0.000
Education				
Some high school or less	8	7.750	23.750	0.000
High school diploma or GED	136	7.291	23.867	0.081
Some college, but no degree	199	8.335	24.477	0.106
Associates or technical degree	120	8.102	23.193	0.133
Bachelor's degree	189	7.753	23.859	0.058
Graduate or professional degree	114	7.614	21.709	0.123
Income				
Less than \$25,000	134	8.431	27.394	0.142
\$25,000 - \$49,999	268	7.935	23.488	0.104
\$50,000 - \$74,999	172	7.762	22.553	0.087
\$75,000 - \$99,999	100	7.657	23.704	0.070
\$100,000 - \$149,999	58	7.448	20.807	0.034
\$150,000 or more	29	6.586	19.586	0.034
Urbanicity				
Rural	238	7.864	24.957	0.092
Suburban	413	7.721	22.507	0.087
Urban	114	8.282	24.800	0.123

Table 3. *Pearson Correlations for Factors Associated with Perceived Burdensomeness and Thwarted Belongingness*

Table 3

Pearson Correlations for Factors Associated with Perceived Burdensomeness and Thwarted Belongingness

Variable	1	2	3	4	5	6	7	8
1. Age	–							
2. Non-White	-.049	–						
3. Man	.139*	-.073	–					
4. College or graduate degree	.080	-.030	.175*	–				
5. Income \$25,000-\$99,999	.052	-.010	.068	-.022	–			
6. Income \$100,000+	.005	-.079	.079	.215*	-.562*	–		
7. Non-Medicare	-.016	.080	.137*	-.032	-.007	.035	–	
8. Non-rural	-.009	.094*	-.047	.092	.030	.082	-.092	–
9. Difficulty accessing care	.018	-.016	-.035	.038	-.032	.037	-.068	-.044

Note. * $p < .01$

Table 4. *Pearson Correlations for Factors Associated with Help-Seeking Behavior*

Table 4.
Pearson Correlations for Factors Associated with Help-Seeking Behavior

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Age	–														
2. Non-White	-.073	–													
3. Man	.139*	-.046	–												
4. College or graduate degree	.038	-.065	.149*	–											
5. Suicide stigma	.063	.045	.208*	-.006	–										
6. Non-rural	-.026	.115	-.050	.131	-.051	–									
7. Income \$25,000-\$99,999	.041	-.072	.102	.056	-.061	.069	–								
8. Income \$100,000+	.026	-.047	.129	.158*	-.064	.083	-.441*	–							
9. Non-Medicare	-.040	.064	.136	-.045	.102	-.066	-.023	.000	–						
10. Difficulty accessing care	.044	.016	-.021	.035	-.036	-.030	.007	-.017	-.080	–					
11. Social interaction	.106	-.045	-.116	.088	-.037	.035	-.026	.021	-.093	.030	–				
12. Support satisfaction	.213*	.007	.095	.091	.003	.032	.005	.079	.027	-.007	.350*	–			
13. Suicide behavior	-.113	-.040	-.046	.088	-.092	-.033	.087	-.057	-.004	.211*	-.041	-.174*	–		
14. Pain severity	-.052	.008	-.155*	-.037	-.058	-.023	.046	-.037	.020	.260*	.074	-.036	.251*	–	
15. Pain burden	-.094	-.034	-.169*	-.037	-.014	-.042	.022	.001	-.007	.327*	.025	-.104	.400*	.701*	–
16. Distress	-.150*	-.073	-.175*	-.074	-.056	-.044	.021	-.030	-.024	.234*	.001	-.212*	.445*	.434*	.673*

Note. * $p < .01$

Table 5. *Descriptive Statistics for Study Variables*

Table 5.

Descriptive Statistics for Study Variables

Variable	<i>M</i>	<i>SD</i>	Variance	Min	Max	Skewness	Kurtosis
Suicide stigma	15.88	7.47	55.76	8.00	40.00	0.590	-0.587
Social interaction	7.35	1.73	2.99	4.00	12.00	0.082	-0.454
Satisfaction with social support	19.13	3.79	14.34	7.00	23.00	-0.948	0.172
Suicide behavior	4.25	1.99	3.94	3.00	15.00	2.230	5.940
Pain severity	14.59	8.34	69.60	0.00	30.00	-0.153	-0.917
Pain burden	6.57	6.58	43.35	0.00	25.00	0.902	-0.163
Distress	3.48	3.90	15.23	0.00	20.00	1.479	1.964
Perceived burdensomeness	7.84	4.34	18.81	6.00	42.00	3.291	12.635
Thwarted belongingness	23.57	12.11	146.65	9.00	63.00	0.723	-0.221

Table 6. *Linear Regression Model Summaries*

Table 6.

