ASSESSMENT OF SUICIDAL IDEATION AND COMMUNITY PERSPECTIVES ON RISK

AND PROTECTIVE FACTORS RELATED TO SUICIDE AMONG WORKERS IN BIG SKY,

MONTANA: IMPLICATIONS FOR PREVENTION STRATEGIES

by

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ABSTRACT

Statement of problem: Suicide is a critical public health issue, particularly in rural communities that face unique mental health challenges. The Western United States, including Montana, is often referred to as the "American Suicide Belt" due to its significantly higher suicide rates. Montana consistently ranks among the top five states for suicide, with a 2020 rate of 25.9 per 100,000 compared to the national rate of 13.4. In Big Sky, a resort town with 3,000 residents and 1,500-2,500 employees, issues such as high alcohol misuse, mental illness, and suicide are pervasive. A 2017 health assessment revealed that 36% of residents experienced chronic depression, with many reporting inadequate access to mental health support. The COVID-19 pandemic further exacerbated these behavioral health crises. **Methods:** To address these challenges, a Workforce Needs Assessment study was conducted in partnership with Montana State University and the Yellowstone Club Community Foundation. Utilizing a community-based participatory research approach and the socio-ecological model framework, this mixed-method study involved online surveys and focus groups. Data were collected between summer 2022 and spring 2023, with 920 participants and a 10% non-participation rate. Four focus groups included a session for Hispanic residents to ensure cultural representation. **Results:** The study identified significant stressors among Big Sky's workforce, including housing insecurity, financial struggles, and depression. While average levels of suicidal ideation were low, individuals with severe depression or feelings of isolation exhibited notably higher risk. Protective factors, such as individual resilience, community support, and intergenerational mentorship, were critical in mitigating these risks. Participants emphasized the need for improved mental health resource accessibility, stigma reduction, and the creation of safe, supportive spaces. **Conclusion:** These findings underscore the urgent need for targeted, culturally appropriate interventions to address the mental health challenges in Big Sky and similar rural communities.

CHAPTER ONE

INTRODUCTION

Suicide remains a significant public health concern, particularly in rural communities that face distinct mental health challenges (1). In 2021, it was the eleventh leading cause of death in the United States, with over 48,100 lives lost ((2, 3). Among individuals aged 10-14 and 25-34, it was the second leading cause of death, the third leading cause for those aged 15-24, and the fifth for those aged 35-44 (4). The age-adjusted suicide rate in the U.S. increased by 35.2%, rising from 10.4 per 100,000 in 2000 to 14.2 per 100,000 in 2018 (5). It then decreased to 13.9 per 100,000 in 2019 and to 13.5 per 100,000 in 2020, before rising again to 14.0 per 100,000 in 2021 (4, 6). The increase in suicide rates is particularly pronounced in younger populations, with the rate for individuals aged 10-14 tripling between 2007 and 2017 (6).

Despite national efforts to reduce these rates, some states, like Montana, continue to see alarming trends, ranking among the top five states with the highest suicide rates at 25.9 per 100,000 in 2020, nearly double the national rate (13.4 per 100,000) (3, 6, 7). In Montana, the situation is particularly dire, with the state consistently reporting some of the highest suicide rates in the nation (7). Montana has consistently ranked among the top five states with the highest suicide rates across all age groups for the past 30 years (4). In 2020, Montana held the third highest suicide rate in the nation highlighting an urgent need for tailored research efforts to address the specific context and challenges faced by its residents (4). Montana's diverse rural landscape, characterized by vast geographical distances and isolated communities, presents unique challenges to mental health access and suicide prevention(8, 9). Moreover, Montana has a distinct demographic composition,

with significant populations of Indigenous peoples and a sizable aging population where both groups experience unique stressors and risk factors related to suicide (3, 4, 6, 7).

The Operational Criteria for the Determination of Suicide (OCDS) defines suicide-related behavior as any self-injurious action where there is evidence that the individual intended to kill themselves or used the appearance of such intent for other purposes(1, 10). Evidence indicates that suicidal behavior exists on a continuum consisting of three domains: suicidal ideation (thoughts of wanting to die), suicide attempts (self-inflicted actions intended to result in death) and completed suicide (10). Suicidal ideation encompasses a range of thoughts about suicide, from a general desire to die to concrete plans with intent and is a key risk factor for future suicide attempts and deaths(1, 10-12). However, not all individuals follow this expected trajectory, as many who attempt suicide report no prior planning (12). Research estimates that for every suicide, there are 10-20 suicide attempts (13). In Montana, 23.4% of high school students seriously considered suicide in 2021, with 18% planning an attempt and 10.2% following through (13, 14). These statistics highlight the urgent need for preventive measures(14).

<u>Risk Factors of Suicidal Behavior</u>

The factors contributing to high suicide rates are complex and multifaceted (9). Rural U.S communities, face unique challenges, including isolation, a lack of access to mental health services, and socio-economic disparities (15-18). Studies have consistently shown that rural residents encounter higher rates of underinsurance, a shortage of mental health professionals, and greater financial barriers to accessing care, all of which contribute to the elevated risk of suicide in these areas (17, 19, 20). Moreover, mental health conditions particularly depression, play a significant role in suicidal behavior, with research indicating that about two-thirds of individuals

who die by suicide suffer from depression at the time of their death (15, 21, 22). Social and economic factors, including unemployment, social isolation, financial stress, and lack of access to healthcare, also play a key role(22-24). Additionally, a history of trauma or abuse, particularly childhood trauma, increases the likelihood of suicidal ideation and behaviors(25). These risk factors can be further compounded by demographic variables such as age, race, and occupation(25, 26).

Veterans are a higher-risk group when it comes to suicidal behavior, due to the unique challenges they face, including PTSD, traumatic brain injuries, and the difficulties of reintegrating into civilian life (22, 24, 27, 28). These factors, combined with the stigma surrounding mental health support, place veterans at increased risk of suicide than the general population (26, 29, 30). Similarly, Native Americans and Alaska Natives experience elevated suicide rates, driven by intergenerational trauma, systemic inequality, and economic challenges(1, 5, 23, 25, 27, 31). High levels of poverty, substance abuse, and inadequate access to culturally competent mental health care exacerbate the mental health disparities within these communities(23). Effective suicide prevention in these groups requires targeted approaches that consider their specific cultural, social, and economic contexts (7, 14, 19, 32).

Other populations also face heightened suicide risks due to demographic and social factors. Adolescents and young adults, particularly LGBTQ+ youth, are vulnerable due to the pressures of social stigma, discrimination, and family rejection (16, 28, 32-34). Additionally, middle-aged adults, particularly men between 45 and 64, experience higher suicide rates, often linked to economic instability and social disconnection (3, 15). Among older adults, chronic illness, isolation, and the challenges of aging can contribute to suicidal behavior (15, 35-37). Race and

ethnicity further complicate suicide risks, with African Americans, Hispanics, and immigrants facing unique stressors such as racial discrimination, economic inequality, and barriers to mental health care (16, 24, 28, 38, 39). Reducing access to lethal means, such as firearms, medications, and other dangerous methods, alongside comprehensive mental health support, are critical strategies for suicide prevention across all these groups (19, 32, 40).

Access to mental health services is a significant factor influencing suicidal behavior in rural areas of the United States(31, 41). Rural communities often face a shortage of mental health professionals, leading to long wait times and limited treatment options for those in need (2, 8, 9). Geographic isolation further compounds the issue, as many individuals live far from the nearest mental health facility, making it difficult to access care in times of crisis (21, 27, 36, 39). Additionally, rural areas often have fewer resources for specialized care, such as for substance use disorders or trauma-related conditions, which are common risk factors for suicide (23-25). The stigma around mental health in small, tight-knit communities can also discourage people from seeking help, fearing judgment or lack of privacy (5, 30). These barriers contribute to higher rates of untreated mental health conditions in rural populations, increasing the risk of suicidal ideation and behaviors (12, 18).

<div align="center">Suicide Prevention Efforts</div>

Suicide which is a key indicator of the Sustainable Development Goal (SDG) 3.4.2, aims to reduce premature mortality by promoting mental health. Understanding patterns of suicidal behavior is crucial, as recommended by the World Health Organization (WHO), and involves assessing a variety of risk factors to inform prevention efforts (5, 24).Investigating protective factors associated with suicidal behavior in rural communities is vital for developing effective

prevention strategies that cater to the community's unique needs and circumstances (21, 24, 27, 41). Preventative approaches to suicidal behavior focus on addressing both individual and societal risk factors while promoting protective factors to reduce the likelihood of suicide (19, 33, 42, 43).

Risk assessment is essential for suicide prevention as it helps identify individuals at higher risk, allowing for timely intervention and tailored support to reduce the likelihood of suicidal behavior(7, 35, 38, 41, 44). Key strategies include early identification and intervention for mental health issues, as untreated conditions such as depression, anxiety, and substance abuse are significant contributors to suicidal behavior (35, 38). Screening programs in schools, workplaces, and healthcare settings can help detect individuals at risk and connect them to necessary mental health support (8, 36, 45). Expanding access to mental health care, particularly through telehealth and community-based outreach programs is essential, especially in underserved or rural areas where services are scarce (38, 40, 43). Increasing mental health workforce capacity and training healthcare providers, educators, and community leaders to recognize the warning signs of suicide and respond appropriately is another critical component of prevention(35, 39, 45, 46).

Reducing access to lethal means, such as firearms, toxic substances, or dangerous medications, is also a proven method for preventing suicide (8, 43, 44). Policies that encourage the safe storage of firearms, prescription monitoring programs, and environmental measures like installing barriers on bridges have been shown to save lives by delaying or preventing impulsive suicide attempts (41, 43, 44). Public health campaigns aimed at destigmatizing mental illness and promoting help-seeking behavior are also vital, as they can encourage individuals in crisis to seek assistance without fear of judgment (19, 33). Comprehensive prevention strategies should include a combination of public policy, community engagement, and mental health support to effectively

reduce suicide rates (19, 33). By identifying factors like social support networks, community involvement, and access to mental health services, stakeholders can develop targeted interventions that align with the local culture and dynamics (39, 42, 46). Moreover, customized approaches, such as peer support programs and telehealth services, can ensure that residents receive the necessary support, even in a geographically isolated communities in rural United States (5, 12, 25, 27, 28, 30).

At the policy level, government action is essential to create sustainable change in suicide prevention by implementing comprehensive mental health strategies, improving access to mental health services, and addressing social determinants of health (5, 28, 47). This includes funding for mental health programs, increasing public awareness, and integrating mental health care into primary health service. Implementing national suicide prevention strategies that focus on reducing risk factors—such as unemployment, homelessness, and substance use—while increasing funding for mental health services can have a long-lasting impact (1, 12, 18). Efforts to improve healthcare access through insurance reforms and integrated care models can ensure that individuals receive comprehensive support for both mental and physical health issues (48). Additionally, increasing the capacity of the mental health workforce, especially in areas with a shortage of providers, ensures that more individuals can receive timely and culturally competent care (25, 28, 47). Combining these individual, community, and policy-based interventions creates a comprehensive approach to suicide prevention, addressing the complex and multifactorial nature of suicidal behavior (24).

Preventive efforts are increasingly turning towards community-based models that engage local populations in suicide prevention strategies (45). The Socio-Ecological Model (SEM) and

Community-Based Participatory Research (CBPR) approach provide effective frameworks for understanding and addressing these issues (49, 50). SEM allows for a multi-level analysis of individual, relational, and community factors influencing suicidal ideation, while CBPR actively involves community members in the research process, ensuring that interventions are culturally relevant and sustainable (12, 19, 33, 38, 39, 42, 48). The integration of these approaches may help to guide suicide prevention efforts.

Big Sky Community

Presently, mountain resort communities in the United States grapple with the phenomenon known as the paradise paradox, which highlights the disparities between the picturesque surroundings and the harsh realities of life for residents, particularly in terms of mental and behavioral health. The Big Sky resort community in Montana is no exception to these challenges.

Big Sky is an unincorporated community and census-designated place (CDP) located in the southwestern region of Montana, spanning Gallatin and Madison counties. As per the 2020 census, the population reached 3,591, up from 2,308 in 2010 (56). This community is situated around 44 miles (71 kilometers) southwest of Bozeman, with road access. The area's economy primarily revolves around tourism. Geographically, Big Sky is positioned on the western edge of Gallatin County and the eastern edge of Madison County, at the coordinates 45°16′12″N 111°17′59″W (45.269940, -111.299725). It is approximately halfway between West Yellowstone and Bozeman, accessible via U.S. Highway 191(56).

Big Sky, Montana faces similar challenges of other rural U.S. communities due to its geographic isolation and limited access to essential health services (9, 27, 28). Like many rural areas, Big Sky's remote location means residents often face challenges accessing healthcare,

particularly mental health services (9, 27, 28). This mirrors the broader rural U.S. experience, where limited infrastructure can make it difficult to receive timely and adequate care. Additionally, Big Sky's reliance on tourism and seasonal employment creates uncertainty for many who live and work there, similar to how many rural communities depend on industries like agriculture or tourism, leading to fluctuating job opportunities and financial instability (26, 29, 32, 36, 50).

Cultural attitudes in Big Sky also reflect those found in rural U.S. areas, where self-reliance is often valued over seeking help, particularly for mental health concerns (9). This stigma, combined with social isolation—especially in off-season periods when the town is less populated—intensifies the risk of mental health challenges (25). These conditions are typical of rural U.S. communities, where seasonal employment and limited social interaction create additional barriers to well-being (9, 26). In resort areas like Big Sky, issues like substance abuse, isolation, and economic disparities further increase suicide risk (2, 8, 20, 46, 51). While workers in Big Sky face these challenges, efforts to provide suicide prevention training have shown promising results, particularly when tailored to specific community needs (35, 51). Preventive strategies, including gatekeeper training and community engagement, have demonstrated effectiveness in reducing suicide risk (47). However, as in other communities addressing suicidal risk in diverse communities like Big Sky requires culturally sensitive approaches that consider the unique social and economic dynamics at play (46, 47, 51).

The 2022 Behavioral Health Assessment in Big Sky, Montana

Research on suicidal behavior among workforces in ski resort communities, particularly in Montana, is vital due to the unique social and economic dynamics that characterize these regions (2, 8, 9, 16, 46, 47, 51). Ski resort communities often attract seasonal workers, including young

adults who may be more vulnerable to mental health challenges(2). The pressures associated with high-stress work environments, coupled with the challenges of adjusting to a fast-paced and sometimes isolating lifestyle, can create an environment of increased risk for suicidal ideation and behaviors (36, 38). In Montana, which is home to several prominent ski resorts, understanding these dynamics is essential for developing targeted prevention strategies that can address the mental health needs of workers in this high-risk sector(37, 39, 49, 52).

In Montana, 83% of people who died by suicide faced mental health issues, with 69% dealing with depression (8). This alarming statistic led to the creation of the Big Sky Workforce Needs Assessment Survey in 2022, a partnership between the Yellowstone Club Community Foundation and Montana State University, using data from the Community Engagement & Behavioral Health Survey. This survey explored mental health concerns such as depression, anxiety, stress, and suicidal ideation in resort communities across the state. These findings are vital for addressing the mental health needs of workers in resort communities.

The aim of the 2020 Community Health Needs Assessment (CHNA) in Big Sky, Montana, aimed to evaluate local health conditions and behaviors (8). Conducted by a consulting firm PRC through phone and online surveys, the assessment involved 137 adults and found that 12.8% of residents reported poor mental health, 20% had been diagnosed with depression, and the age-adjusted suicide rate was 22.3%, lower than Montana's average of 26.6% (8). Mental health and substance abuse were identified as major community challenges. In response to these concerns, Bozeman Health, Community Health Partners, and the Gallatin City-County Health Department have conducted CHNAs every three years, with the 2017 assessment showing elevated rates of poor mental health and depression in Big Sky compared to state and national averages (8, 16).

As a result of these findings, local foundations such as the Yellowstone Club Community Foundation prioritized behavioral health, leading to the launch of the Big Sky Behavioral Health Initiative in 2019-2020. Feedback from over 60 community members, business owners, and healthcare providers highlighted issues like limited-service availability, access challenges, and the absence of a structured care system (1). This initiative was designed to address the growing need for improved behavioral health services in the Big Sky area.

To effectively address mental health challenges, particularly among the workforce in the Big Sky Workforce Needs Assessment (2022) was initiated by the Yellowstone Club Community Foundation (YCCF) and Montana State University, led by Dr MS. Behavioral health has long been a priority in Gallatin County, reaffirmed through Community Health Assessments (CHA) and Community Health Improvement Plans (CHIP). In 2019, the creation of the "Elevating Behavioral Health" committee led to the formation of the Gallatin Behavioral Health Coalition (GBHC), which supports local organizations working on behavioral health initiatives (17, 25). The 2022 assessment used a mixed-method approach involving online surveys and focus groups to collect data on mental health factors such as stress, anxiety, substance use, and access to resources. A total of 920 individuals participated, with a 10% non-participation rate. Four focus groups were conducted, including a separate session for Hispanic residents, with data collected over the summer of 2022, winter of 2023, and spring of 2023. The insights from this assessment, both quantitative and qualitative, will inform the development of targeted interventions through a community-led Wellness navigator network, contributing to the overall findings and recommendations presented in this dissertation.

Research Team

MS, PhD Public Health: MS leads research projects focused on mental health awareness and evaluation of mental health interventions.

KFI, Graduate Research Assistant, Montana State University. KFI has been actively engaged in research addressing mental health needs in vulnerable communities in South-east Asia.

SS. Formerly the behavioral health program officer at the Yellowstone Club Community Foundation and now director of Be Well Big Sky. SS employs a collaborative and community-centered approach to mental/behavioral health and wellness.

Research Questions and Design

This dissertation reports on a 4-year, cross-sectional, exploratory study that leverages two key frameworks—the Socio-Ecological Model (SEM) and the Community-Based Participatory Research (CBPR) approach—to explore these issues and engage the community in creating meaningful, evidence-based solutions. The Socio-Ecological Model (SEM) provides a multi-level framework to examine how individual, relational, community, and societal factors influence suicidal ideation (12, 49). By understanding the interconnectedness of these layers, it becomes possible to identify not only risk factors but also protective factors that can mitigate suicidal ideation among individuals. In conjunction, the Community-Based Participatory Research (CBPR) approach emphasizes the active involvement of community members throughout the research process, fostering trust, local relevance, and sustainable outcomes (27, 33, 37, 42, 49). By incorporating the perspectives of the workforce and other key stakeholders in Big Sky, CBPR

ensures that the research addresses the real-life challenges of this community and empowers them to be part of the solution (33).

This study addresses the following research questions:

1. What is the prevalence of suicidal ideation and its association with socio-demographic characteristics and psychosocial factors among the workers in the Big Sky community?

2. What are the community's perspectives on risk and protective factors related to suicide in the community?

The manuscripts presented in the body of this work directly address these research questions. The first manuscript offers a detailed and extensive literature review that explores suicidal behavior and its associated factors across diverse demographic groups. This review synthesizes existing research to highlight the complex interplay of variables influencing suicidal ideation and actions, providing a thorough understanding of how factors contribute to these behaviors, identify trends and gaps in the literature, thereby setting the stage for further investigation and potential intervention strategies tailored to specific populations; the second manuscript focuses on quantitative analysis, utilizing online surveys to estimate the prevalence of suicidal ideation among this sample population of Big Sky community and exploring how socio-demographic variables such as age, gender, sexual orientation, workforce category, residential status, and access to health care are related to suicidal ideation. The third manuscript delves into the qualitative findings gathered from community focus groups and interviews, which highlight the lived experiences of workers and community members, emphasizing both the stressors that exacerbate suicide risk and the factors that protect against it.

By linking the SEM model and CBPR approach, this study not only outlines the scope of the problem but also situates the community as a crucial partner in the solution. The integration of both quantitative and qualitative methodologies provides a comprehensive understanding of the suicide risk landscape in Big Sky, paving the way for targeted interventions that are culturally appropriate and community driven. Through this collaborative effort, we aim to contribute to the broader literature on suicide prevention in rural and resort communities, where mental health challenges are often under-researched and under-addressed.

CHAPTER TWO

METHODS

The method section outlines the research design, data collection, and analysis procedures used to address the research questions or hypotheses for the dissertation. This section provides a comprehensive description of the qualitative and quantitative methods and theoretical framework employed to collect data including the rationale for choosing specific approaches, tools, and techniques. By detailing the theoretical framework, participant selection, data sources, and analytical strategies, this section aims to offer a clear and systematic explanation of how the study was conducted, ensuring that the findings can be replicated and critically evaluated.

Theoretical Framework

This study is informed by the Socio-Ecological Model (SEM) (see Figure 1). The Socio-Ecological Model provides a robust framework for assessing suicidal behavior and its associated factors by examining the interplay of influences at multiple levels within an individual's environment. SEM enables researchers to explore how various layers of influence—from individual to societal—contribute to suicidal behavior, offering a holistic understanding of this critical issue (42, 49).

Figure 1 Socio-ecological Model for suicidal behavior

This research highlights the importance of considering the social and environmental contexts in which individuals live. These contexts encompass factors such as family dynamics, peer relationships, access to mental health services, economic conditions, cultural norms, and societal attitudes toward suicide. Conducted within a population characterized with diverse social and environmental factors this research sought to better understand suicidal behavior and associated risk and protective factors in a US Mountain resort community (33).

This project systematically addressed the four dynamic levels of the Socio-Ecological Model: 1) Individual, 2) Interpersonal/Relational, 3) Community, and 4) Societal.

1. **Individual Level:** The study examined personal factors that directly influence the risk of suicidal behavior, including personal mental health, mental health conditions such as depression, anxiety, life stressors, and substance abuse. It also considered histories of

loneliness and social disconnectedness, focusing on identifying personal vulnerabilities that may increase susceptibility to suicidal ideation or actions.

2. **Interpersonal/Relational Level:** At this level, the research focused on the influence of close relationships by developing interview guidelines and coding for thematic analysis. The study investigated how interactions with family members, friends, and intimate partners impact mental well-being, revealing that positive relationships can act as protective factors against suicide, while toxic relationships can exacerbate risk.

3. **Community Level:** Expanding the scope further, the community level of SEM examined community factors, such as workplaces, residential areas, and neighborhoods. This project assessed how community resources, including access to mental health services and support networks, influence suicidal behavior.

4. **Societal Level:** At the outermost layer, the research explored societal influences such as cultural norms, stigma surrounding mental illness, economic downturns, and national mental health policies. This level examined how societal attitudes toward mental health affect individuals' willingness to seek help and how economic instability may increase stress and, consequently, the risk of suicide. This perspective guided considerations for large-scale interventions and policy changes aimed at creating a more supportive environment for mental health.

The Social-Ecological Model (SEM) recognizes that the various levels of influence on suicidal behavior—individual, interpersonal, organizational, community, and societal— are interconnected, functioning in dynamic ways rather than in isolation (17, 49, 50). This conceptual framework provided a more comprehensive understanding of how multiple

determinants shape behavior and health outcomes. It ensures that efforts to address suicidal behavioral outcomes are not only targeted at one level but are informed by the broader social and environmental context in which individuals live (39, 53, 54).

Community Based Participatory Research

Over the last 25 years, community-based participatory research (CBPR) has increasingly become a key approach for addressing racial and ethnic health disparities by involving community members as active partners in research design, collaborative knowledge creation, intervention development, and health policymaking (53-55). The CBPR model is built on four interconnected and dynamic constructs, each with unique characteristics that work together to maximize impact (55). These constructs include contextual factors, a dynamic partnership process among project participants, and when effectively applied within their diverse contexts, they can influence and transform research and intervention designs, the implementation of these initiatives, and the outcomes that lead to enhanced capacity, system changes, and health improvements (21, 38, 49, 53). Through active collaboration with partners at Montana State University, Big Sky, and colleagues from the Yellowstone Club Community Foundation (YCCF), this study adopted a collaborative and equitable approach to developing instruments, collecting data, analyzing results, and disseminating findings.

In early 2022, YCCF formally partnered with Montana State University (MSU) to thoroughly assess the mental and behavioral health needs of workers in Big Sky, with MS serving as the principal investigator. MS, along with SS the behavioral health program officer from YCCF, successfully connected with and recruited participants for the research through existing community-led initiatives such as "Be Well Big Sky" and the "wellness navigator network."

Community support was instrumental in recruiting participants for this assessment. The primary goal of this assessment is to provide a report that will serve as a "call to action" for future programming aimed specifically at improving the mental and behavioral health of Big Sky residents.

CBPR requires significant time to build relationships with community members, identify local priorities, and establish a Community Advisory Board (CAB) [Brief discussion on the Community Advisory Board is provided in Appendix A]. However, due to the funding and timeline constraints of this doctoral study, it was not possible to conduct a fully authentic CBPR process. Nonetheless, the study offered an opportunity to evaluate the logistics, advantages, and challenges of conducting health and socioecological research guided by CBPR principles. The study enabled co-learning through the reciprocal exchange of knowledge within the Big Sky resort community.

For this project, the objective was to gather diverse perspectives on suicidal ideation from a broad range of stakeholders, ensuring the assessment reflects all relevant social, contextual, and community factors that could improve the mental health challenges faced by Big Sky's workforce. The project, structured around co-learning, co-sharing, and co-production, has the potential to enhance public scientific literacy, provide actionable recommendations, and promote local implementation. By combining both quantitative and qualitative research to understand community perceptions and leveraging existing relationships with community stakeholders, the insights gained from this research are expected to shape anti-suicide messages that resonate with and reflect the community's thoughts, acceptance, and expectations. Consequently, the research outcomes and interventions will be contextually relevant, with all actions and implementations grounded in dialogue and information sharing with community members. CBPR strengthened this

study by ensuring that all involved partners were aware of the cultural and political factors at play and shared a common goal of improving them.

<u>Study Setting</u>

The research presented in this dissertation was carried out in Big Sky, a well-known resort community located in Montana. Big Sky is an unincorporated community and census-designated place (CDP) located in the southwestern region of Montana, spanning Gallatin and Madison counties (56). The area's economy primarily revolves around tourism. This community is situated around 44 miles (71 kilometers) southwest of Bozeman, with road access. The area's economy primarily revolves around tourism (56). Geographically, Big Sky is positioned on the western edge of Gallatin County and the eastern edge of Madison County, at the coordinates 45°16′12″N 111°17′59″W (45.269940, -111.299725). It is approximately halfway between West Yellowstone and Bozeman, accessible via U.S. Highway 191 (56).

Presently, mountain resort communities in the United States grapple with the phenomenon known as the "paradise paradox," which highlights the disparities between the picturesque surroundings and the harsh realities of life for residents, particularly in terms of mental and behavioral health. The Big Sky resort community in Montana is no exception to these challenges. In response to the behavioral challenges in Big Sky, the Yellowstone Club Community Foundation (YCCF) launched the Be Well Big Sky initiative in 2020, aiming to address the health and social needs of community members through evidence-based approaches. In early 2022, YCCF formalized a partnership with Montana State University (MSU) to conduct a comprehensive evaluation of the mental and behavioral health needs of individuals employed in Big Sky. This

evaluation comprised an online survey for quantitative assessment and several focus groups for qualitative analysis.

Ethics

Ethical approval for this study was provided by the Montana State University Institutional Review Board Committee in 2022.

Data Collection

The data collection for this dissertation project was conducted using a mixed methods approach from July 2022 to December 2023. The process involved an online survey administered via Qualtrics, as well as focus group discussions with a diverse group of participants. The following section outlines the detailed steps taken for each methodological approach.

Sampling Strategy

We administered an online community survey and several focus groups to better understand the mental and behavioral health status and needs of the Big Sky community. Our sampling approach aligned with CBPR principles and socio-ecological theory by selecting participants based on pre-existing community relationships (convenience and purposive sampling) and their familiarity with mental health challenges.

Community Survey: We employed a convenience sampling strategy for community assessment survey, utilizing various recruitment methods such as promotional flyers with QR codes linked to the survey, social media outreach, word-of-mouth via YCCF staff, and employee listservs from local employers. Our aim was to obtain a representative sample of the entire workforce. Given the total estimated workforce in Big Sky, our target was to recruit about 10% of

the workforce population. Recruitment and participation were conducted during three data collection periods: summer 2022, winter 2023, and summer 2023. The inclusion criteria required participants to be Big Sky residents with varying occupational statuses who were willing to take part in the survey. To encourage participation, we offered a $50 gas card as an incentive through a lottery-based system. We received 720 completed or partially completed surveys (with missing responses to some survey questions), reaching about two-thirds of our target sample size.

Focus Groups: Key stakeholders and community representatives for the focus group discussions were contacted in person, via word-of-mouth, email, and phone, leveraging YCCF's established relationships within the community (purposive sampling and snow-ball sampling). The inclusion criteria for the focus groups participants were broad: aged 18+ and either working/residing in Big Sky and with relevant experience and perspectives on mental and behavioral health challenges among the Big Sky workforces. These participants were drawn from a range of sectors including healthcare, administration, tourism, management, entertainment, sports, media, education, business and financial operations, health diagnostics and treatment, community and social services, sales, construction, maintenance, and government roles. A total of 21 male and female participants, aged 18-65, from Big Sky were recruited for four focus group discussions, one of which was conducted with Hispanic-identified and Spanish-speaking individuals. Focus group participants were incentivized with a $50 gas card and provided with a meal during the discussion. All English-language interviews were transcribed using Rev audio transcription services.

Study Instruments

Our project utilized a mixed-method approach that included both a community survey assessment and focus group discussions with the Big Sky workforce.

Community Survey

We developed and administered a 47-question survey that covered topics such as demographics, mental and behavioral health, and community perspectives on cohesion and trust. The survey was conducted online using the Qualtrics platform. The survey included a brief version of the 12-item Concise Health Risk Tracking-Self Report (CHRT-SR) scale (57), which features a subscale for suicidal ideation. This subscale consists of three items that measure the intensity of ideation, plans, and behaviors related to suicide (items 10, 11, and 12), all rated on a five-point Likert scale ranging from 0 (Strongly Disagree) to 4 (Strongly Agree). Descriptive quantitative analysis of the independent variables provided insight into the prevalence of suicidal ideation within the workforce. The survey also collected socio-demographic information, including age, gender, race, sexual orientation, residency and community status, occupational role, years living in the Big Sky community, and psychosocial factors (such as depression, anxiety, social support and connectedness, and life stressors) for all participants. For complete survey questionnaire please refer to the Appendix B.

Focus Groups

We designed a 15-question, open-ended focus group guide that centered around three main areas of inquiry: 1) Perspectives on addressing mental and behavioral health concerns, 2) Barriers to seeking help, and 3) Resources for mental and behavioral health. The Principal Investigator,

with the assistance of the YCCF program manager, facilitated the focus group sessions both in person and via Zoom. The in-person sessions took place at the YCCF Big Sky office. We conducted four focus groups, one of which was specifically for Hispanic-identified and Spanish-speaking individuals. Each focus group had an average of 5-6 participants, with a total of 13 male and 8 female participants. For the complete focus group guideline please refer to the Appendix C.

Analysis Plan

Community Survey: Survey data were analyzed using Stata statistical software. Both descriptive and inferential analyses using STATA software were performed to determine the overall prevalence of responses and to identify any statistically significant correlations with key variables (58). Descriptive statistics were used to measure the prevalence and distribution of selected variables. Depending on data normality assumption check, we conducted inferential statistical analysis (chi-square) to assess the relationships between various sociodemographic (such as age, gender, sexual orientation, relationship status, residential status, work category) and psychosocial factors (depressive symptoms, source of stress, social connectedness measures) with suicidal ideation items. We also employed spearman correlation to observe the effects of exposure variables and the suicidal ideation outcome while controlling the potential confounders.

Focus Groups: For the focus group data, we collaboratively listened to and transcribed the audio recordings, then developed a thematic codebook for content analysis. To familiarize myself with the data, I conducted multiple readings of the transcripts and developed an initial codebook. MS subsequently reviewed the codebook to validate the preliminary coding. Using the analytical software Dedoose we grouped the codes into broader themes. The final themes were interpreted in relation to the research questions and existing literature, and socio-ecological framework providing

meaningful insights into participants' perspectives on risk and protective factors related to suicidal ideation and the overall mental health of the Big Sky workforce. To ensure the validity and reliability of the data, strategies such as triangulation, member checking, and debriefing with the advisory committee and the YCCF project team were implemented. For complete descriptions of analytical methods, refer to Chapter 4 and Chapter 5.

<u>Result Dissemination</u>

Guided by CBPR principles, the survey results and focus group findings were shared with community members and project stakeholders in a manner that was contextually, culturally, and scientifically appropriate. Several meetings and feedback discussions were conducted before finalizing the behavioral assessment report, ensuring that it accurately reflected the community's context and policy implications while maintaining the integrity of the research findings. The timeline of the research project is demonstrated below.

<u>Timeline of the Project</u>

Table 1 Timeline of the Big Sky Workforce Needs Assessment (2022) Project

2021	2022	2023	2024
November -Yellowstone Club Community Foundation (YCCF) invites discussion regarding potential partnership on initiative	**January - April** -Project Strategic Planning: Survey, focus group guide, and consent form development	**January** -Focus group discussion	**January-April** -3rd round of analyses of the Survey Data -Content analysis of focus group findings
	May -MSU Institutional Review Board Project Approval	**February - April** - Survey launch - 2nd round -Content analysis of focus group findings	**May - June** -Development and modification of Assessment Report
	May -Project Initiation (MSU Contract) -YCCF Grant Acknowledgement	**May- July** -Focus group discussion (2nd round)	**May - June** -Assessment Data Project Snapshot development (fliers and poster)
	July-September -Survey launch (1st round)	**July - September** -Survey launch (3rd round)	**May – July** -Promotional video production and completion - Contracting with local filmography
	October-December -Focus group discussion -1st round of analyses of the Survey Data	**July- December** -2nd round of analyses of the Survey Data	**July- December** -Disseminating findings

CHAPTER THREE

UNDERSTANDING SUICIDAL BEHAVIOR AND

ASSOCIATED RISK AND PROTECTIVE FACTORS IN THE

UNITED STATES

<u>Contribution of Authors and Co-Authors</u>

Manuscript in Chapter 3

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Abstract

This manuscript examines suicidal behavior in the United States, focusing on the associated risk and protective factors across diverse population. For this comprehensive literature review, evidence-based, peer-reviewed journal articles, and scholarly research from January 1990 to August 2024 were incorporated, utilizing databases such as PubMed, Google Scholar, MSU Library, and Web of Science. Suicidal behavior, a major public health concern, is influenced by a complex interplay of individual, social, and environmental factors. Risk factors such as mental health disorders, substance abuse, socioeconomic challenges, and access to firearms are prominent contributors. These factors, either in isolation or combination, significantly increase the risk of suicidal thoughts, attempts, and completed suicides. Conversely, protective factors like social support, access to mental health care, community engagement, and coping skills can reduce the likelihood of suicidal behavior. Understanding both risk and protective factors is critical for developing effective prevention strategies and fostering resilience for at-risk populations. This paper provides a comprehensive overview of current research on both risk and protective factors and discusses their implications for prevention efforts in United States.

Purpose and Scope of the Literature Review

Research on suicidal behavior in the United States (U.S.) is critical due to increasing suicide rates and the wide range of factors contributing to this public health issue (22, 40, 59). Suicide is shaped by a complex interplay of mental health, social, economic, and cultural factors, with significant disparities in rates across various regions, demographics, and occupations (40). Gaining a deeper understanding of these differences is essential for creating targeted prevention strategies (60).

Studying suicidal behavior within specific populations is vital for several reasons (60, 61). Different demographic and socioeconomic groups experience unique risk and protective factors that affect their mental health and vulnerability to suicidal thoughts and behaviors (32, 62). Additionally, research on specific populations helps illuminate the role of cultural context in mental health outcomes, as communities often have distinct beliefs about mental health and suicide, which can influence help-seeking behaviors and treatment attitudes (63, 64). Finally, understanding these dynamics helps guide policy and resource allocation (59). Policymakers and health professionals need data-driven insights to effectively design programs for high-risk groups. Research focusing on rural communities who face specific mental health challenges can help guide the development of culturally appropriate interventions aimed at preventing suicides and improving access to mental health services and crisis interventions, ultimately reducing suicide rates (37).

This literature review aims to thoroughly summarize existing research on suicidal behavior in the U.S., with a focus on the risk and protective factors influencing suicidal thoughts and behaviors among communities in the rural United States. The review covers several key areas. It

will first assess the prevalence of suicidal thoughts and behaviors among the residents and workers in rural communities, using data and studies to contextualize the issue within the broader U.S. mental health landscape (65). It will also explore the specific risk factors affecting the target population of this literature review, along with protective factors that may mitigate these risks (43, 44, 66, 67). Furthermore, the review will evaluate the effectiveness of current preventive approaches and interventions tailored to rural communities and their impact on reducing suicidal behavior and promoting mental well-being. By synthesizing existing research, this review aims to identify gaps in current knowledge, suggest implications for suicide prevention interventions, and provide recommendations for future research and practice. The ultimate goal is to contribute to the growing understanding of suicidal behavior and advocate for more focused strategies to address mental health challenges in rural communities in the United States.

Methodology

Search Strategy

This literature review on suicidal behavior and its associated risk and protective factors in the United States was conducted through a systematic search of peer-reviewed articles. The databases utilized for the search included PubMed, Google Scholar, MSU library and Web of Science. The search was restricted to articles published in English from January 1990 to August 2024 to ensure the review reflects contemporary research trends. The search terms used included: "suicidal behavior," "suicide risk factors," "protective factors for suicide," "United States," "suicide prevention," "mental health," "resilience, "socio-ecological model" "community-based participatory research", and "vulnerable populations." Boolean operators (AND/OR) were used to refine and combine search terms, ensuring that relevant literature was captured.

Review Eligibility Criteria

Studies were included in the review based on the following criteria:

- Population: Articles that focused on individuals in the United States, without restrictions on age, gender, or ethnicity.

- Study Design: Empirical studies, systematic reviews, and meta-analyses that provided quantitative or qualitative data on risk and protective factors related to suicidal behavior. Studies focusing on socio-ecological model and community-based participatory research were also included.

- Outcomes: Research that examined suicidal ideation, attempts, or completions, as well as factors that mitigate or exacerbate the likelihood of such behavior.

- Risk Factors: Studies that identified individual, social, cultural, and environmental risk factors for suicidal behavior.

- Protective Factors: Articles that explored protective factors such as social support, mental health interventions, community resources, and coping mechanisms.