Linear Regression Model Summaries

Model	<i>R</i>	<i>R</i> ²	Adj. <i>R</i> ²	<i>SE</i> of Estimate	<i>F</i> Change	Sig. <i>F</i> Change
1 ^a	.199	.039	.028	4.289	3.366	<.001
2 ^b	.288	.083	.072	11.673	7.332	<.001

Note. a. Dependent Variable: INQ subscale perceived burdensomeness

b. Dependent Variable: INQ subscale thwarted belongingness

Table 7. *Factors Associated with Perceived Burdensomeness*

Table 7.

Factors Associated with Perceived Burdensomeness^a

Variable	Unstandardized Coeff.		Stand. Coeff.	<i>t</i>	<i>p</i> -value	95% C.I.
	β	<i>SE</i>	β			
Constant	8.04	0.47		17.18	<.001	[7.13, 8.96]
Age	-0.05	0.03	-0.06	-1.60	.111	[-0.10, 0.01]
Non-White	-0.70	0.50	-0.05	-1.40	.162	[-1.69, 0.28]
Man	0.12	0.34	0.01	0.34	.732	[-0.54, 0.74]
College or graduate degree	0.00	0.33	0.00	0.01	.993	[-0.65, 0.66]
Income \$25,000-\$99,999	-0.65	0.43	-0.07	-1.52	.130	[-1.50, 0.19]
Income \$100,000+	-1.48	0.63	-0.11	-2.37	.018	[-2.71, -0.25]
Non-Medicare	0.20	0.39	0.02	0.51	.610	[-0.57, 0.98]
Non-rural	0.20	0.35	0.02	0.57	.567	[-0.48, 0.88]
Difficulty accessing care	2.11	0.46	0.17	4.59	<.001	[1.12, 3.02]

Note. *n* = 750. a. Dependent Variable: INQ subscale perceived burdensomeness

Table 8. *Factors Associated with Thwarted Belongingness*

Table 8.

Factors Associated with Thwarted Belongingness^a

Variable	Unstandardized Coeff.		Stand. Coeff.	<i>t</i>	<i>p</i> -value	95% C.I.
	β	<i>SE</i>	β			
Constant	26.57	1.27		20.91	<.001	[24.07, 29.06]
Age	-0.25	0.08	-0.11	-3.12	.002	[-0.40, -0.09]
Non-White	-2.06	1.40	-0.05	-1.48	.141	[-4.801, 0.68]
Man	1.50	0.92	0.06	1.63	.103	[-0.31, 3.31]
College or graduate degree	-0.46	0.91	-0.02	-0.51	.614	[-2.25, 1.33]
Income \$25,000-\$99,999	-4.06	1.17	-0.15	-3.48	<.001	[-6.35, -1.77]
Income \$100,000+	-7.18	1.70	-0.19	-4.22	<.001	[-10.52, -3.84]
Non-Medicare	1.23	1.07	0.04	1.16	.248	[-0.86, 3.33]
Non-rural	-0.88	0.95	-0.03	-0.92	.357	[-2.74, 0.99]
Difficulty accessing care	6.86	1.26	0.19	5.44	<.001	[4.39, 9.34]

Note. *n* = 737. a. Dependent Variable: INQ subscale thwarted belongingness

Table 9. *Characteristics of Participants at Elevated Risk of Suicide*

Table 9.
Characteristics of Participants at Elevated Risk of Suicide

Characteristic	<i>n</i>	%
Total	370	
Gender		
Man	151	40.8
Woman	216	58.4
Race/Ethnicity		
White	328	88.6
Black or African American	20	5.4
American Indian or Alaskan Native	4	1.1
Asian	7	1.9
Hispanic, Latino/a, or Spanish Origin	5	1.4
Biracial/Multiracial	2	0.5
Another	3	0.8
Age		
65-74	253	68.6
75-84	107	28.9
85+	9	8.4
Education		
Some high school or less	5	1.4
High school diploma or GED	71	19.2
Some college, but no degree	100	27.0
Associates or technical degree	53	14.3
Bachelor's degree	93	25.1
Graduate or professional degree	47	12.7
Income		
Less than \$25,000	89	24.1
\$25,000 - \$49,999	123	33.2
\$50,000 - \$74,999	73	19.7
\$75,000 - \$99,999	49	13.2
\$100,000 - \$149,999	22	5.9
\$150,000 or more	12	3.2
Health Insurance		
Insurance through a current of former employer or union	26	7.0
Insurance purchased directly from an insurance company	7	1.9
Medicare	286	77.3

Medicaid or Medical Assistance	14	3.8
TRICARE or other military healthcare	4	1.1
VA healthcare	20	5.4
Another	12	3.3
Urbanicity		
Rural	130	35.1
Suburban	180	48.6
Urban	59	15.9
Difficulty Accessing Medical Care		
No difficulty	303	81.9
Some difficulty	59	15.9
Much difficulty	6	1.6
Unable to access or very difficult	2	0.5

Table 10. *Descriptive Statistics for the Adapted-MHSIS*

Table 10.