- Exclusion Criteria: Studies that focused solely on non-U.S. populations, case reports, and articles published prior to year 1990 were excluded. Additionally, research that did not focus on suicide-specific outcomes or that was unrelated to risk and protective factors was omitted.

Data Extraction and Synthesis

After the initial search, titles and abstracts were reviewed to ensure alignment with the eligibility criteria. Full-text articles were then assessed for inclusion. Data from the included studies were extracted, focusing on key findings related to risk and protective factors,

methodological approaches, and population characteristics. The findings were synthesized thematically, with an emphasis on identifying common trends, risk-protective factors related to suicidal behavior, gaps in the literature, and recommendations for future research.

Literature Review

Background on Suicidal Behavior

This section will provide foundational information about the various aspects of suicidal behavior, including its definitions, underlying causes, and historical context. It will discuss key concepts such as suicidal ideation, suicide attempts, and completed suicides, alongside a review of epidemiological data, including global and national suicide rates, and the differences in different stages of suicidal behavior across age groups, genders, and socioeconomic backgrounds.

Definitions and Stages of Suicidal Behavior. Suicidal behavior is generally understood as a continuum that begins with suicidal thoughts or ideation, progresses to planning, and may culminate in suicide attempts or completion (68, 69). Suicidal ideation represents the earliest stage in this progression, characterized by thoughts about or a preoccupation with ending one's life (22, 59, 70, 71). Research indicates that while not all individuals who experience suicidal ideation proceed to later stages of suicidal behavior, the presence of such thoughts significantly heightens the risk of an eventual attempt (59, 72). The next stage involves suicidal planning, wherein individuals begin to formulate a method or timeframe for taking their own life (71). The final stage, suicide attempts, occurs when an individual actively tries to end their life but survives, often requiring immediate medical or psychological intervention. Understanding these distinct stages is critical for identifying appropriate intervention points to prevent escalation from ideation to action (10, 71). The progression from suicidal ideation to suicide attempts and ultimately to completed

suicides illustrates a continuum of suicidal behavior, often influenced by various risk and protective factors (10). These stages are not linear; individuals may experience fluctuations in their mental state, leading to periods of increased risk or recovery (10, 73). In fact, data show that individuals aged 18-25 report the highest levels of suicidal ideation, with 11.3% of this age group reporting serious thoughts of suicide in the past year during the period the data was collected (74-76). Middle-aged men (particularly white men) continue to represent the demographic with the highest suicide completion rates, accounting for nearly 70% of suicides in 2020 (74-76).

Suicidal behavior encompasses a range of actions and thoughts related to self-harm and the intent to end one's life (59, 77). It is essential to delineate between various terms and stages to understand the complexity of this phenomenon fully (26, 73). By understanding these definitions and stages, researchers and mental health professionals can develop targeted interventions to address the needs of individuals at each stage of suicidal behavior (66, 67).

Suicidal Behavior in the U.S.

This section provides an overview of suicidal behavior in the United States, focusing on key trends, demographic patterns, and contributing factors. It will summarize the prevalence of suicidal ideation, attempts, and completed suicides across different age groups, genders, and communities, highlighting at-risk populations such as youth, veterans, and rural residents. Additionally, this overview will examine the social, economic, and psychological drivers behind the mental health disparity across rural and urban United States.

National Statistics on Suicide Rates. Suicidal behavior, which is comprised of thoughts, attempts, and completed suicides, is a significant public health concern in the United States. Suicide is the second leading cause of death among individuals aged 10 to 34 and the fourth leading

cause among those aged 35 to 54, accounting for over 48,000 deaths annually (3, 4, 78). In 2021, the age-adjusted suicide rate reached 14.9 per 100,000 individuals, marking a 33% increase since 2000 (18). Alarmingly, nearly 4% of U.S. adults reported having serious thoughts of suicide in the past year, translating to approximately 12 million individuals, while around 1.4 million adults attempted suicide (29, 79). Among different racial groups, the highest rates are observed in Native American and Alaska Native populations, with rates of 22.9 per 100,000 in 2020, highlighting significant disparities in mental health outcomes across different ethnicities (28, 80).

The factors contributing to suicidal behavior in the U.S. are multifaceted, involving a complex interplay of mental health issues, social determinants, and environmental influences (45). Mental health issues, such as depression and anxiety, are significant risk factors, with studies indicating that over 50% of individuals who die by suicide have a history of mental illness (68, 69, 81). Furthermore, the National Institute of Mental Health (NIMH) estimates that approximately 20% of adults with serious mental health challenges contemplate suicide, underscoring the critical need for effective mental health interventions (68, 69, 82). Socioeconomic factors also play a role. For instance, individuals experiencing financial hardship or unemployment are at an increased risk of suicidal behavior(32, 83). Individuals who are unemployed are nearly five times more likely to report suicidal thoughts compared to those who are employed (32, 83, 84).

Trends over time. Statistically, suicidal behavior remains a significant public health concern in the United States. In 2022 approximately 12 million American adults reported having serious thoughts of suicide, with over 3 million planning a suicide attempt, and around 1.7 million actually attempting suicide (65). This progression highlights the importance of addressing suicidal ideation early to prevent the risk of attempts and deaths (26, 79, 85). The rate of suicide in the U.S.

has been rising steadily, and in 2020, suicide was the 12th leading cause of death, with nearly 46,000 reported suicides, translating to approximately one death every 11 minutes (26, 79, 85). Studies show that individuals with suicidal ideation are at a substantially higher risk of attempting suicide, with estimates suggesting that around 25-50% of those who experience suicidal thoughts will attempt suicide at some point in their lives (66, 67).

Over the past two decades, the U.S. has witnessed a concerning increase in suicide rates. From 1999 to 2018, the overall suicide rate increased by 33%, rising from 10.5 to 14.2 per 100,000 people (9, 86, 87). However, since 2018, the rates have plateaued, suggesting a potential stabilization of this public health crisis (86). Despite this, certain demographic groups, such as middle-aged adults (ages 45-64) and older adults (ages 85 and above), have seen continued increases in their suicide rates during this period (60, 87, 88).

Rural Disparities. While suicidal behavior is a significant concern across the U.S., the burden of this public health issue is more pronounced in rural communities (21, 40, 84). In rural areas, individuals are more likely to experience higher rates of suicide and suicidal ideation than their urban counterparts (89, 90). This disparity can be attributed to several factors unique to rural environments, such as limited access to mental health services, heightened social isolation, and pervasive socioeconomic challenges. Rural communities, especially those in remote or economically depressed regions, often lack adequate mental health infrastructure (91, 92). Rural residents have fewer mental health professionals per capita, longer distances to travel for care, and experience substantial delays in receiving mental health services, all of which contribute to untreated or undertreated mental health conditions (22, 93). These conditions, coupled with the

stigma associated with seeking mental health care in many rural areas, create an environment where suicidal ideation may go unaddressed (94-96).

Between 2000 and 2018, the disparity in suicide rates between rural and urban areas grew significantly(64, 91). Rural suicide rates increased by 48%, compared to a 34% rise in urban areas. Throughout this period, male suicide rates were higher than female rates in both settings (64, 91). In 2018, the rural male suicide rate was 3.8 times that of females, while the urban male rate was 3.6 times higher than the female rate. From 2007 to 2018, rural male suicide rates rose by 34%, compared to a 17% increase in urban areas (26, 75). Additionally, rural female suicide rates nearly doubled, while urban female rates increased by 51%. These statistics underscore the urgent need for focused research and intervention efforts tailored to specific populations, particularly in underserved and rural communities where access to mental health care may be limited (75, 97).

In contrast, urban populations, while facing their own mental health challenges, generally have greater access to mental health resources, which can serve as protective factors against suicidal ideation (75, 97). Urban environments typically provide more comprehensive mental health services, such as crisis intervention centers, outpatient psychiatric clinics, and a broader network of mental health professionals, which allow individuals to seek care more easily when needed (25, 72, 81, 93). Although urban residents may be exposed to stressors like higher rates of unemployment, crime, and poverty, the availability of mental health services plays a critical role in mitigating the risk of suicidal thoughts (98). However, urban populations may face different forms of isolation and stress, including the fragmentation of community support networks and the fast-paced, high-pressure nature of urban living, which can contribute to mental health struggles(89, 98, 99). Nonetheless, the capacity of urban areas to provide prompt and specialized

mental health care reduces the likelihood that suicidal ideation will escalate into suicidal behavior (89, 90, 100, 101).

Demographic Factors Influencing Suicidal Behavior

Suicidal ideation affects a wide spectrum of the U.S. population, but its prevalence and risk factors vary significantly across different demographic groups (62). It is influenced by complex intersections of age, gender, race, socioeconomic status, sexual orientation (60). Understanding these demographic variations is crucial for developing targeted prevention and intervention strategies, ensuring that high-risk populations receive the mental health care and support they need(102). This section highlights socio-demographic drivers of suicidal behavior across diverse population.

Age: Among U.S. adolescents and young adults, suicide is the second leading cause of death for individuals aged 10-34 years (60, 78, 83). Young adults aged 18-25 experience some of the highest rates of suicidal ideation, with around 11.3% of this age group reporting serious thoughts of suicide in the past year (60, 83). The pressures associated with academic stress, transitioning to adulthood, social media influence, and identity formation contribute to the increased mental health challenges among youth(60, 102, 103). This demographic is often characterized by lower rates of help-seeking behavior, making early intervention and accessible mental health resources critical in addressing this vulnerable population (60, 102, 103). Conversely, older adults, particularly those over 65 years, face unique vulnerabilities that can increase their risk of suicide (104). Factors such as isolation, loss of loved ones, declining physical health, and mental health issues contribute to their increased vulnerability(104). In fact, older adults often struggle with a sense of purposelessness and may experience feelings of hopelessness

stemming from their life circumstances, which can culminate in suicidal thoughts and behaviors (47, 74, 104).

Gender: Gender also plays a significant role in the prevalence and expression of suicidal ideation (105). Studies consistently show that women are more likely to experience suicidal thoughts and make non-fatal suicide attempts than men (90, 105, 106). However, men are more likely to die by suicide, largely due to the use of more lethal means, such as firearms (90, 107). Men are approximately 3.5 times more likely to die by suicide than women, accounting for about 79% of all suicide deaths in 2020 (61, 88, 90). In 2020, the suicide rate among men was nearly four times higher than that of women, with middle-aged and older men, particularly white men aged 45-64, being the most at risk for suicide completion (61, 88). Cultural expectations around masculinity, reluctance to seek help, and higher rates of substance abuse among men contribute to this demographic trend (108). Conversely, women, though more likely to experience suicidal ideation, often engage in help-seeking behaviors, which may act as a protective factor against suicide completion (108).

Race and Ethnicity: Race and ethnicity further reveal disparities in suicidal ideation across the U.S. population (21, 51, 60, 83, 97, 109, 110). While non-Hispanic white individuals traditionally have the highest rates of suicide, recent trends indicate growing concern among racial and ethnic minority groups (97). Native Americans and Alaska Natives experience some of the highest rates of suicide in the U.S., with rates more than double the national average (22, 82). The CDC reports that Native American and Alaskan Native populations have the highest suicide rates among all racial and ethnic groups, with a rate of 24.1 per 100,000 individuals (27, 82, 84, 99). Suicidal ideation in these communities is often exacerbated by systemic issues, such as historical

trauma, poverty, and limited access to mental health care (84). Additionally, Black youth and Latinx populations are experienced increased suicide rates, driven in part by experiences of racism, discrimination, and socioeconomic inequality (62, 82, 110). The stigma surrounding mental health in certain cultures can also inhibit help-seeking behavior, making these populations particularly vulnerable to untreated mental health issues (61, 108, 111).

Sexual Orientation and Gender Identity: Demographic disparities further complicate the landscape of suicidal behavior in the U.S (40, 87, 112). Sexual orientation and gender identity are additional key factors influencing suicidal ideation as certain groups face a higher risk of suicide, including Lesbian, gay, bisexual, and transgender (LGBTQ+) individuals, who are four times more likely to attempt suicide than their heterosexual peers (34, 113-115). Community, particularly transgender and non-binary individuals, experiences disproportionately high rates of suicidal thoughts and behaviors (34, 101, 114, 116). Among LGBTQ+ youth, including over half of transgender and non-binary youth, 42% seriously considered suicide in 2021 (34, 101, 114, 116). Discrimination, bullying, family rejection, and societal marginalization contribute to the high rates of mental health challenges in this group (21, 117, 118). These individuals are more likely to experience anxiety, depression, and substance abuse, further elevating the risk of suicidal ideation (92). Creating supportive, affirming environments and improving access to culturally competent mental health services are essential strategies for reducing suicidal ideation among LGBTQ+ individuals (103, 113, 119).

Geographic Variations: Geographic location significantly influences suicidal behavior, with notable differences between rural and urban populations (9, 60, 75, 89, 91). For example, rural areas experience higher suicide rates compared to urban settings (91). In 2019, the suicide

rate in rural counties was 18.6 per 100,000 individuals, while urban areas reported a rate of 12.1 per 100,000 (29). This stark contrast underscores the urgent need to examine the unique factors affecting mental health in rural communities (91, 120). Rural communities often face challenges like limited mental health services, social isolation, and economic struggles, which can increase suicidal thoughts and behaviors (92). Mental health stigma in these areas also discourages individuals from seeking help, further worsening the issue (108, 111). In contrast, urban areas, although having lower suicide rates, experience different stressors such as economic disparity, homelessness, and crime, which contribute to mental health challenges (87, 112, 121). Both rural and urban areas face unique issues, requiring tailored interventions and resources to address mental health and prevent suicide effectively (83, 100, 122).

Risk Factors of Suicidal Behavior

This section will explore the various elements that increase an individual's likelihood of engaging in suicidal behavior. This section will cover both individual and environmental risk factors, including mental health challenges, substance abuse, traumatic life events, and family history of suicide. Additionally, it will address societal and demographic influences, such as socioeconomic status, access to firearms, and geographic location. By identifying and understanding these risk factors, this section aims to provide a comprehensive overview of the key contributors to suicidal behavior, which is crucial for effective prevention and intervention strategies.

Behavioral and Mental Health Factors:

Suicidal ideation in the United States is driven by a complex interplay of psychological, social, and environmental risk factors (62). These risk factors vary across different demographic groups but share common themes of stress, trauma, and mental health challenges (32, 61, 87, 103, 123). Mental health conditions, particularly depression, anxiety, and substance use disorders, remains one of the most significant risk factors for suicidal thoughts (51, 87, 108, 123). Individuals suffering from major depressive disorder or bipolar disorder often experience overwhelming feelings of hopelessness, which can lead to the development of suicidal ideation (103, 108, 116, 121, 124). Global trends consistently highlight psychological illness as the primary contributor to suicidal deaths (65, 73, 84, 109, 125, 126). Studies on suicide reveal that approximately nine out of ten individuals who died by suicide had a mental disorder, with depression comprising about two-thirds of these cases (79, 81, 92, 106).

Additional risk factors for suicide include substance use, excessive alcohol consumption, prior personal or family suicide attempts, experiences of abuse, violence, bullying, strained family relationships, parental discord, separation, or divorce (62, 102, 127-129). Substance use, including alcohol and drug abuse increases the risk by impairing judgment and exacerbating emotional instability, contributing to impulsive suicidal thoughts (130). A comparative study on bullying and suicidal behavior found that among adolescents attempting suicide, about 9.5% and 14.7% experienced school bullying and cyberbullying, respectively (96, 102, 127, 130). For specific demographic groups, additional risk factors come into play. LGBTQ+ individuals, particularly youth, face unique challenges such as discrimination, family rejection, and societal marginalization, which elevate their risk for suicidal ideation (34, 45, 113). Among racial and ethnic minorities, systemic racism, economic inequality, and cultural stigma surrounding mental

health can serve as major barriers to seeking help, increasing the likelihood that suicidal ideation goes unaddressed (85, 109).

Social Isolation and Interpersonal Relationships

Social isolation and strained interpersonal relationships are significant risk factors for suicidal behavior, as they can lead to feelings of loneliness, hopelessness, and disconnection from support systems (73, 112, 118, 127, 128, 131). When individuals are socially isolated, they often lack the emotional and social support necessary to cope with stress, anxiety, or depression, which are common precursors to suicidal ideation (73, 112, 118, 127, 128, 131). The absence of meaningful relationships can intensify feelings of worthlessness, making it more challenging for individuals to seek help or share their struggles (78, 100, 127, 130). Studies suggest that people who are socially isolated are two to three times more likely to experience suicidal thoughts than those who are well-connected to their social networks(127). Another study found that individuals with poor social integration were at a significantly higher risk of suicide, with a reported 50% increase in suicide mortality rates compared to those who were more socially connected (132).

Furthermore, negative, or abusive interpersonal relationships, including domestic violence, bullying, or significant conflict, can exacerbate feelings of distress and hopelessness, heightening the risk of suicide (107, 115, 129, 132). A large body of research indicates that breakdowns in relationships, including divorce, separation, or major arguments, are often associated with acute stress that can trigger suicidal behavior (96, 133). This is particularly relevant for older adults, who may be dealing with the loss of loved ones, reduced social networks, or declining physical health (80, 92, 94, 134). Centers for Disease Control and Prevention (CDC) reported, approximately 42% of individuals who died by suicide experienced relationship problems or a

crisis in the two weeks prior to their death (73, 75, 97, 126). In particular, abusive or toxic relationships, such as those involving domestic violence, not only elevate stress and trauma but also contribute to feelings of entrapment and despair, making individuals more vulnerable to suicidal ideation (28, 39, 67, 99, 104).

Research shows that robust social support is crucial for mental health, as it provides individuals with emotional and practical resources during times of stress (62, 95, 108, 111, 133, 135). In contrast, the lack of a reliable support system can lead to feelings of isolation, anxiety, and depression, which are well-known risk factors for suicidal behavior (127). Rural workforce characterized with transient workers often suffer from inability to establish deep relationships can leave workers feeling unsupported during challenging times, increasing their vulnerability to mental health issues (102). The intense demands of their jobs can leave workers feeling drained, reducing their capacity to engage with others and find it difficult to open up about their experiences and struggles, leading to a sense of isolation that can worsen mental health problems (83, 98, 123, 124, 128, 129, 136).

Additionally, the stigma surrounding mental health and help-seeking behaviors in isolated or strained relationships can prevent individuals from reaching out for support when they need it most (108). Men, for example, are more likely to suffer in silence due to societal expectations of emotional restraint, and research shows that men with poor social support are at a higher risk of suicide, contributing to the fact that men are nearly four times more likely to die by suicide than women (61, 121, 127). Social isolation in rural areas further amplifies this risk, where geographic remoteness limits access to mental health services, leaving individuals with fewer resources to cope with distress (32, 62, 100, 127). A 2020 study highlighted that individual in rural settings are

particularly vulnerable to suicide due to the combined effects of isolation, economic stressors, and limited mental health infrastructure (32, 89, 103). The same study noted that rural suicide rates have been steadily increasing, in part due to these compounded factors of social and geographic isolation (32).

Covid-19 as Risk Factor

The COVID-19 pandemic significantly exacerbated the issue of social isolation and strained interpersonal relationships, intensifying the risk of suicide across various populations (98, 119, 137). The global health crisis led to widespread lockdowns, social distancing measures, and the abrupt cessation of normal social interactions, which compounded feelings of loneliness and disconnection for many individuals (21, 138-140). Research has shown that isolation during the pandemic was particularly challenging for individuals already vulnerable to mental health issues (12, 140). For people already experiencing loneliness or interpersonal conflict, the pandemic worsened these dynamics (122, 127). Data from the National Domestic Violence Hotline reported a sharp rise in calls during the pandemic, as victims of domestic abuse found themselves trapped with abusers without access to their usual support networks or escape routes (98, 137). This heightened level of stress and trauma contributed to a surge in mental health crises, with some studies reporting a 20-30% increase in suicidal ideation during the early months of the pandemic (139).

Furthermore, COVID-19 created new barriers to accessing mental health services (64, 140, 141). The pandemic overwhelmed healthcare systems globally, diverting resources away from mental health care and making it difficult for individuals to seek help (98, 119, 137). In-person counseling sessions were often postponed, and while telehealth services became more available,

many people—especially in rural or low-income areas—faced technological barriers to accessing care (137, 139, 140, 142). The CDC reported that in June 2020, 40% of U.S. adults reported struggling with mental health or substance use during the pandemic, with younger adults, racial/ethnic minorities, essential workers, and unpaid caregivers experiencing disproportionately higher levels of suicidal ideation (137, 139, 140, 142).

Financial Factors

Economic hardship, particularly in the form of unemployment or financial instability, plays a critical role in elevating the risk of suicidal behavior (32). Research consistently shows that individuals from socially disadvantaged groups—those marked by low socioeconomic status, limited education, low income, and poverty—are disproportionately affected by mental health challenges and suicidal behavior (26, 29, 63, 120, 125). These individuals often face multiple layers of hardship, such as limited access to healthcare, education, and employment opportunities, which exacerbates their vulnerability to mental health crises (66, 97, 103). Studies suggest that people in these groups are more likely to experience chronic stressors like job insecurity, housing instability, and food insecurity, all of which can severely impact mental well-being (60, 68, 97, 118, 126). The COVID-19 pandemic has exacerbated many of these conditions, with lockdowns and economic shutdowns leading to mass unemployment and widespread financial instability contributing to a rise in mental health issues and suicidal ideation across various populations (72, 117, 137, 140).

Financial instability is closely linked to job insecurity in rural workers (68, 85, 101, 140). Seasonal workers may struggle to budget their earnings to last throughout the year, particularly when they have limited access to benefits such as health insurance, retirement plans, and paid time

off (17, 28). Research indicates that financial strain is a significant risk factor for depression and anxiety, which are closely associated with suicidal thoughts and behaviors (32, 72, 120, 136). Workers may find themselves trapped in a cycle of stress, where the need to perform well at work conflicts with their ability to manage personal well-being, leading to detrimental outcomes (81, 99).

Furthermore, the stigma associated with seeking financial assistance can deter individuals from reaching out for help (111). Individuals may feel ashamed of their financial struggles and may not consider accessing available resources due to fear of judgment or the belief that they should be able to cope independently (26, 135). This combination of job insecurity and financial instability creates a precarious environment that can heighten the risk of suicidal behavior (119).

Stigma Surrounding Mental Health

Stigma surrounding mental health remains a significant barrier to individuals seeking help(108). Despite increasing awareness about mental health issues, many individuals still face societal and self-imposed stigma that discourages them from accessing support (103, 132). In cultures that prioritize resilience and toughness, admitting to mental health struggles can be perceived as a weakness (134). This perception can lead individuals to hide their struggles, fearing judgment from peers, supervisors, or the broader community (108, 111, 117, 134).

Stigma can lead to internalized shame, where individuals believe they should be able to cope without assistance (108, 111, 117, 134). This internalized stigma can be particularly pronounced among seasonal workers who may feel that they cannot afford to appear weak in competitive job markets (135). Additionally, stigma may also manifest in workplace dynamics, where employees feel pressured to conform to an ideal of emotional strength and self-reliance

(135). Consequently, many individuals may avoid discussing their mental health issues or seeking help, leading to untreated conditions that can escalate into more severe mental health crises or suicidal behavior (124, 128).

Addressing stigma requires comprehensive community awareness campaigns and organizational efforts that promote open discussions about mental health (95, 108, 111, 135). Initiatives that emphasize mental health education and provide safe spaces for employees to express their concerns can help diminish stigma and encourage individuals to seek the help they need (39). Furthermore, implementing training programs for management and staff can create a culture of understanding and support, where mental health is openly acknowledged and treated with the same importance as physical health (71).

Access to Mental Health Resources

Access to mental health resources poses a considerable challenge in rural and remote communities, where the geographical landscape can significantly impact the availability of mental health services (9, 27, 29, 125). Many communities are situated in isolated areas, which can limit access to qualified mental health professionals and resources. Rural communities often have fewer mental health providers per capita, leading to long wait times and inadequate services for individuals in need (119). More than 60% of rural Americans live in areas designated as mental health professional shortage areas, which highlights the pressing need for improved access in these regions (99).

Transportation challenges further complicate access to mental health care. Employees may lack reliable transportation, making it difficult to travel to appointments, particularly during inclement weather conditions or when work schedules are demanding (99). The combination of

limited-service availability and transportation issues creates significant barriers for individuals seeking timely mental health support (29).

<u>Access to Lethal Means</u>

Access to lethal means is a significant factor contributing to suicidal behavior in the United States(86, 143-145). The availability of firearms has been strongly associated with higher suicide rates, as firearms are highly lethal and offer little opportunity for intervention once an attempt is made (86, 143-145). In the U.S., where firearm ownership is widespread, nearly half of all suicides are completed using guns, making this the most common method of suicide (43, 44, 124). Studies have shown that individuals in households with firearms are at a substantially higher risk of suicide, even if the firearms are intended for protection or recreation (43, 44). This risk is heightened when firearms are stored unsafely, such as being easily accessible or not locked away (98, 125, 145). Reducing access to lethal means—through safe storage practices, temporary firearm removal during times of crisis, or legislation restricting gun access for high-risk individuals—has been demonstrated as an effective suicide prevention strategy (145).

Other lethal means, such as poisoning and suffocation, also play a significant role in suicidal behavior, particularly in certain demographic groups (44, 67, 86, 145). Drug overdoses, often involving prescription medications like opioids or sedatives, are a common method of intentional and unintentional suicide, particularly among women and middle-aged adults (138, 146, 147). The widespread availability of certain medications, combined with the opioid crisis, has exacerbated this issue(26, 43, 88). Ensuring that potentially lethal medications are prescribed in safer amounts and educating the public on safe medication storage and disposal are essential preventive measures(41, 79, 94, 143, 144). Suffocation or hanging is another highly lethal method,

frequently seen in younger populations, particularly adolescents and men (12, 81). Limiting access to these means can reduce impulsive suicide attempts and save lives (12, 81). Comprehensive suicide prevention strategies must address both the individual's mental health needs and the physical means by which they might attempt suicide.

Protective Factors of Suicidal behavior

This section will focus on the elements that help reduce the risk of suicide and foster resilience. It will cover key protective factors such as strong social connections, access to mental health care, problem-solving skills, and effective coping mechanisms. This section will provide a comprehensive overview of how these protective factors can mitigate the risk of suicidal behavior and promote mental well-being. While numerous risk factors contribute to suicidal ideation across different populations in the United States, several protective factors can help mitigate these risks and foster resilience (37, 73). Protective factors are characteristics or conditions that reduce the likelihood of suicidal thoughts or behaviors and enhance an individual's ability to cope with stress and adversity (127, 128).

Social Support and Social Capital

Social capital refers to the networks, relationships, and norms that foster mutual support and cooperation within a community (141). It encompasses the social ties that individuals have with family, friends, neighbors, and social institutions, contributing significantly to community resilience and individual well-being (118, 127, 134, 141). High levels of social capital are associated with better mental health outcomes, including lower rates of depression and anxiety. In contrast, a lack of social capital can lead to feelings of isolation and disconnection, which are

significant risk factors for suicidal behavior (92, 106, 148). Individuals who lack strong social

connections may not have access to emotional support or resources that can buffer against

stressors, making them more vulnerable to suicidal thoughts and actions (103, 128, 132, 146).

Among the most critical protective factors is strong social support, including relationships with

family, friends, and community members. Individuals who feel connected to others and have a

reliable support system are less likely to experience prolonged periods of isolation and despair,

which can reduce the risk of suicidal ideation (62). Research has found that peer support

significantly enhances mental health outcomes by providing a sense of belonging and reducing

stigma (62, 121, 127).

Research indicates that communities with strong social capital tend to have lower suicide

rates (70, 79, 87, 92, 141). This is partly because strong social networks can provide individuals

with emotional support, a sense of belonging, and access to mental health resources (70, 79, 87,

92, 141). Engaging in community activities, such as volunteering or participating in local

organizations, can strengthen social ties and foster a supportive environment that promotes mental

health (65). Conversely, social disconnection and a lack of community engagement can exacerbate

feelings of loneliness and hopelessness, contributing to suicidal ideation (38, 39, 47, 74, 99).

Therefore, promoting social capital through community-building initiatives can be an essential

strategy in suicide prevention efforts, creating an environment where individuals feel valued,

connected, and supported in their mental health journeys (87, 94, 120).

Social support is particularly vital for vulnerable populations facing mental health

challenges (35, 79, 113). For instance, having at least one supportive adult in the lives of youth—

whether a family member, teacher, or mentor—can significantly reduce the risk of suicidal ideation

(12, 67, 95, 113). This dynamic underscore the importance of positive relationships and social networks in safeguarding mental well-being (39, 74, 80, 133, 149). Additionally, creating safe spaces and fostering inclusive environments can empower marginalized individuals to seek help and build resilience in the face of adversity (129). Research indicates that individuals who feel supported by their communities or organizations in accessing mental health resources are more likely to engage in help-seeking behaviors (129). This highlights the crucial role that social capital plays in promoting mental health and reducing the risk of suicidal behavior among diverse populations.

<u>Access to Mental Health Services</u>

Access to mental health services acts as a crucial protective factor against mental health crises and suicidal behavior by providing individuals with timely support, resources, and treatment that can mitigate the risk of worsening symptoms (103, 132, 146). Early intervention through accessible mental health care can prevent conditions like depression, anxiety, and substance abuse from escalating to severe levels, where they might result in suicidal ideation or attempts (121, 146). When mental health services are readily available, individuals experiencing distress can access counseling, therapy, medication management, or crisis intervention, all of which can play a life-saving role in addressing their emotional and psychological needs (118, 124, 147). Individuals who have timely access to mental health services, including counseling, therapy, and psychiatric care, are more likely to receive treatment for underlying mental health conditions that contribute to suicidal ideation (118, 124, 147).

In addition, mental health services often provide individuals with coping strategies, problem-solving skills, and emotional regulation techniques, which serve as long-term protective

factors (71, 106, 120, 125). Regular access to mental health professionals helps people to develop stronger resilience and reduce vulnerability to stressors that might otherwise lead to suicidal thoughts or behaviors (39, 87, 98, 99, 138, 150). The availability of comprehensive care, including follow-up support, peer networks, and specialized treatment programs, ensures that individuals not only receive immediate help but also long-term mental health management, reducing the risk of relapse or recurrence of crises (149, 151, 152). Moreover, public mental health initiatives like gatekeeper training and community outreach efforts are effective in identifying individuals at risk early, offering preventive care before mental health challenges become life-threatening (152). Expanding access to mental health services thus strengthens community safety nets, improving overall well-being and reducing suicide risk.

Sense of Purpose and Resilience

A sense of purpose and personal resilience are also important protective factors(74). Individuals with clear life goals, whether in their personal lives or professional careers, often have stronger reasons for living and a greater ability to navigate difficult times (17, 74, 79, 101, 138). This sense of purpose may stem from meaningful relationships, caregiving roles, creative pursuits, or work-related accomplishments (120). Furthermore, resilience—defined as the ability to recover from adversity—can help individuals cope with stress and setbacks without resorting to self-harm or suicidal ideation (71, 79, 120). Developing coping strategies, such as mindfulness, problem-solving skills, or seeking out professional help during crises, strengthens resilience and can prevent individuals from becoming overwhelmed by difficult life events (65, 94, 124, 150). For example, mindfulness-based interventions are significantly more likely to reduce symptoms of anxiety and depression across diverse populations (106, 150).

Prevention Initiatives

This section will explore the various strategies and programs designed to reduce suicidal behavior and promote mental health. This section will cover national, community, and individual-level initiatives, including public awareness campaigns, early intervention efforts, school-based programs, and crisis support services. It will also examine evidence-based approaches such as gatekeeper training, restricting access to lethal means, and improving mental health services.

Preventive measures center on risk assessment and management (12, 81). A vital component of prevention is the identification of vulnerable populations and the mitigation of risk factors (81, 99). Research shows that reducing access to alcohol, illegal substances, and weapons, enhancing mental health services, employing depression screening tools, promoting physical and outdoor activities, and fostering support group participation can significantly decrease suicide rates (72, 122, 123). Public health guidelines advocate for a multi-faceted intervention model, which several developed nations have adopted to formulate national prevention strategies (112, 132). Nevertheless, addressing suicide within diverse contexts does not have a universal solution; a single approach cannot be applied everywhere (66). Instead, it requires a flexible and ongoing strategy that supports sustainable development in suicide prevention (69, 85). This approach is grounded in the best available research and demands collaboration among all community stakeholders (69, 85).

In recent decades, substantial progress has occurred in the theory and implementation of public health strategies addressing behavior-related mortality and morbidity (107, 112, 117, 126, 140). National suicide prevention strategies share common elements: utilizing educational settings for intervention, promoting suicide research, altering media portrayals (stigma reduction),

enhancing detection and treatment of mental illnesses, reducing stigma around help-seeking, improving access to services, promoting effective prevention with rigorous evaluation, and limiting access to suicide means (107, 112, 126, 148).

Educational Interventions for Suicide Prevention

Utilizing educational settings for suicide prevention initiatives are a highly effective strategy, as demonstrated by numerous studies that highlight the critical role schools and universities play in addressing mental health issues among young people (120, 149, 151). Research has shown that school-based suicide prevention programs, such as gatekeeper training and mental health literacy initiatives, can significantly reduce suicide risk by enhancing awareness and equipping students and staff with the skills to recognize early warning signs of distress (132). Programs like Signs of Suicide (SOS) have been shown to decrease suicidal ideation and attempts by combining mental health education with screening and referral systems (122). Moreover, studies have found that peer-based interventions, where students support one another, can foster a sense of community and reduce stigma surrounding mental health, encouraging individuals to seek help sooner (103).

Educational settings also offer unique opportunities for continuous monitoring and engagement, making it easier to reach individuals at risk who might otherwise avoid traditional healthcare settings (76, 117, 141, 142, 153). The integration of mental health services within schools, such as on-site counselors and crisis intervention teams, provides immediate support, further reducing barriers to access (76). These findings suggest that implementing comprehensive, school-based suicide prevention programs can serve as a powerful protective factor, particularly

when they incorporate both education and direct intervention services tailored to the unique needs of students.

Screening Tool and Risk-assessment

Enhancing the detection and treatment of mental illnesses is a key component of suicide prevention, as early identification and timely intervention can significantly reduce the risk of suicidal behavior (22, 145). Numerous studies have demonstrated that individuals with untreated mental health disorders, such as depression, anxiety, and substance abuse, are at a higher risk of suicide (22). Effective screening tools, such as the Patient Health Questionnaire (PHQ-9), have been proven to help clinicians and healthcare providers detect early signs of mental illness, including suicidal ideation, allowing for timely intervention (146). Moreover, research has shown that integrating mental health screening into primary care and community health settings can increase access to care for at-risk individuals, particularly in underserved populations where mental health services are limited (100).

In terms of treatment, evidence-based therapies such as cognitive-behavioral therapy (CBT) and dialectical behavior therapy (DBT) have been shown to significantly reduce suicidal ideation and attempts by addressing the underlying cognitive distortions and emotional regulation issues associated with mental illness (46, 85, 153). Additionally, pharmacological treatments, such as antidepressants and mood stabilizers, can play a vital role in managing mental health conditions that contribute to suicidal behavior when monitored appropriately (154). Enhancing both the detection and treatment of mental illnesses, particularly through collaborative care models and integrated healthcare approaches, is thus a critical suicide prevention strategy supported by a robust body of research(154).

Improving Access to Mental Health Service: One of the most effective strategies for prevention is improving access to mental health services(138, 144). Early identification and treatment of mental health conditions such as depression, anxiety, and substance use disorders can significantly reduce the risk of suicidal ideation (138, 144). The Zero Suicide initiative has been successfully implemented in several health care systems across the U.S., with a focus on comprehensive suicide prevention through screening, safety planning, and treatment (155-157). Studies have shown that the Zero Sum initiative has led to reductions in suicide rates in participating systems, emphasizing the importance of health care providers in identifying at-risk individuals early (155). This approach is evidently effective as it includes increasing the availability of affordable mental health services, integrating mental health screenings in primary care settings, and promoting telehealth options, especially in underserved and rural areas (17, 25, 27, 37, 158). Expanding mental health education and outreach to reduce stigma associated with seeking help is another essential aspect of prevention, as many individuals who experience suicidal thoughts may be reluctant to access care due to fear of judgment or discrimination (37, 133).

Community-based Interventions: Community-based interventions play a critical role in preventing suicidal ideation (37, 92, 136, 149). Suicide prevention programs that are embedded within schools, workplaces, and local communities can provide the social support and education necessary to reduce the incidence of suicidal thoughts (73, 74, 117). Schools, in particular, are key environments for prevention efforts, as they can implement programs that teach youth resilience, coping skills, and emotional regulation (12, 159). Youth mental health initiatives that foster peer support networks and train educators to recognize warning signs of suicidal ideation can be effective in addressing the mental health needs of adolescents and young adults (12, 159).

Similarly, workplaces can adopt mental health training programs that encourage employees to seek help, while also cultivating environments that prioritize mental well-being (21, 35, 47). Programs like *Sources of Strength*, a peer-led initiative implemented in schools, have demonstrated effectiveness in reducing suicidal ideation among youth (39). The program teaches resilience, promotes positive coping mechanisms, and creates networks of support among students, school staff, and communities (39, 106). Research indicates that students participating in *Sources of Strength* report higher levels of connectedness and lower levels of hopelessness, both critical protective factors against suicidal ideation (39, 106).

Community-based participatory research (CBPR) has been identified as an effective approach for tackling mental health challenges in various communities (41, 85). By fostering collaboration between researchers and local community members, CBPR helps to pinpoint health issues, design suitable interventions, and assess their effectiveness (53, 54). This method promotes community involvement and ensures that solutions are culturally appropriate and tailored to the specific needs of the population (55). Several communities have adopted CBPR-driven programs, including mental health awareness initiatives, peer support networks, and improved access to mental health services (12, 35, 46, 47). A notable example is the collaboration between the Mountain Community Health Center and ski resorts in Colorado, which introduced mental health screenings, coping strategy workshops, and support groups for seasonal workers (38, 39, 81, 99). Research has demonstrated that these programs led to significant improvements in mental health outcomes by raising awareness, increasing service accessibility, and reducing stigma, which encouraged people to seek help (17, 21, 82, 92-94).