Descriptive Statistics for the Adapted-MHSIS

Variable	<i>M</i>	<i>SD</i>	Variance	Min	Max	Skewness	Kurtosis
If I had thoughts of suicide, I would seek help from a mental health professional	5.20	1.98	3.92	1	7	-0.917	-0.388
If I had thoughts of suicide, I would take steps to reach help from a mental health professional (e.g. researching a provider, scheduling an appointment with a provider)	5.24	1.93	3.74	1	7	-0.912	-0.383
If I had thoughts of suicide, I would make a plan to seek help from a mental health professional (e.g. identifying transportation, blocking time off on a calendar, calling health insurance)	5.24	1.91	3.65	1	7	-0.896	-0.365

Table 11. *Factors Associated with Help-Seeking Behavior*

Table 11.
Factors Associated with Help-Seeking Behavior

	Model 1						Model 2					
	β	SE	Wald	Sig.	OR	95% C.I.	β	SE	Wald	Sig.	OR	95% C.I.
Constant	-1.72	0.27	40.76	<.001	0.18		-1.71	0.43	15.98	<.001	0.18	
Age	-0.04	0.04	1.22	.270	0.96	[0.90, 1.03]	-0.04	0.04	1.19	.276	0.96	[0.89, 1.03]
Non-White	-0.22	0.57	0.16	.694	0.80	[0.26, 2.44]	-0.41	0.60	0.48	.489	0.66	[0.21, 2.13]
Man	-0.81	0.39	4.21	.040	0.45	[0.21, 0.97]	-0.65	0.41	2.49	.115	0.52	[0.23, 1.17]
College or graduate degree	-0.02	0.34	0.00	.955	0.98	[0.50, 1.92]	0.08	0.36	0.04	.835	1.08	[0.53, 2.19]
Suicide stigma	-0.02	0.02	0.51	.474	0.98	[0.94, 1.03]	-0.03	0.03	1.02	.311	0.97	[0.93, 1.03]
Non-rural							0.21	0.37	0.32	.571	1.23	[0.60, 2.55]
Income \$25,000-\$99,999							-0.55	0.39	1.98	.159	0.58	[0.27, 1.24]
Income \$100,000+							-1.83	1.09	2.85	.092	0.16	[0.02, 1.35]
Non-Medicare							0.52	0.41	1.63	.201	1.68	[0.76, 3.71]
Difficulty accessing care							0.43	0.42	1.08	.298	1.54	[0.68, 3.48]
Social interaction							0.09	0.12	0.59	.442	1.09	[0.87, 1.37]
Support satisfaction							-0.03	0.05	0.38	.537	0.97	[0.88, 1.07]
Suicide behavior												
Pain severity												
Pain burden												
Distress												
Sig.												.149
Hosmer-Lemeshow test												.046
Nagelkerke R Square												.046