Restricting Access to Lethal Means: Restricting access to lethal means is another crucial preventative measure (87, 143). Research shows that limiting access to firearms, reducing the availability of prescription medications used in suicide attempts, and implementing safety measures such as bridge barriers in high-risk areas can significantly decrease the likelihood of suicide (78, 145). Policies in states like California and Massachusetts that focus on safe firearm storage and the promotion of gun safety laws, including background checks and waiting periods, have been associated with lower suicide rates (78, 145). The *Means Matter* campaign has successfully raised awareness about the importance of reducing access to firearms and other lethal means during times of crisis (43, 44, 122). Research consistently shows that reducing access to lethal means, especially firearms, is one of the most effective ways to lower suicide rates, as the method used in an attempt often determines the outcome (43, 44, 122). This approach is particularly relevant for rural populations, where access to firearms is more prevalent and suicide rates are higher (35, 40, 133, 152). Educating families and communities on safe storage of firearms and medications is a simple yet powerful intervention to prevent impulsive actions during times of crisis (21, 39, 74, 143).

Mental Health Training for Employers: Mental health training for employers is a key element in suicide prevention efforts (39, 47, 99). By providing managers and supervisors with the tools to identify and address mental health concerns, organizations can cultivate a more supportive work environment and reduce the stigma surrounding mental health (65, 152). Workplaces offering mental health training experience lower absenteeism, increased employee satisfaction, and stronger organizational commitment (152). Equipping employers to recognize mental health issues can promote early intervention, lowering the risk of more serious problems and boosting

workplace morale (37, 133). Fostering a culture of mental well-being helps build workforce resilience.

Mental health training programs educate employers to identify signs of mental health challenges, implement effective communication, and emphasize the importance of offering mental health resources (37, 133). One notable example is the Mental Health First Aid (MHFA) program, which teaches participants to recognize, understand, and respond to mental health crises (125, 160). Implementing MHFA and similar programs in communities can promote a culture of empathy and support, improving mental health outcomes among employees (125).

Improving Cultural Competence: Cultural competence in mental health care is essential for reaching diverse vulnerable populations (150). Prevention programs must be tailored to the unique needs and experiences of these groups, recognizing the specific risk factors they face, including discrimination, marginalization, and systemic inequalities (129, 132). For example, LGBTQ+ youth benefit from affirming mental health services and safe, supportive spaces where they can openly express their identities without fear of rejection (95, 113, 124). Similarly, veteran-specific programs that address trauma and PTSD can help mitigate the risk of suicidal ideation among military populations (95, 113, 124).

By creating inclusive environments that are sensitive to the diverse experiences of different demographic groups, preventative strategies can more effectively reduce the prevalence of suicidal behaviors across the U.S. population (39, 95, 99, 113, 124). For example, the *Garrett Lee Smith (GLS) Memorial Suicide Prevention Program*, which provides funding for suicide prevention activities on college campuses and in tribal and state organizations, has been linked to reductions in suicidal behaviors, particularly among youth and Native American communities (21, 62, 82, 94,

161). An evaluation showed that counties implementing the GLS program had significantly lower rates of suicide attempts among youth ages 16-23 compared to counties that did not (161).

Public Awareness Campaigns: Public awareness campaigns are vital for raising awareness about suicide prevention and normalizing conversations around mental health (162). National initiatives like the "988 Suicide & Crisis Lifeline" and community-driven campaigns can empower individuals to seek help and learn about available resources (162, 163). The 988 Lifeline provides 24/7, confidential support for individuals experiencing suicidal thoughts or mental health crises, offering a critical safety net for people nationwide (38, 61). Data show that callers who engage with the Lifeline are significantly less likely to report suicidal ideation after the call, illustrating the importance of easily accessible, immediate mental health support (38, 61). Additionally, public health campaigns such as *Man Therapy*, which targets working-aged men, have utilized humor and relatable content to reduce mental health stigma and encourage help-seeking behaviors, a demographic group that traditionally underutilizes mental health services (95, 164). Through coordinated efforts at the national, local, and individual levels, it is possible to create a more supportive, connected society where individuals experiencing suicidal thoughts can access the help they need (164). Adapting these successful approaches, including health care system interventions, community-based programs, means restriction, and public awareness efforts, the U.S. has seen progress in reducing suicide rates in specific populations (78, 132, 147). However, continued investment in expanding these strategies is essential to further reducing the prevalence of suicidal ideation and behaviors across the country.

Rigorous Evaluation of Preventive Initiatives: Promoting effective suicide prevention requires not only the implementation of evidence-based interventions but also the rigorous

evaluation of these programs to ensure their impact and scalability (165). Research has highlighted the importance of using data-driven approaches to measure the outcomes of suicide prevention initiatives, as this allows for continuous improvement and adaptation to different populations (140). Programs such as the Zero Suicide initiative, which integrates systemic prevention strategies within healthcare settings, have been shown to significantly reduce suicide rates when paired with consistent evaluation and performance metrics (68, 155). These evaluations assess the effectiveness of training, screening, and intervention protocols, providing insights that lead to refinements and greater effectiveness over time (165).

Rigorous evaluation also helps identify which components of prevention programs are most effective(163). For example, randomized controlled trials (RCTs) have been used to evaluate the efficacy of interventions like cognitive-behavioral therapy (CBT) and dialectical behavior therapy (DBT) in reducing suicidal thoughts and behaviors, with studies demonstrating their significant impact (46). Additionally, community-based programs that include gatekeeper training and public awareness campaigns are more successful when subjected to continuous evaluation to measure both immediate and long-term effects on suicide rates (21). Thus, ensuring rigorous evaluation of suicide prevention initiatives is crucial in refining strategies, scaling up effective interventions, and ultimately reducing suicide rates across diverse communities.

Integrating Community-Based Participatory Research into
Prevention Strategies

Community-Based Participatory Research (CBPR) plays a critical role in preventing

suicidal behavior in the United States by engaging communities directly in the research and

intervention process (38, 39). CBPR is a collaborative approach where researchers and community

members work together to design, implement, and evaluate prevention strategies that are culturally

relevant and context specific (38, 39). This model ensures that suicide prevention efforts are

grounded in the lived experiences, needs, and strengths of the communities they aim to serve,

making interventions more effective and sustainable (55).

One of the primary benefits of CBPR in suicide prevention is its ability to address the

unique risk factors and challenges faced by specific populations (38). Traditional research methods

may not fully capture the cultural, social, and economic complexities influencing suicidal behavior

in various communities, particularly those that are marginalized or underserved (21, 39, 47, 165).

Through CBPR, communities have a direct voice in shaping research priorities and intervention

strategies, ensuring that these efforts reflect the realities of their lives (165). This is especially

important for Native American, rural, LGBTQ+, and other vulnerable groups who often face

barriers to accessing mental health services due to stigma, systemic inequities, and a lack of

culturally competent care (73, 119, 133). By involving community members in the research

process, CBPR helps reduce these barriers and builds trust between researchers and communities,

which is vital for successful intervention (51).

CBPR also facilitates the development of prevention programs that are tailored to the

specific cultural and social contexts of the community (166). For example, in Native American

communities, where suicide rates are disproportionately high, CBPR has been used to integrate

traditional practices and community healing approaches into suicide prevention programs (28, 80, 167). Initiatives like the American Indian Life Skills Development Curriculum, which was developed using CBPR methods, incorporate culturally relevant content into educational programs to address suicidal ideation among Native youth(167). This curriculum, co-developed with tribal leaders and mental health professionals, includes teachings on problem-solving, emotional regulation, and traditional practices, which have been shown to strengthen resilience and reduce suicidal behaviors (167).

In rural communities, CBPR has been used to design community-driven suicide prevention strategies that emphasize local assets and social connections (168). For instance, some rural CBPR projects have focused on training community members, such as clergy, teachers, or agricultural extension workers, to recognize the signs of suicidal ideation and provide early intervention support (38). By leveraging existing community networks and addressing the specific social dynamics of rural life, CBPR allows for the development of interventions that are both accessible and effective (38).

Additionally, CBPR strengthens the capacity of communities to sustain prevention efforts beyond the lifespan of a research project (169). Since community members are actively involved in the planning and implementation phases, they are more likely to feel ownership over the interventions and continue them long-term (170). This participatory process also empowers communities by enhancing their knowledge and resources to address suicide on their own terms (170, 171). The ongoing collaboration between researchers and communities helps to ensure that suicide prevention programs evolve with changing community needs and that best practices are shared widely (38, 39).

Ultimately, CBPR in suicide prevention promotes equity by ensuring that interventions are responsive to the diverse needs of the U.S. population (172). It shifts the focus from a top-down approach to one where community members are co-researchers, leading to more meaningful, culturally sensitive, and effective suicide prevention strategies (54). This collaborative model is crucial in addressing the disparities in suicide rates and ensuring that all populations have access to prevention efforts that work for them (54).

<u>Gaps in Current Research</u>

Despite increased recognition of suicidal behavior as a significant public health concern, considerable research gaps exist in our understanding of suicidal risk and protective factors with specific populations (62, 99, 173). Many studies tend to compile data across broad demographic categories, which can overlook the unique experiences and risk factors faced by certain groups (29, 64, 88, 131, 149). This lack of detailed examination may mask important trends and insights necessary for effectively addressing suicidal behavior. Groups such as seasonal workers, LGBTQ+ individuals, veterans, and communities of color often encounter distinct cultural, economic, and social pressures that impact their mental health and suicide risk (67, 95, 113, 124). The absence of targeted research examining these populations makes it difficult to develop interventions and resources that effectively meet their specific needs (38).

Similarly, while awareness of the mental health issues affecting workers in rural communities has grown, there are still significant gaps in research that impede the development of effective support strategies for this unique workforce (9, 21, 43, 62, 78, 93). A key issue is the lack of focused studies that address the mental health and well-being of resort employees. Much of the existing research tends to look at broader occupational health categories or general tourism, failing

to consider the specific challenges associated with seasonal employment, varying job demands, and high-pressure work environments characteristic of rural resorts (117, 122, 123). The psychological effects of these conditions, such as the burnout caused by long hours during peak seasons, are still under-explored (98, 129). Additionally, resort workers often come from diverse cultural backgrounds, yet the literature does not sufficiently address how these cultural factors influence perceptions of mental health and help-seeking behaviors. This oversight limits the development of culturally competent interventions tailored to meet their unique needs (26, 98, 124, 129, 130).

Moreover, the current literature frequently lacks longitudinal studies that track changes in suicidal behavior over time within specific groups (82, 84, 89). It is crucial to understand how suicidal behaviors develop in response to various life events, societal shifts, or economic changes, as this knowledge can help identify key intervention points (128, 129, 167). For example, in communities facing economic downturns, research could provide valuable insights into how heightened financial stress affects mental health and suicidal ideation(69, 72, 139). Longitudinal research can also evaluate the effectiveness of existing support systems and whether they sufficiently address the needs of vulnerable populations over time (124, 173, 174). Without this critical data, policymakers and mental health professionals may struggle to allocate resources effectively or implement timely interventions (117, 126, 131). There is an urgent need for studies that investigate effective intervention models specifically designed for the unique challenges encountered by different populations (41, 173, 174). While some general prevention programs exist, they may not adequately consider the cultural and contextual factors that affect help-seeking behaviors and treatment outcomes in diverse populations(35, 149, 151). By concentrating on the

lived experiences and specific circumstances of these populations, researchers can aid in developing culturally competent and context-sensitive interventions (87, 94, 113, 175). This focused approach is essential for reducing rates of suicidal behavior and ensuring that individuals receive the necessary support to navigate their mental health challenges (87, 94, 113). Addressing these research gaps is crucial for deepening our understanding of suicidal behavior among specific populations and for formulating strategies that enhance mental well-being and resilience (175).

Conclusion

The issue of suicidal thoughts and ideation among the United States population presents a complex public health challenge, necessitating a multifaceted and nuanced understanding of its risk and protective factors, and effective preventive approaches. Throughout this literature review, it is evident that suicide is not a singular issue but rather a complex web of psychological, social, and environmental factors. The Social-Ecological Model (SEM) employed in this project served as an effective framework for examining these issues across multiple layers of influence. At the individual level, mental health conditions such as depression and anxiety are significant contributors to suicidal ideation, fostering feelings of hopelessness and despair. Additionally, demographic factors like age, gender, and ethnicity shape individual experiences and increase vulnerability, highlighting the need for culturally competent care and targeted mental health interventions. Moving to the interpersonal and community levels, factors such as social connections, strained relationships, limited access to mental health resources, stigma, economic instability, and environmental characteristics elevate the risk of suicidal thoughts, particularly among at-risk populations, including LGBTQ+ youth, racial and ethnic minorities, and those in rural areas who may experience rejection and discrimination. Finally, at the societal level, cultural

attitudes toward mental illness and systemic inequalities contribute to environments where mental health needs frequently go unmet.

Importantly, this review underscores the critical role of protective factors and preventative approaches in mitigating the risk of suicidal behaviors. Social support, access to mental health care, and the promotion of resilience and coping skills are essential components that can empower individuals and communities to navigate periods of crisis. Programs and initiatives that leverage CBPR have shown promise, as they emphasize the importance of engaging communities in the development and implementation of mental health interventions. By centering the voices and experiences of those most affected by suicidal ideation, CBPR fosters culturally relevant and contextually appropriate solutions that enhance the effectiveness of prevention efforts.

Furthermore, the implementation of evidence-based strategies—such as lethal means restriction, public awareness campaigns, and school and workplace mental health initiatives—has demonstrated the potential to significantly reduce the incidence of suicidal thoughts and behaviors. Collaborative efforts across sectors, including healthcare, education, and community organizations, are essential in creating a supportive infrastructure that addresses the multifactorial nature of suicide. Public health campaigns that normalize discussions about mental health and suicide, alongside efforts to destigmatize help-seeking behaviors, can pave the way for more individuals to access the care they need.

Moving forward, it is crucial to continue refining and expanding these preventive strategies to ensure they are accessible to all populations, particularly those at greatest risk. Continued investment in research, policy advocacy, and community engagement will be necessary to identify emerging trends and respond effectively to the evolving landscape of mental health challenges in

the United States. By fostering a comprehensive, inclusive approach to suicide prevention, we can work towards a future where individuals feel supported and empowered to seek help, ultimately reducing the prevalence of suicidal thoughts and ideation across the nation. In doing so, we honor the lives of those affected by this pressing issue and contribute to a more resilient and healthier society.

CHAPTER FOUR

ASSESSMENT OF SUICIDAL IDEATION AND FACTORS

ASSOCIATED WITH SUICIDAL IDEATION AMONG

WORKERS IN BIG SKY, MONTANA

<u>Contribution of Authors and Co-Authors</u>

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Abstract

Significance: Suicidal ideation is a pressing public health concern, particularly in communities with unique socioeconomic dynamics, such as resort areas. Resort community in Montana presents a distinct workforce environment characterized by seasonal employment, housing insecurity, and high-stress job conditions. This study aims to examine the prevalence of suicidal ideation among the workforce in Big Sky resort community, Montana and the association between suicidal thoughts and key sociodemographic and psychosocial factors.

Methods: We administered an online survey to 720 respondents that included a brief version of the 12-item Concise Health Risk Tracking-Self Report scale, a measure of suicidal ideation. We conducted descriptive and inferential analysis of suicidal ideation and associated factors.

Results: Major stressors included housing insecurity (74.9%) and financial difficulties (63%), contributing to significant rates of depression, with 37.87% reporting mild and 18.77% moderate symptoms. Despite some feelings of isolation, many participants reported finding social support through friendships, with 62.7% connecting across age groups. The findings reveal strong associations between suicidal ideation and various sociodemographic and psychosocial factors. Younger individuals (18–24 years), sexual minorities (e.g., bisexuals at 21.4%), single individuals (40.5%), and recent relocators (<6 months, 50%) report higher rates of suicidal ideation. Severe depression (27.9%) and feelings of social disconnection, such as isolation (37.5%) or lack of companionship (25.6%), significantly contribute to suicidal thoughts.

Conclusion: This study highlights the urgent need for workers in rural resort communities to access equitable housing and affordable, culturally appropriate mental health services. It emphasizes the need for advocating targeted, culturally appropriate interventions that can be adapted for similar rural communities in Montana and beyond.

Introduction

Over the past two decades, the United States (U.S.) has witnessed a concerning increase in suicide rates(176, 177). From 1999 to 2018, the overall suicide rate increased by 33%, rising from 10.5 to 14.2 per 100,000 people(176-178). Furthermore, between 1999 and 2019, the age-adjusted suicide rate rose by 33%, resulting in approximately 800,000 deaths (31). Alarmingly, the suicide rate among individuals aged 10-14 nearly tripled between 2007 and 2017, from 0.9 to 2.5 per 100,000 (31, 178, 179). Since 2018, the age-adjusted suicide rates have plateaued for 2 years through 2020 at 13.5, suggesting a potential stabilization of this public health crisis, but then increased to 14.1 in 2021. (155, 179).

There are notable U.S. urban-rural disparities of suicides, with rural areas experiencing higher suicide rates compared to urban areas (20). In 2019, U.S. rural counties had a suicide rate of 18.6 per 100,000, whereas urban areas reported a rate of 12.1 per 100,000 (176, 177). In 2021, suicide was the 11th leading cause of death, with over 48,000 deaths by suicide—a rate of 14.1 per 100,000 individuals (31, 180). It was the second leading cause of death among individuals aged 10 to 34 (176, 177).

Suicide rates are indicators of a critical national public health crise both in the U.S. and Montana (area of study), a predominantly rural state (26, 78). Montana consistently ranks among those with the highest suicide rates (78). In 2020, Montana had one of the top five highest suicide rates, with 25.9 deaths per 100,000, significantly higher than the national average of 13.4 per 100,000 (177, 181, 182). This disparity is especially prevalent in isolated, rural communities where geographic isolation, limited healthcare access, economic instability, and cultural stigma surrounding mental health issues contribute to greater mental health challenges (178, 183, 184). In

Montana, 57% of suicides involve individuals diagnosed with depression (185). In 2018, nearly 8% of adults in Montana reported a diagnosis of depression and frequent mental distress, surpassing the national average of 6.7% (18, 78, 155, 185-187).

The mental health challenges faced by the workforce in rural communities are compounded by broader issues affecting rural workforce populations across America (21, 186, 188, 189). Factors such as geographic isolation, limited access to mental health services, social stigma surrounding mental health, and economic hardship contribute to higher rates of depression, anxiety, and suicide in these areas (31, 77, 183, 190). Rural residents often struggle with inadequate mental health infrastructure, where services are sparse, and the few available resources may be difficult to access due to transportation barriers or financial constraints (20, 157, 177, 187, 189, 191). Cultural stigmas, particularly among men, deter individuals from seeking help (192, 193). In addition, rural communities, particularly those experiencing economic hardship, endure a range of stressors that negatively impact mental health, including long work hours, financial insecurity, job instability, and limited access to mental health services (8, 78, 157). These combined factors create a high-risk environment for suicidal ideation and behaviors. (8, 78, 107, 112, 117, 126, 148, 157).

U.S. resort communities present a unique set of socioeconomic and environmental challenges that further intensify mental health disparities (8, 182, 194, 195). Resort communities are characterized by transient populations, seasonal employment, and a heavy reliance on tourism. Significant income inequality exists in these areas, where affluent tourists coexist with lower-wage workers struggling to manage the high cost of living (3-5, 7, 24). Resort community workers may face challenges such as housing insecurity, job insecurity, and limited access to affordable

healthcare, conditions that can contribute to elevated stress levels and an increased risk of mental health conditions (4, 7, 24).

In addition to these stressors, seasonal employment and geographic isolation further exacerbate access barriers to mental health services, leaving many workers without adequate support during periods of mental distress (7, 187, 194). Research has shown that resort communities are especially vulnerable to mental health crises, with workers experiencing higher rates of depression, anxiety, substance use, and suicidal ideation compared to the general population (158, 194, 196). These issues were magnified by the COVID-19 pandemic, which intensified existing mental health challenges in the area (60, 72, 197, 198).

Focused evaluation of risk and protective factors of suicidal ideation is crucial for developing strategic and targeted interventions, improving mental health accessibility, and fostering community support systems that address the specific needs of rural populations (77, 199-201). A 2017 health assessment revealed that 36% of residents in a resort community of Montana, Big Sky suffered from chronic depression, and over half indicated inadequate access to mental health services (78, 157). Considering these challenges, the present study aims to examine the prevalence of suicidal ideation among the workforce in Big Sky resort community, Montana, and to explore the association between suicidal thoughts and key sociodemographic and psychosocial factors.

<div align="center">Methodology</div>

Study Setting:

With a population of just over 3,500, Big Sky, Montana is considered a remote rural community located in the southwestern region of Montana (56). The area's economy is primarily

fueled by the tourism industry (56). The workforce in Big Sky encompasses a diverse range of occupations, primarily includes management, art, designs, entertainment, sports, media; education; business & financial operation; health diagnosing & treating practitioners; community & social service occupations; sales & related; construction & extraction; maintenance & repair; personal care & service; food preparation & serving related; building; transportation and office & administrative support (126).

Methodological Approach

This study employed the principles of community-based participatory research (CBPR), a methodological framework aimed at promoting health equity by involving community members as equal partners throughout the research process. We adopted an inclusive approach to instrument design, data collection, analysis, and dissemination of results, collaborating closely with colleagues from the Yellowstone Club Community Foundation (YCCF) and community partners, including wellness navigators in Big Sky. In Big Sky, the research leveraged community strengths by integrating local knowledge and existing social networks into the research process, and by presenting the study within the community to ensure transparency and build enduring relationships. Regular meetings and check-ins were held to iteratively consult on instrument design, recruitment strategies, and dissemination priorities. Collaboration between Montana State University (MSU) and members of the Community Advisory Board (CAB) facilitated co-learning through the mutual exchange of knowledge across mental and behavioral health paradigm

Ethics

Ethical approval for this study was provided by the Montana State University Institutional Review Board.

Data Collection

Recruitment, Sampling, and analyses. The study sample included adults working in the Big Sky resort community, Montana. With the goal of achieving broad representation of the workforce, an online 47-question survey administered via Qualtrics focused on mental and behavioral health prevalence, risk factors, perceived community environment, and mental and behavioral health access was administered (202). Multiple methods for survey recruitment were used including promotional flyers with QR codes to the survey, social media, word-of-mouth via YCCF staff, and community employers' employee listservs. Participants who signed up for the lottery-based system were incentivized with a $50 gas card. Recruitment and participation occurred in three stages: summer 2022, winter 2022-23, and summer 2023. We received approximately 720 completed surveys (with missing responses to some survey questions), reaching about two-thirds of our target sample size.

Measures

Primary Outcome: Suicidal ideation. We used a brief 3-item version of the Concise Health Risk Tracking-Self Report (CHRT-SR) scale to assess suicidal ideation (57, 188, 203). The CHRT-SR subscale includes three items that measure the intensity of thoughts and plans about suicide and suicidal behavior (items 10,11, and 12). The three items asked in the questionnaire included "I have been having thoughts about killing myself", "I have thoughts about how I might kill myself" and "I have a plan to kill myself". All items were rated on a five-point Likert scale ranging from 0 (Strongly Disagree) to 4 (Strongly Agree). Scores can range from 0 to 12 with higher scores indicate greater suicidal thinking in the past two weeks (Cronbach Alpha = 0.80). Further distribution of suicidal ideation tendencies during different survey period (Summer and winter)

were classified based on the following cut-off scores: 0-4= low suicidal tendency; 5-9= moderate suicidal tendency; 9-12= severe suicidal tendency.

Psycho-social variables: Depressive symptom severity. The Patient Health Questionnaire (PHQ-9) was used to assess self-reported symptoms of depression (204). The PHQ-9 is a widely recognized, simple, effective, and reliable instrument for screening and evaluating the severity of depression (204). Respondents are asked to assess the frequency of nine features of depressive symptoms that they experienced over the past two weeks, with response options from 0-4, including 'not at all,' 'several days,' 'more than half of days,' and 'nearly every day.' The PHQ-9 total scores may be classified into the following categories based on the severity of depressive symptoms: 0–4 = 'minimal depression,' 5–9 = 'mild depression,' 10–14 = 'moderate depression,' 15–19 = 'moderately severe depression,' and 20–27 = 'severe depression. The total score ranges from 0 to 27.

Psycho-social variables: Sources of Stress. To evaluate the stressors affecting participants, the survey included a question aimed at identifying specific aspects of their current lives that contribute to their stress. The responses encompassed a variety of factors, such as job, personal health, social life/relationships, family, finances, work/life balance, life transitions, traumatic events, housing insecurity, and concerns about the state of the world. These factors were then rated on a Likert scale, with options ranging from 1 (a great deal), 2 (a lot), 3 (a moderate amount), to 4 (a little).

Psycho-social variables: Social support and Connectedness. To evaluate social support within the Big Sky community, survey respondents were asked three questions from the loneliness index which assessed how frequently they felt: 1) left out, 2) isolated from others, or 3) lacking

companionship, with response options being "Always," "Usually," "Sometimes", "Seldom" or "Never." Additionally, respondents were questioned about their ability to form friendships and connections through two statements: "I am able to find people my own age to develop friendships with" and "I am able to develop friendships or relationships with others from different age groups." They were asked to indicate whether this occurred "Always," "Usually," "Sometimes", "Seldom" or "Never."

Psycho-social variables: Mental Health Service Utilization. To assess mental health service utilization, respondents were asked items: "During the past 12 months, was there any time you needed mental health treatment or counseling for yourself?" "Were you able to get the treatment or counseling that you needed?" "Are you aware of any providers, programs, or resources available in the Big Sky community to help people with mental health needs?" and "likelihood of reaching out to mental health services/ telehealth id needed". Respondents were further asked to choose from the multiple reasons for not getting needed services in the community. Some of the responses include cost, lack of availability, lack of time, stigma, language barrier.

Data Analysis:

STATA software was used for the statistical analysis (58). Prevalence of demographics characteristics, suicidal ideation, and psychosocial determinants of health was generated using descriptive statistics. We conducted inferential statistical analysis (chi-square) to assess the relationships between each sociodemographic and psychosocial characteristic with suicidal ideation items. We also conducted spearman correlation. Variables that demonstrated a significant association at a predetermined p-value threshold ($p < 0.05$) were considered for inclusion.

Additionally, potential confounders identified in the literature were included to account for their influence on the dependent variable.

To prevent any bias in the analysis caused by incomplete data, multiple imputation techniques was employed to handle missing values across variables (205). For multiple comparisons, the Bonferroni correction was applied to adjust for potential errors. A *p*-value threshold of less than 0.05 was considered statistically significant, ensuring the robustness of the findings. Given the non-normal distribution of primary outcome: suicidal ideation data, a log transformation was applied to the outcome variable to meet assumptions of normality for subsequent analyses.

Results

Characteristics of Study Participants

Table 2 presents the characteristics of study participants. Among the 720 survey respondents, the majority were male (57.2%) and 25-44 years (67.2%). Most participants identified as heterosexual (85.6%), White/Caucasian (83.8%), married or in a domestic partnership (50.1%), and long-term residents of Big Sky, with a notable proportion having lived there for 5-10 years (21.2%).

In terms of employment, most respondents reported working full-time, with a common workweek being 41-50 hours (41.9%). A large majority reported being year-round employees (68.4%), with industries like hospitality (21.2%) and food & beverage services (16.4%) being the top types of employment. Over half (54.7%) reported having employer-provided insurance and 11.6% without health insurance.

Table 2 Characteristics of the Study Participants (N=720) [a]

Socio-demographic factors	N	%
Self-identified gender		
Male	352	57.2
Female	258	42.1
Other	5	0.8
Age		
18-24 years	100	16.3
25-34 years	253	41.1
35-44 years	160	26.1
45 years and above	102	16.6
Sexual orientation		
Heterosexual	524	85.6
Lesbian/ Gay	25	4.1
Bisexual	40	6.5
Questioning or unsure/ other	23	3.8
Race/Ethnicity [b]		
White/Caucasian	536	83.8
Hispanic/Latino	49	7.7
African American	12	1.9
American Indian/Native American	18	2.8
Asian/Pacific Islander	15	2.3
Relationship status		
Single	198	32.1
Married/in a domestic partnership	307	50.1
In a partnership but not living together	77	12.5
Divorced/separated/widowed	32	5.21
Years lived in Big Sky		
less than 6 months	75	12.2
6-11months	73	11.9
1-2 years	89	14.5
3-4 years	98	16.1
5-10 years	130	21.2
11-20 years	96	15.7
21+ years	52	8.4
Working hours		
Fewer than 20 hours a week	11	1.5
20-32 hours a week	32	4.4
33-40 hours a week	249	34.9
41-50 hours a week	298	41.9
51-60 hours a week	86	12.1

More than 60 hours a week	36	5.1
Residency & community status		
Homeowner in Big Sky	159	22.6
Rent a place in Big Sky	142	20.2
Homeowner and commute from out of town	53	7.5
Rent and commute from out of Big Sky	94	13.4
Live in employee housing in Big Sky	188	26.7
Live in car/camp	19	2.7
Staying with friends and not on a lease	7	1
Live in employee housing outside of Big Sky and commute to work	20	2.9
Workforce category		
Winter seasonal employee	79	11.1
Summer seasonal employee	34	4.7
Winter and summer seasonal employee	115	16
Year-round employee	493	68.4
Industry of employment [b]		
Food & Beverage Services	142	16.4
Construction	48	5.5
Grocery	24	2.8
Retail	35	4
Property Management	46	5.3
Non-profit	53	6.1
Education	55	6.3
Health Care	31	3.6
Real Estate	16	1.8
Administration	51	5.9
Marketing	24	2.8
IT	7	0.8
Hospitality	184	21.2
Government	7	0.8
Others	145	16.7
Health Insurance [b]		
No health insurance	77	11.6
Insurance through employer	364	54.7
Private (self) insurance	112	16.8
Medicaid/Medicare	52	7.8
VA	11	1.7

Employee category		
Non-International	651	90.3
International	70	9.7

[a] Responses varies for each variable due to missing data

[b] Multiple response variable

Suicidal Ideation Distribution Among Participants

The majority of respondents strongly disagreed with having suicidal thoughts, specific methods,

or plans, with 76.2%, 78.8%, and 84.5%, respectively. Agreement with these statements

decreased as they became more specific or actionable, with only 4.4% agreeing to thoughts of

suicide, 4.9% to thoughts of methods, and 0.3% to having a plan. A small but concerning subset

(2.4%–0.9%) strongly affirmed these indicators, highlighting the need for targeted mental health

interventions and crisis support for those at higher risk (Table 3).

Table 3 Suicidal Ideation among participants

Suicidal Ideation Scale Items	N (%)				
	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I have been having thoughts about killing myself	480 (76.2)	68 (10.8)	39 (6.2)	28 (4.4)	15 (2.4)
I have thoughts about how I might kill myself	493 (78.8)	68 (10.8)	28 (4.4)	31 (4.9)	11 (1.7)
I have a plan to kill myself	533 (84.5)	66 (10.5)	24 (3.8)	2 (0.3)	6 (0.9)

Table 4 provides a comparison of suicidal ideation tendencies across two survey periods:

summer and winter. The findings indicate seasonal differences in suicidal ideation tendencies, with

a higher proportion of individuals reporting moderate suicidal tendencies in winter (18.34%)

compared to summer (10.62%), suggesting an increase in distress during the colder months. Meanwhile, the proportion of individuals with low suicidal tendencies decreases from 85.62% in summer to 78.99% in winter. Severe suicidal tendencies remain relatively low across both periods, showing a slight decline in winter (3.77% in summer to 2.66% in winter). These trends highlight the potential influence of seasonal factors on mental health, emphasizing the need for targeted interventions, particularly to address moderate suicidal tendencies during winter.

Table 4 Suicidal Ideation Tendency during Summer and Winter Survey Period

Suicidal Ideation Tendency	Survey Period: Summer		Survey Period: Winter	
	N	%	N	%
low suicidal tendency	250	85.6	267	79
moderate suicidal tendency	31	10.6	62	18.3
severe suicidal tendency	11	3.8	9	2.7

Cut off score: 0-4= low suicidal tendency; 5-9= moderate suicidal tendency; 9-12= severe suicidal tendency

Psychosocial Characteristics of Study Participants

Table 5 highlights the depressive symptom severity of the sample population. Among the 602 participants who responded to the depression status assessment, the most common level of depression was mild depression (37.9%). None-to-minimal depression was experienced by 27.6%, while moderate depression affected 18.8% of respondents. Moderately severe and severe depression was represented, respectively, by 10.8% and 4.9% of respondents.

Table 5 Depressive Symptom Severity

Depressive symptom severity (N=602)	N	%
None-minimal depression	166	27.6
Mild depression	228	37.9
Moderate depression	113	18.8
Moderately severe depression	65	10.8
Severe depression	30	4.9

Table 6 presents the respondents' significant sources of stress. A significant proportion of participants report various stressors affecting their lives, with housing insecurity being the most prominent (74.9%). Additionally, traumatic events were reported as significant stressors by 73.1% of the participants, followed by life transitions (64.2%). Financial difficulties were another prominent stressor, impacting 63% of respondents. Over half (54.5%) of the participants indicated stress from work-life balance, 53.6% the state of the world (53.6%), and their job (51.5%). Other stressors included family (49.4%), social life/relationships (48.1%), and personal health (45.5%).

Table 6 Sources of Stress

Responses to Stressors affecting life (N=720) [a]	Greatly	
	N	%
Housing Insecurity	158	74.9
Traumatic event	71	73.1
Life transition	63	64.2
Finances	253	63.0
Work/ Life balance	197	54.5
State of the world	141	53.6
My Job	199	51.5
Family	88	49.4
Social Life/ relationships	130	48.1
Personal Health	106	45.5

[a] Responses varies for each variable due to missing data

Table 7 presents respondents' feelings of connectedness and social support. Over half (56.4%) of participants sometimes or seldom felt a lack of companionship, while 12.4% reported never feeling lack of companionship. Nearly 70% of the participants felt left out and 67.3% felt isolated either sometimes or seldom. Additionally, 53.2% reported they are usually or always able to develop friendships with people their own age, while 62.8% are usually or always able to develop relationships across different age groups.

Table 7 Social Support and Connectedness Items

Connectedness & social support (n=679) [b]	N (%)				
	Always	Usually	Sometimes	Seldom	Never
Participants feel they lack companionship	33 (4.9)	97 (14.3)	252 (37.1)	214 (31.5)	84 (12.4)
Participants feel left out	26 (3.9)	97 (14.3)	250 (36.9)	226 (33.3)	79 (11.7)
Participants feel isolated from others	30 (4.4)	100 (14.8)	224 (33.1)	232 (34.2)	93 (13.7)
Participants reported "I am able to find people my own age to develop friendships with"	122 (18.1)	238 (35.1)	189 (27.8)	114 (16.8)	16 (2.4)
Participants reported "I am able to develop friendships or relationships with others from different age groups"	129 (19.1)	297 (43.7)	184 (27.1)	60 (8.8)	10 (1.5)

[b] Multiple response variable

Mental Health Service Utilization

The results of the mental health service utilization indicate that 54% of respondents reported needing mental health treatment or counseling in the past 12 months. However, of those who needed care, only 55.1% reported receiving the services they required. Despite a relatively high awareness of mental health resources in Big Sky, with 59.8% of respondents indicating

familiarity with available resources, the likelihood of seeking help from local providers was low, with only 30.6% (n=192) expressing they would likely reach out. Similarly, the likelihood of utilizing teletherapy services was limited, with 37.3% of respondents indicating they would use this option for mental health support (Table 8).

Among those who did not receive the mental health services they needed, cost was identified as the primary barrier, affecting 28.8% of respondents. Other significant barriers included time constraints (18.3%), lack of availability (13.7%), and a sense of self-reliance, with 11.1% believing they could manage their mental health independently. Additional barriers, such as lack of awareness of where to seek help (5.2%), transportation issues (2.6%), stigma (1.3%), and lack of motivation (10.5%), were also reported.

Table 8 Mental Health Service Utilization of the Participants

Mental Health Service Utilization (N = 632)	N	%
Needed Mental Health Treatment/Counseling in Past 12 Months	341	54.0
Received Needed Mental Health Treatment/Counseling	188	55.1
Awareness of Mental Health Resources in Big Sky	373	59.8
Likelihood of Reaching Out to Local Mental Health Resources	192	30.6
Likelihood of Using Teletherapy for Mental Health Support	234	37.3
Primary Reason for Not Receiving Services	**N**	**%**
Cost	44	28.8
Lack of availability	21	13.7
Lack of time – limitations in my schedule	28	18.3
Stigma- "others would know"	2	1.3
Didn't know where to seek help	8	5.2
I felt I could handle it on my own	17	11.1
Lack of reliable transportation	4	2.6
Lack of motivation	16	10.5

Bivariate Analysis

Table 9 shows the results from the bivariate chi-square analysis indicate significant associations between the suicidal ideation item "I have been having thoughts about killing myself" and several sociodemographic characteristics. There is a significant difference ($\chi^2 = 9.79$, p = 0.02) in suicidal ideation across age groups, with younger individuals (18–24 years) more likely to agree (30.2%) compared to older individuals (45 years and above), who are less likely to agree (4.7%). A highly significant association ($\chi^2 = 30.83$, p < 0.001) shows that individuals identifying as bisexual (21.4%) or questioning/unsure/other (9.5%) are more likely to report suicidal ideation compared to heterosexual individuals (57.1%). A significant association ($\chi^2 = 9.11$, p = 0.01) reveals that individuals identifying as "Other" gender are more likely to report suicidal ideation (4.7%) compared to males (48.8%) or females (46.5%). A significant relationship ($\chi^2 = 8.71$, p = 0.03) indicates that single individuals (40.5%) are more likely to report suicidal ideation compared to those who are married or in domestic partnerships (33.3%).