Note. *n* = 337. a. Independent Variable: Suicide behavior

b. Independent Variable: Pain severity

c. Independent Variable: Pain-related emotional burden

d. Independent Variable: Psychological distress

Table 11.
Factors Associated with Help-Seeking Behavior, Continued

	Model 3 ^a						Model 3 ^b					
	β	SE	Wald	Sig.	OR	95% CI	β	SE	Wald	Sig.	OR	95% CI
Constant	-1.59	0.44	13.20	<.001	0.20		-1.71	0.43	15.76	<.001	0.18	
Age	-0.03	0.04	0.76	.383	0.97	[0.90, 1.04]	-0.04	0.04	1.14	.286	0.96	[0.89, 1.03]
Non-White	-0.32	0.56	0.28	.597	0.73	[0.23, 2.35]	-0.40	0.60	0.45	.502	0.67	[0.21, 2.16]
Man	-0.62	0.42	2.25	.133	0.54	[0.24, 1.21]	-0.61	0.42	2.14	.143	0.54	[0.24, 1.23]
College or graduate degree	-0.10	0.37	0.07	.796	0.91	[0.44, 1.88]	0.08	0.36	0.05	.823	1.08	[0.54, 2.20]
Suicide stigma	-0.02	0.03	0.77	.380	0.98	[0.93, 1.03]	-0.03	0.03	1.01	.314	0.97	[0.93, 1.03]
Non-rural	0.23	0.38	0.39	.534	1.26	[0.60, 2.64]	0.21	0.37	0.32	.569	1.24	[0.60, 2.56]
Income \$25,000-\$99,999	-0.68	0.40	2.97	.085	0.51	[0.23, 1.10]	-0.57	0.39	2.10	.148	0.57	[0.27, 1.22]
Income \$100,000+	-1.80	1.09	2.71	.100	0.17	[0.02, 1.41]	-1.84	1.09	2.85	.091	0.16	[0.02, 1.34]
Non-Medicare	0.51	0.41	1.57	.211	1.67	[0.75, 3.72]	0.49	0.41	1.47	.225	1.64	[0.74, 3.64]
Difficulty accessing care	0.19	0.43	0.19	.666	1.21	[0.52, 2.81]	0.36	0.43	0.72	.398	1.44	[0.62, 3.34]
Social interaction	0.09	0.12	0.61	.434	1.10	[0.87, 1.38]	0.08	0.12	0.52	.471	1.09	[0.87, 1.36]
Support satisfaction	-0.00	0.05	0.01	.933	1.00	[0.90, 1.10]	-0.03	0.05	0.35	.555	0.97	[0.88, 1.07]
Suicide behavior	0.18	0.07	6.79	.009	1.19	[1.04, 1.36]						
Pain severity							0.01	0.02	0.37	.543	1.01	[0.97, 1.058]
Pain burden												
Distress												
Sig.						.010						.541
Hosmer-Lemeshow test						.589						.540
Nagelkerke R Square						.126						.093

Note. *n* = 337. a. Independent Variable: Suicide behavior

b. Independent Variable: Pain severity

c. Independent Variable: Pain-related emotional burden

d. Independent Variable: Psychological distress

Table 11.
Factors Associated with Help-Seeking Behavior, Continued

	Model 3 ^c						Model 3 ^d					
	β	SE	Wald	Sig.	OR	95% CI	β	SE	Wald	Sig.	OR	95% CI
Constant	-1.72	0.44	15.35	<.001	0.18		-1.75	0.44	15.98	<.001	0.17	
Age	-0.03	0.04	0.70	.403	0.97	[0.90, 1.04]	-0.03	0.04	0.72	.395	0.97	[0.90, 1.04]
Non-White	-0.29	0.60	0.23	.628	0.75	[0.23, 2.43]	-0.28	0.60	0.22	.638	0.75	[0.23, 2.46]
Man	-0.44	0.42	1.09	.296	0.64	[0.28, 1.47]	-0.51	0.42	1.47	.225	0.60	[0.27, 1.37]
College or graduate degree	0.08	0.37	0.05	.824	1.09	[0.53, 2.22]	0.11	0.37	0.08	.773	1.11	[0.54, 2.28]
Suicide stigma	-0.03	0.03	1.19	.276	0.97	[0.92, 1.02]	-0.03	0.03	0.929	.335	0.98	[0.93, 1.03]
Non-rural	0.21	0.38	0.30	.584	1.23	[0.59, 2.56]	0.21	0.38	0.309	.578	1.23	[0.59, 2.58]
Income \$25,000-\$99,999	-0.64	0.40	2.61	.106	0.53	[0.24, 1.15]	-0.62	0.39	2.46	.117	0.54	[0.25, 1.17]
Income \$100,000+	-1.91	1.09	3.07	.080	0.15	[0.02, 1.26]	-1.91	1.10	3.038	.081	0.15	[0.02, 1.27]
Non-Medicare	0.46	0.41	1.24	.266	1.58	[0.71, 3.54]	0.49	0.41	1.455	.228	1.64	[0.74, 3.64]
Difficulty accessing care	-0.02	0.45	0.00	.963	0.98	[0.41, 2.36]	0.14	0.44	0.10	.748	1.15	[0.49, 2.70]
Social interaction	0.08	0.12	0.52	.470	1.09	[0.87, 1.37]	0.09	0.12	0.63	.426	1.10	[0.87, 1.38]
Support satisfaction	-0.02	0.05	0.13	.717	0.98	[0.89, 1.09]	-0.01	0.05	0.008	.927	1.00	[0.90, 1.10]
Suicide behavior												
Pain severity												
Pain burden	0.08	0.03	8.14	.004	1.08	[1.02, 1.13]						
Distress							0.10	0.04	6.48	.011	1.10	[1.02, 1.19]
Sig.						.004						.011
Hosmer-Lemeshow test						.408						.387
Nagelkerke R Square						.135						.125

Note. *n* = 337. a. Independent Variable: Suicide behavior

b. Independent Variable: Pain severity

c. Independent Variable: Pain-related emotional burden

d. Independent Variable: Psychological distress