Table 9 Bivariate Chi-square Analysis for the Suicidal Ideation Item "I have been having thoughts about killing myself" with socio-demographic characteristics

Sociodemographic Characteristics	Agree	Disagree	Chi square value	p-value
Age			9.79	0.02
18-24 years	30.2	15.1		
25-34 years	41.9	41.1		
35-44 years	23.3	26.2		
45 years and above	4.7	17.6		
Sexual orientation			30.83	0.00
Heterosexual	57.1	87.8		
Lesbian/ Gay	11.1	3.5		
Bisexual	21.4	5.3		
Questioning or unsure/ other	9.5	3.4		
Self-identified gender			9.11	0.01
Male	48.8	57.8		
Female	46.5	41.7		
Other	4.7	0.5		
Relationship status			8.71	0.03
Single	40.5	31.5		
Married/in a domestic partnership	33.3	51.3		
In a partnership but not living together	23.8	11.8		
Divorced/separated/widowed	2.4	5.5		
Years lived in Big Sky			0.39	0.98
less than 6 months	11.6	11.8		
6-11months	9.3	12.2		
1-2 years	13.9	14.6		
3-4 years	16.3	16.1		
5 years and more	48.8	45.3		
Working hours			9.04	0.10
Fewer than 20 hours a week	0.0	1.4		
20-32 hours a week	11.7	4.1		
33-40 hours a week	37.2	34.3		
41-50 hours a week	30.2	43.3		
51-60 hours a week	11.6	12.3		
More than 60 hours a week	9.3	9.3		

Residency & community status				
Homeowner in Big Sky	13.9	23.6	11.91	0.16
Rent a place in Big Sky	20.4	20.4		
Homeowner and commute from out of town	6.9	7.0		
Rent and commute from out of Big Sky	16.3	14.2		
Live in employee housing in Big Sky	25.6	26.0		
Live in car/camp	6.9	2.4		
Staying with friends and not on a lease	4.7	0.9		
Live in employee housing outside of Big Sky	0.0	2.9		
Commute to work	4.7	2.6		
Employee category				
Non-International	93.0	91.3	0.15	0.69
International	6.98	8.7		
Workforce category				
Winter seasonal employee	16.3	10.6	2.38	0.49
Summer seasonal employee	2.3	4.9		
Winter and summer seasonal employee	18.6	14.9		
Year-round employee	62.8	69.5		

Table 10 presents the bivariate associations of psychosocial characteristics with the same suicidal item. A strong association ($\chi^2 = 74.20$, $p < 0.001$) was found, with increasing levels of depression linked to higher rates of suicidal ideation item "I have been having thoughts about killing myself". Severe depression had the highest proportion of agreement (27.9%) compared to none-to-minimal depression (16.3%). Participants who always (11.6%) or usually (25.6%) felt they lacked companionship were significantly more likely to report suicidal ideation compared to those who seldom (16.3%) or never (9.3%) felt this way ($\chi^2 = 13.18$, $p = 0.01$). A highly significant relationship ($\chi^2 = 22.42$, $p < 0.001$) showed that participants who always (11.9%) or usually (30.9%) felt left out were more likely to report suicidal ideation compared to those who seldom (21.4%) or never (14.3%) felt left out. A very strong association ($\chi^2 = 35.35$, $p < 0.001$) indicated that feelings of isolation were significantly linked to suicidal ideation.

Table 10 Bivariate Chi-square Analysis for the Suicidal Ideation Item "I have been having thoughts about killing myself" with psychosocial characteristics

Psychosocial Characteristics	Agree	Disagree	Chi square value	p-value
Depressive symptom status				
None-minimal depression	16.3	33.6	74.20	0.00
Mild depression	11.7	37.1		
Moderate depression	21.0	17.6		
Moderately severe depression	23.3	8.9		
Severe depression	27.9	2.9		
Connectedness & social support				
Participants feel they lack companionship			13.18	0.01
Always	11.6	4.4		
Usually	25.6	12.8		
Sometimes	37.2	36.2		
Seldom	16.3	34.4		
Never	9.3	12.1		
Participants feel left out				
Always	11.9	3.3	22.42	0.00
Usually	30.9	12.7		
Sometimes	21.4	37.6		
Seldom	21.4	35.2		
Never	14.3	11.3		
Participants feel isolated from others				
Always	20.9	3.4	35.35	0.00
Usually	23.3	13.5		
Sometimes	30.2	32.9		
Seldom	18.6	35.7		
Never	6.9	14.4		

Table 11 presents the bivariate associations of sociodemographic and psychosocial characteristics with suicidal ideation item "I have thoughts about how I might kill myself". Non-heterosexual individuals are more likely to report having thoughts about how they might kill themselves. Specifically, bisexual individuals (19.1%), lesbian/gay individuals (11.9%), and those questioning/unsure/other (7.14%) are disproportionately represented compared to heterosexual individuals (61.9%). This finding emphasizes the mental health challenges faced by sexual

minorities. Although not statistically significant at the 0.05 level, the data suggest a potential trend where younger individuals, particularly those aged 18–24 years (26.4%) and 25–34 years (47.6%), report more suicidal ideation compared to older adults aged 45 years and above (4.8%). This indicates the need for targeted interventions for younger age groups. Relationship status also approaches significance, with single individuals (36.7%) and those in a partnership but not living together (24.4%) reporting higher levels of suicidal ideation compared to married or domestically partnered individuals (34.1%). This highlights the potential protective role of stable partnerships.

Table 11 Bivariate Chi-square Analysis for the Suicidal Ideation Item "I have thoughts about how I might kill myself" with socio-demographic characteristics

Sociodemographic Characteristics	Agree	Disagree	Chi square value	p-value
Age			7.48	0.06
18-24 years	26.4	15.4		
25-34 years	47.6	40.6		
35-44 years	21.4	26.4		
45 years and above	4.8	17.5		
Sexual orientation			22.35	0.00
Heterosexual	61.9	87.5		
Lesbian/ Gay	11.9	3.5		
Bisexual	19.1	5.5		
Questioning or unsure/ other	7.14	3.5		
Self-identified gender			0.27	0.88
Male	58.1	45.2		
Female	41.3	50.0		
Other	0.5	4.76		
Relationship status			7.41	0.06
Single	36.7	31.7		
Married/in a domestic partnership	34.1	51.3		
In a partnership but not living together	24.4	11.7		
Divorced/separated/widowed	4.9	5.3		
Years lived in Big Sky				
less than 6 months	14.3	11.8		

6-11months	14.3	11.8	0.68	0.95
1-2 years	14.3	14.6		
3-4 years	16.7	16.0		
5 years and more	40.5	45.9		
Working hours			5.59	0.35
Fewer than 20 hours a week	2.4	1.2		
20-32 hours a week	9.5	4.3		
33-40 hours a week	38.1	34.2		
41-50 hours a week	28.6	43.4		
51-60 hours a week	14.3	12.2		
More than 60 hours a week	7.1	4.8		
Residency & community status			13.51	0.09
Homeowner in Big Sky	23.9	9.5		
Rent a place in Big Sky	20.5	19.1		
Homeowner and commute from out of town	6.8	9.5		
Rent and commute from out of Big Sky	14.2	16.7		
Live in employee housing in Big Sky	26.1	26.2		
Live in car/camp	2.4	7.1		
Staying with friends and not on a lease	0.9	4.8		
Live in employee housing outside of Big Sky	2.7	2.4		
Commute to work	2.6	4.8		
Employee category			0.64	0.42
Non-International	8.3	91.6		
International	11.9	88.1		
Workforce category			3.42	0.33
Winter seasonal employee	16.7	10.5		
Summer seasonal employee	4.8	4.8		
Winter and summer seasonal employee	21.4	14.8		
Year-round employee	57.1	69.9		

The bivariate chi-square analysis reveals significant associations between suicidal ideation item "I have thoughts about how I might kill myself" and several psychosocial factors (Table 12). Depressive Symptoms ($\chi^2 = 93.26$, $p < 0.001$), Lack of Companionship ($\chi^2 = 28.51$, $p < 0.001$, Feeling Left Out ($\chi^2 = 35.83$, $p < 0.001$), Feeling Isolated ($\chi^2 = 21.19$, $p < 0.001$) showed significant

association with suicidal ideation. Severe depression is strongly linked to higher suicidal ideation (31.0% vs. 9.5% for none-minimal depression). Individuals who feel they lack companionship "always" or "usually" report higher suicidal ideation (19.1% and 26.2%, respectively). Those who feel "always" or "usually" left out have increased suicidal ideation (17.1% and 31.7%). Higher isolation correlates with more suicidal ideation, particularly among those who "always" or "usually" feel isolated (26.2% and 28.6%).

Table 12 Bivariate Chi-square Analysis for the Suicidal Ideation Item "I have thoughts about how I might kill myself" with psychosocial characteristics

Psychosocial Characteristics	Agree	Disagree	Chi square value	p-value
Depressive symptom status				
None-minimal depression	9.5	34.0		
Mild depression	14.3	37.0	93.26	0.00
Moderate depression	19.1	17.7		
Moderately severe depression	26.2	8.7		
Severe depression	31.0	2.7		
Connectedness & social support				
Participants feel they lack companionship				
Always	19.1	3.9		
Usually	26.2	12.9		
Sometimes	28.6	36.8	28.51	0.00
Seldom	23.8	33.7		
Never	2.4	12.6		
Participants feel left out				
Always	17.1	2.9		
Usually	31.7	12.6	35.83	0.00
Sometimes	26.8	37.3		
Seldom	17.1	35.4		
Never	7.3	11.8		
Participants feel isolated from others				
Always	26.2	3.07	21.19	0.00
Usually	28.6	13.3		
Sometimes	23.8	33.4		
Seldom	19.1	35.6		
Never	2.4	14.7		

Sexual orientation (χ^2 = 22.35, p < 0.001) and recent relocation (χ^2 = 11.82, p < 0.001) (Living in Big Sky for under 6 months) are significantly associated with suicidal ideation item "I have a plan to kill myself" (Table 13). Lesbian/Gay individuals (25%) report significantly higher suicidal ideation compared to heterosexual individuals (75%). Recent residents (<6 months) have the highest suicidal ideation (50%) compared to longer-term residents (5+ years: 25%).

Table 13 Bivariate Chi-square Analysis for the Suicidal Ideation Item "I have a plan to kill myself" with socio-demographic characteristics

Sociodemographic Characteristics	Agree	Disagree	Chi square value	p-value
Age				
18-24 years	25	16.0	1.39	0.70
25-34 years	25	41.3		
35-44 years	37.5	25.9		
45 years and above	12.5	16.7		
Sexual orientation				
Heterosexual	75.0	85.9	22.35	0.00
Lesbian/ Gay	25.0	3.9		
Bisexual	0	6.5		
Questioning or unsure/ other	0	3.8		
Self-identified gender				
Male	50.0	57.4	0.27	0.88
Female	50.0	41.8		
Other	0	0.8		
Relationship status				
Single	25	32.1	5.97	0.11
Married/in a domestic partnership	25	50.5		
In a partnership but not living together	37.5	12.3		
Divorced/separated/widowed	12.5	5.1		
Years lived in Big Sky				
less than 6 months	50.0	11.4	11.82	0.01
6-11months	12.5	11.9		
1-2 years	0.00	14.8		
3-4 years	12.5	16.1		
5 years and more	25.0	45.8		
Working hours				
Fewer than 20 hours a week	0.0	1.3	4.42	0.49

20-32 hours a week	12.5	4.5		
33-40 hours a week	50.0	34.2		
41-50 hours a week	12.5	42.8		
51-60 hours a week	12.5	12.4		
More than 60 hours a week	12.5	4.8		
Residency & community status			7.39	0.50
Homeowner in Big Sky	0.0	23.2		
Rent a place in Big Sky	25.0	20.3		
Homeowner and commute from out of town	0.0	7.1		
Rent and commute from out of Big Sky	12.5	14.4		
Live in employee housing in Big Sky	62.5	25.7		
Live in car/camp	2.7	0		
Staying with friends and not on a lease	1.1	0		
Live in employee housing outside of Big Sky	2.7	0		
Commute to work	2.7	0		
Employee category			2.79	0.09
Non-International	8.4	91.6		
International	25.0	75.0		
Workforce category			0.48	0.92
Winter seasonal employee	12.5	10.9		
Summer seasonal employee	0.0	4.8		
Winter and summer seasonal employee	12.5	15.3		
Year-round employee	75.0	69.0		

Suicidal ideation item "I have a plan to kill myself" is strongly associated with higher levels of depression severity. ($p < 0.001$) (Table 14) Individuals with severe depression are significantly more likely to report suicidal thoughts (37.5%) compared to those with none-minimal depression (25%). Participants who "always" feel left out report the highest suicidal ideation (28.6%), while those who "never" feel left out report no suicidal ideation ($p < 0.001$). Those who "always" feel isolated show the highest suicidal ideation (37.5%), while participants who "never" feel isolated report no suicidal ideation ($p < 0.001$).

Table 14 Bivariate Chi-square Analysis for the Suicidal Ideation Item "I have a plan to kill myself" with psychosocial characteristics

Psychosocial Characteristics	Agree	Disagree	Chi square value	p-value
Depressive symptom status				
None-minimal depression	25.0	32.4	20.61	0.00
Mild depression	12.5	35.8		
Moderate depression	12.5	17.8		
Moderately severe depression	12.5	9.8		
Severe depression	37.5	4.2		
Connectedness & social support				
Participants feel they lack companionship				
Always	4.7	25.0	8.76	0.07
Usually	13.7	25.0		
Sometimes	36.4	25.0		
Seldom	33.2	25.0		
Never	12.1	0		
Participants feel left out				
Always	3.5	28.6	14.31	0.00
Usually	13.7	28.6		
Sometimes	36.9	14.3		
Seldom	34.3	28.6		
Never	11.6	0.0		
Participants feel isolated from others				
Always	4.2	37.5	21.19	0.00
Usually	14.3	12.5		
Sometimes	33.0	12.5		
Seldom	34.5	37.5		
Never	14.0	0.0		

Spearman Correlation Analysis

The Spearman correlation analysis reveals (Table 15) that sexual orientation and depression (PHQ-9 scores) have the strongest associations with suicidal ideation, with moderate positive correlations of 0.23 and 0.22, respectively. Age, relationship status, and self-identified gender show minimal or very weak correlations with suicidal ideation. Feelings of isolation and lack of companionship also have weak negative correlations with suicidal ideation. Overall, the findings

suggest that non-heterosexual orientation and higher depression are more strongly linked to suicidal thoughts.

Table 15 Spearman Correlation Matrix for Suicidal Ideation Item "I have been having thoughts about killing myself" with socio-demographic and psychosocial factors

	Suicidal ideation item	Age	Sex	Relation-ship status	Gender	PHQ-9	Com-pany	Feeling left out	Isolation
Suicidal ideation item	1								
Age	-0.1	1							
Sex	0.23	-0.2	1						
Relationship status	-0.01	0.28	-0.11	1					
Gender	0.06	0.1	-0.09	-0.11	1				
PHQ-9	0.22	-0.23	0.18	-0.05	-0.07	1			
Company	-0.11	0.14	-0.22	0.15	0.01	-0.44	1		
Feeling left out	-0.08	0.1	-0.18	0.04	0.09	-0.39	0.56	1	
Isolation	-0.16	0.09	-0.16	0.04	-0.01	-0.44	0.62	0.69	1

The Spearman correlation analysis shows that suicidal ideation, as measured by the item "I have thoughts about how I might kill myself," is most strongly associated with sexual orientation (0.19) and depression scores (PHQ-9: 0.27), indicating that non-heterosexual individuals and those with higher depression levels are more likely to report suicidal thoughts (Table 16). There are weak negative correlations with companionship, feeling left out, and isolation, suggesting that more social connection or less isolation might reduce suicidal ideation, though these associations are modest. Age, relationship status, self-identified gender, and residential status show very weak or negligible correlations with suicidal ideation.

Table 16 Spearman Correlation Matrix for Suicidal Ideation Item ""I have thoughts about how I might kill myself,"" with socio-demographic and psychosocial factors

	Suicidal ideation item	Age	Sex	Relationship status	Gender	PHQ-9	Company	Feeling left out	Isolation	Residence
Suicidal ideation item	1									
Age	-0.09	1								
Sex	0.19	-0.2	1							
Relationship status	0.01	0.28	-0.12	1						
Gender	0.09	0.1	-0.09	-0.11	1					
PHQ-9	0.27	-0.23	0.18	-0.05	-0.07	1				
Company	-0.16	0.14	-0.22	0.15	0.02	-0.44	1			
Feeling left out	-0.17	0.1	-0.18	0.04	0.09	-0.39	0.56	1		
Isolation	-0.22	0.09	-0.16	0.04	-0.01	-0.44	0.62	0.68	1	
Residential status	0.1	-0.42	0.15	-0.17	0.09	0.14	-0.13	0	-0.07	1

The Spearman correlation analysis for the item "I have a plan to kill myself" shows weak correlations with various factors. There is a slight positive correlation with depression (PHQ-9 score: 0.08), indicating that higher depression levels are weakly linked to suicidal planning (Table 17). Sociodemographic variables like age, sexual orientation, relationship status, and self-identified gender have very weak associations with suicidal ideation. Social factors such as companionship, feeling left out, and isolation show minimal negative correlations, suggesting that better social support slightly reduces the likelihood of having a suicide plan. Additionally, residential status and years lived in Big Sky also show weak negative correlations, suggesting a slight reduction in suicidal ideation over time.

Table 17 Spearman Correlation Matrix for Suicidal Ideation Item "I have a plan to kill myself" with socio-demographic and psychosocial factors

	Suicidal ideation item	Age	Sex	Relationship status	Gender	PHQ-9	Company	Feeling left out	Isolation	Residence	Employee category
Suicidal ideation item	1										
Age	0.02	1									
Sex	0.04	-0.2	1								
Relationship status	0.04	0.28	-0.12	1							
Gender	0.03	0.1	-0.09	-0.11	1						
PHQ-9	0.08	-0.23	0.18	-0.05	-0.1	1					
Company	-0.08	0.14	-0.22	0.15	0.02	-0.44	1				
Feeling left out	-0.08	0.1	-0.18	0.04	0.09	-0.39	0.56	1			
Isolation	-0.09	0.09	-0.16	0.04	-0	-0.44	0.62	0.68	1		
Residence	0.07	-0.42	0.15	-0.17	0.09	0.14	-0.13	0.01	-0.07	1	
Employee category	0.03	-0.02	0.04	-0.08	0.09	0.01	-0.04	0.06	0.07	0.21	1

Discussion

Findings of this study provides critical insights into the demographic characteristics, mental health status, and service utilization patterns among individuals in Big Sky, Montana (78, 189). With a focus on the suicidal thoughts and mental health challenges faced by a predominantly young and working-age population, these findings highlight urgent needs for tailored interventions in rural settings (160). The demographic profile reveals a predominantly male population with a significant representation of younger adults, particularly those aged 25-34 years. This age distribution reflects trends in rural tourism economies, where younger adults are often drawn to seasonal employment opportunities. Previous research has documented similar demographic patterns in other rural areas, suggesting that targeted outreach efforts must consider these unique

workforce characteristics (74, 117, 136, 138, 159, 176, 189, 206). Most respondents identified as heterosexual, with racial demographics reflecting a predominantly White/Caucasian population. This demographic composition is consistent with national patterns that indicate a lack of diversity in many rural communities (74, 136, 159, 189, 195).

Additionally, the marital status data indicates that half of respondents are married or in domestic partnerships, which can play a pivotal role in social support networks. These findings are consistent with work by (207), who argue that marriage acts as a buffer against mental health issues by promoting stability and increasing the availability of coping resources in times of stress (201, 207, 208). Therefore, the marital landscape in Big Sky may serve as a protective factor, albeit amidst significant stressors reported by participants. However, while the marital landscape in Big Sky may offer some protection against depression and anxiety, it must be viewed in the context of the broader stressors such as economic difficulties or social isolation reported by participants (183, 201, 209).

A significant finding of this study is the prevalence of stressors impacting the participants' lives. With 74.9% of respondents reporting housing insecurity as a primary stressor, it aligns with literature indicating that housing instability significantly affects mental health outcomes in rural populations (184, 191, 197). Additionally, financial difficulties (63%) and work-life balance stressors (54.5%) further compound these challenges. This correlation underscores the necessity for integrated community support systems that address both economic and mental health needs (183, 191, 197).

The depression assessment revealed that mild to moderate depression affected 56.64% of participants, suggesting a substantial need for mental health interventions. This finding is

consistent with national trends indicating higher rates of depression in rural populations, often exacerbated by economic and social isolation (177, 199, 210). The reported feelings of isolation among participants highlight the importance of fostering community connections to mitigate these mental health risks. Our findings align with previous research that reported loneliness can directly contribute to depressive disorders by diminishing social support systems, which are essential for emotional resilience (21, 47, 51, 77, 192, 201, 211, 212) and coping strategies (208, 213). In rural settings, where the population density is low, the availability of these support systems may be even more limited. Programs that encourage peer support, group activities, and community-driven mental health awareness campaigns have shown promise in reducing both the prevalence of depression and the sense of loneliness in similar settings (21, 78, 153, 156, 182, 192, 194, 212).

The findings from this study provide critical insights into the mental health status and logistical barriers service utilization within the Big Sky workforce, as well as suicidal ideation trends among respondents. Despite a high need for mental health services, only half of those seeking help received the necessary care. This discrepancy emphasizes systemic barriers to accessing mental health services in rural setting remain a pressing issue in the United States (72, 78, 214, 215). Cost was identified as the primary barrier that aligns with research that emphasized rural residents often encounter higher rates of underinsurance, out-of-pocket costs associated with traveling to distant providers and lack of specialized mental health services, further complicating access to care (20, 160, 181, 184, 192).

The relatively high awareness of available mental health resources juxtaposed with low likelihood of seeking help suggests a gap in effective communication and outreach strategies. Furthermore, the perception of self-reliance as a reason for not seeking help underscores the need

for public health campaigns aimed at destigmatizing mental health care and promoting available resources. This echoes research by Clement and colleagues in 2015 that identifies perceived public stigma and self-stigma as critical barriers to mental health service utilization (198). Goins and colleague also emphasize that rural residents are more likely to face stigma when seeking mental health services, discouraging them from accessing necessary care, which in turn, compounds the feeling of isolation and depression (59, 60, 72, 190, 216). Future interventions in the Big Sky community should focus not only on increasing access to services but also on reducing stigma and promoting the importance of mental health care. Innovative approaches, such as community-based mental health education and partnerships with local employers, could enhance service utilization and encourage individuals to seek help when needed.

The findings underscore the complex interplay between sociodemographic and psychosocial factors in contributing to suicidal ideation. Younger individuals, particularly those aged 18–24 years, report higher levels of suicidal thoughts compared to older age groups. This indicates the need for targeted mental health education and support for young adults during critical transitional periods, such as entering the workforce or higher education. Sexual minorities, including lesbian, gay, bisexual, and questioning individuals, exhibit disproportionately high levels of suicidal ideation. These findings highlight systemic inequities and stressors faced by these groups, emphasizing the urgent need for inclusive and culturally competent mental health services, anti-discrimination policies, and community-based support networks to foster a sense of belonging and reduce stigma. These findings are consistent with research by that shows variability in suicidal ideation across populations can often mask elevated risk in specific subgroups (22, 59, 180). The univariate analysis revealed no significant differences in suicidal ideation based on residential

status, workforce category, working hours indicating that these factors alone do not sufficiently explain variations in suicidal thoughts. This result is echoed by who found that demographic factors are often insufficient in predicting suicidal ideation (217).

Non-heterosexual individuals, particularly bisexual and questioning/unsure individuals, report disproportionately higher suicidal ideation rates. Similarly, individuals identifying as "Other" gender experience elevated levels of suicidal ideation. These findings emphasize the heightened mental health challenges faced by sexual minorities and gender-diverse individuals. Developing inclusive mental health services, reducing stigma, and fostering supportive environments are essential steps toward addressing these disparities. This finding underscores the necessity for targeted interventions that specifically address the mental health needs of non-binary and gender non-conforming individuals, who are often overlooked in mainstream mental health strategies. Furthermore, the tendency for younger individuals (18-24 years) to report higher mean scores of suicidal ideations, although not statistically significant, warrants further investigation, as this demographic is often at greater risk for mental health crises (188, 218)

This study highlights the strong association between severe depression and higher levels of depressive symptoms, in line with prior research (199, 200). In contrast, mild, moderate, and moderately severe depression did not show significant links to depressive symptoms, suggesting that individuals with severe depression require targeted interventions. These findings are consistent with research that demonstrates the heightened burden of severe depressive episodes on mental health, daily functioning, and overall well-being (199, 213). The lack of significant associations between common stressors such as job, social life, family, and finances with depressive symptoms

was unexpected but may be explained by factors like resilience and access to social support, which can buffer the negative effects of stress (218).

Feelings of isolation, lack of companionship, and being left out are significantly associated with increased suicidal ideation. Individuals who frequently experience these feelings are at the greatest risk that aligns with existing literature that emphasizes the importance of social connectedness in mental health (7, 160, 200, 201). Although other indicators of social isolation, such as feeling left out or lacking companionship, were not significant, the experience of occasional isolation appeared to play a crucial role. This suggests that reducing isolation could have a beneficial effect on mental health outcomes. Interventions aimed at fostering social ties and preventing isolation, particularly for individuals experiencing severe depression, may be effective in alleviating depressive symptoms. Further research is necessary to understand the interplay between stressors, coping resources, and mental health outcomes in various populations.

The findings also point to the heightened vulnerability of recent movers to Big Sky, particularly those residing in temporary or unstable housing. These individuals may lack social connections or access to local resources, making them more susceptible to mental health challenges. Community integration programs, such as mentorship initiatives or social networking events, could help newcomers build relationships and feel more connected. By addressing both the demographic disparities and psychosocial stressors identified, stakeholders can develop holistic, evidence-based strategies to reduce suicidal ideation and promote mental well-being in the community. This approach would not only improve individual outcomes but also strengthen community resilience as a whole.

Strengths and Limitations

To the best of our knowledge, this study represents the first comprehensive examination of suicidal ideation and its associated factors within the targeted workforce population of a western resort community in Montana, USA. This pioneering research is significant for several reasons. First, it fills a critical gap in the literature, as mental health issues in resort towns—often characterized by transient, seasonal workforces—remain underexplored. By focusing on this unique demographic, the study provides valuable insights into the mental health challenges faced by individuals in such communities, which can differ markedly from those in urban or more stable rural settings. Furthermore, the identification of specific stressors and barriers to care within this population enhances our understanding of the factors influencing mental health outcomes. This foundational work not only sets the stage for future research in similar contexts but also serves as a vital resource for local policymakers and mental health practitioners, informing targeted interventions that can effectively address the needs of this underserved population. The strength of this project is its capacity to produce localized data for organizations already operating in the Big Sky region, enabling them to implement impactful changes in mental health support and resource distribution in resort communities throughout Montana and beyond.

This study has several limitations that should be considered when interpreting the findings. First, the data collected may not be generalizable to populations outside the specific workforce of the Big Sky resort community. While this study provides valuable insights into the mental health status and suicidal ideation of individuals in this unique setting, the localized nature of the survey limits its applicability to other regions or broader populations, including other rural or resort communities.

Second, the study faced missing responses in key sections, particularly in the mental health status assessments, which could introduce bias or limit the robustness of the findings. Additionally, the study focuses solely on measuring suicidal thoughts and ideation without examining more severe outcomes such as active suicidal behavior or contemplation of suicide. As a result, the findings do not capture the full spectrum of suicidal experiences, which may underrepresent the true mental health challenges faced by the population. Future research could benefit from a more comprehensive assessment of suicidal behavior and its underlying causes to provide a more complete understanding of mental health risks in this workforce.

Implications and Future Research

Overall, this study underscores the need for targeted mental health interventions that address the unique demographic and socio-economic challenges faced by the Big Sky workforce. Interventions should focus on enhancing accessibility to mental health services, particularly for marginalized groups such as non-binary individuals and younger adults. Community-based approaches that incorporate peer support and education can be instrumental in bridging the gap between awareness and service utilization (12, 31, 191). The implications of this research extend beyond Big Sky, offering a framework that can be adapted and implemented in other rural communities across Montana. By emphasizing community engagement, the findings advocate for local stakeholders to leverage existing social networks and resources to enhance mental health service delivery.

Future research should focus on longitudinal studies that assess the effectiveness of implemented interventions over time, examining both mental health outcomes and service utilization patterns. Moreover, qualitative studies could provide deeper insights into the lived

experiences of individuals in these communities, further informing culturally competent practices that resonate with rural populations.

Conclusion

In conclusion, this study highlights the pressing mental health needs of the Big Sky workforce, driven by socio-economic stressors and systemic barriers to care. By leveraging these insights, rural communities in Montana can develop and implement targeted, culturally appropriate interventions to enhance mental health and well-being among their residents. The translational potential of this research emphasizes the importance of adaptable frameworks that recognize and address the unique challenges faced by rural populations. Its applicability to similar rural communities across Montana and beyond will enable local stakeholders to adapt strategies that address unique demographic and socio-economic contexts.

CHAPTER FIVE

EXPLORING COMMUNITY'S PERSCPETIVE ON SUICIDAL

RISK AND PROTECTIVE FACTORS AMONG WORKERS IN

BIG SKY, MONTANA

<u>Contribution of Authors and Co-Authors</u>

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Abstract

Significance: Suicidal behavior is a critical public health concern, often stemming from a complex interplay of psychological, social, and environmental factors, requiring comprehensive prevention strategies to address underlying causes and provide timely intervention for vulnerable populations. This qualitative study examines the Big Sky community's perspectives on risk and protective factors related to suicidal behavior through focus group discussions.

Method: Twenty-one participants, both male and female, aged 18 to 65, participated in one of four focus groups. We conducted the focus groups with a 15-question, open-ended guide that explored perspectives on addressing mental and behavioral health concerns, barriers to seeking help, and available resources for mental and behavioral health. Focus group sessions were audio-recorded and transcribed for content analysis.

Results: The discussions identified key risk factors of suicidal behavior, such as social isolation, increased substance use, changes in sleep patterns and appearance, and self-sabotaging remarks, all indicative of emotional distress and difficulty managing overwhelming emotions. Protective factors emphasized by participants include self-care, community interconnectedness, intergenerational support, and the availability of community-based mental health resources.

Conclusion: The findings highlight that suicidal behavior is shaped by a complex interaction of personal, relational, and societal factors, including financial struggles, housing instability, social disconnection, and mental health stigma, along with limited access to support services. We offer recommendations for policy and practice, particularly in designing culturally and contextually relevant interventions that build on the community's strengths while addressing identified challenges.

Introduction

Suicide represents a critical public health issue in the United States (U.S.), with notable disparities in prevalence between rural and urban populations (117, 131, 177). At the state level, suicide rates are often higher in regions with large rural populations, such as the Mountain West, Midwest, and parts of the South (3, 5, 219). In rural states such as Montana (area of study), the suicide rate is notably high, with Montana frequently appearing among the states with the highest rates of suicide in the country (177, 220). In 2020, Montana had the highest suicide rate in the U.S. (25.9 per 100,000), ranking among the top five states for 30 years, compared to the national rate of 13.4 per 100,000 (17, 82, 126).

Risk factors for suicide within rural communities are multifaceted. Rural populations often experience barriers to accessing mental health care, exacerbated by geographic distance, limited availability of mental health professionals, and cultural attitudes that may discourage help-seeking behaviors (177, 217, 221, 222). The lack of adequate mental health infrastructure in rural communities, combined with geographic and financial barriers to care, creates an environment where individuals are less likely to receive timely interventions (219, 223-226). Furthermore, the tight-knit nature of rural communities can intensify the stigma associated with mental health struggles, leading individuals to suffer in silence (3, 5, 226-228). The interplay of these factors creates a complex landscape that affects suicide risk in ways that are not fully understood (229-232).

Research has identified many individual- and community-level protective factors of suicidal behaviors, including cultural identity, participation in traditional activities, and spirituality—elements that foster resilience and community cohesion (220, 232-235). Strong interpersonal

relationships, social connectedness, community cohesion, supportive workplace environments, and accessible mental health interventions may serve as buffers against mental health crises (220, 223, 233, 236). For close-knit rural communities, these aspects of cultural connectedness and engagement with nature and spirituality can significantly mitigate the impact of social determinants of health and address the persistent effects of loss or trauma (235-237). However, the specific protective mechanisms in place within the community and their effectiveness in counterbalancing identified risk factors remain underexplored. Understanding these protective elements is critical for developing targeted suicide prevention strategies that are both effective and contextually appropriate (235-237).

While existing research acknowledges the role of interpersonal factors in contributing to suicidal behavior and suicide clusters, the broader, community-level social influences are less well understood (13, 131, 234, 238, 239). The current body of research often neglects the impact of community-specific social networks, cultural norms, and environmental factors, which can differ markedly from those in more generalized rural or urban settings (5, 235, 240). This focus is crucial as it addresses gaps in the existing literature and provides a targeted understanding of the local context, which is often overlooked in broader analyses (3, 200, 239, 241).

Given the gaps in our understanding of the complex interrelated factors of suicidal behaviors in rural communities, an exploratory study is needed to better understand community perspectives of how local factors beyond interpersonal dynamics affect suicide risk and protection(219, 224, 225, 242). This research aims to explore community's perspectives on the risk and protective factors related to suicide among the workforce in Big Sky, Montana, a rural resort community in the western region of the U.S. We anticipate that by grounding this research in the voices of the

community, findings of this study will provide valuable insights into how community-specific elements, such as local economic conditions, seasonal variations, and the influence of transient populations, intersect with mental health outcomes and inform effective, culturally relevant suicide prevention efforts in Montana's rural workforce.

Method

Study Setting

Big Sky, a rural resort community with a population of 3,591 residents is heavily reliant on tourism. This community is situated around 44 miles (71 kilometers) southwest of Bozeman, with road access. The area's economy primarily revolves around tourism (56). Geographically, Big Sky is positioned on the western edge of Gallatin County and the eastern edge of Madison County, at the coordinates 45°16′12″N 111°17′59″W (45.269940, -111.299725). It is approximately halfway between West Yellowstone and Bozeman, accessible via U.S. Highway 191. The area's economy primarily revolves around tourism (56). The workforce in Big Sky encompasses a diverse range of occupations, primarily includes management, art, designs, entertainment, sports, media; education; business & financial operation; health diagnosing & treating practitioners; community & social service occupations; sales & related; construction & extraction; maintenance & repair; personal care & service; food preparation & serving related; building; transportation and office & administrative support (56).

Study Design

The study was developed using a Community-Based Participatory Research (CBPR) approach, involving collaboration between the Yellowstone Club Community Foundation (YCCF) and Montana State University (MSU). We used a qualitative method design to examine the community members' views on the risk and protective factors associated with suicidal behavior in the Big Sky community.

Study Sample

Participants for this study were recruited through purposive and snowball sampling, leveraging YCCF's established connections within the community. Key stakeholders and community representatives for the focus groups were contacted in person, through word-of-mouth, via email, and by phone. Given the exploratory nature of this research, the inclusion criteria for focus group participants were intentionally broad: individuals aged 18 and older who either work or reside in Big Sky and possess relevant experience or insights on the mental and behavioral health challenges facing the local workforce. A total of 21 male and female participants, ranging in age from 18 to 65, were recruited for four focus group discussions, including one specifically for Hispanic-identified and Spanish-speaking individuals. The participants represented a diverse cross-section of the community, encompassing various professional fields such as healthcare, administration, tourism, management, entertainment, sports, media, education, business and financial operations, health diagnostics and treatment, community and social services, sales, construction, maintenance, and government roles. Recruitment for the focus groups continued until data saturation was reached, meaning no new themes or insights were emerging from the discussions.

Data Collection

Between October 2022 and May 2023, four focus group discussions were conducted, with each session, lasting 60 to 90 minutes. Prior to each focus group, potential participants were contacted via email or phone to assess their willingness to participate, confirm their eligibility, and review the study's purpose, procedures, and informed consent. Each discussion included six to eight participants, with MS. serving as the facilitator and KFI as the notetaker. SS from YCCF oversaw the discussions and contributed her insights as needed. Participants received a $50 gas card as an incentive and were provided with a meal during the discussions. All discussions were held in English, except for the one conducted with the Hispanic group and recorded using a hand-held digital audio recorder. After each session, the de-identified recordings were sent to a transcription service.

Survey Instruments

A semi-structured guideline that included 15 open-ended questions and follow-up probes, focusing on three key areas: 1) Perspectives on addressing mental and behavioral health concerns (including general depression, anxiety, stress, and other related issues), 2) Barriers to seeking help (challenges faced and least favorable experiences), and 3) Resources for mental and behavioral health services (recommendations and future intentions for preventative strategies) were utilized to conduct the focus group discussions. The interview guide was crafted based on a review of the literature and the socio-ecological framework. Field notes were also taken to capture non-verbal cues and contextual details that could enhance the analysis. Toward the end of each discussion, facilitators encouraged participants to identify and discuss any other influences they considered important but had not been mentioned earlier in the conversation.

Ethics and Data Management

Unique participant IDs were assigned to the audio recordings, interview transcripts, and related files, ensuring that all identifying information was removed from the transcripts. Each interview was audio-recorded with the participants' consent, and they were informed of their right to withdraw from the study at any time without facing any consequences. The study received approval from the Montana State University Institutional Review Board Committee in 2022.

Data Analysis

A thematic analysis of the de-identified, transcribed interviews using an iterative approach were conducted. The analysis aimed to address the following research questions: 1) What risk factors and challenges related to suicide and overall mental health does the Big Sky community face? 2) What are the community's views on protective factors related to suicide? 3) What recommendations or solutions were proposed to address mental health challenges? We developed our coding framework and understanding of the data by alternating between detailed readings of the transcripts and applying the socio-ecological model for suicidal behavior. Each transcript was reviewed collaboratively multiple times, highlighting themes across the socio-ecological model's four dimensions: individual, interpersonal, community, and societal influences related to suicidal behavior. As a graduate research assistant, I conducted the preliminary thematic analysis with periodic input from co-authors and key community informants.

The analysis began with a data immersion phase, where I read each transcript and generated initial descriptive quotes around three major themes: challenges, strengths, and solutions, through a primary cycle of coding. Coding was performed line-by-line using Dedoose software and entered into a separate Microsoft Excel spreadsheet. Multiple codes could be applied to the same

statement. The PI of this project, MS subsequently reviewed the codebook to validate the preliminary coding, address any discrepancies, and findings were triangulated and shared with project partners and local community experts to enhance the integrity of the results. All themes were then integrated into a cohesive narrative assessment report, presenting the themes alongside illustrative quotes from participants to support the interpretations and conclusions.

Results

This qualitative study was conducted with a sample of N=21 participants (male: 13, female: 8), all of whom were local representatives of the Big Sky workforce, holding a wide range of occupations such as school administrators, YCCF staff, wellness navigator program volunteers, resort janitors, ski patrol members, bartenders, Big Sky Chamber of Commerce representatives, meditation teachers, culinary administrators, retail salespeople, and school counselors. While participants may not have personally engaged in suicidal thoughts/ ideation, the high rates of depression and suicide in the community meant that many had experienced someone close to them—whether a friend, family member, colleague, or intimate partner—struggle with suicidal thoughts, behaviors, or die by suicide. Figure 2 presents the focus group discussions results through a socio-ecological model illustrating the range of potential suicidal behavior risk and protective factors according to influences within the model's four risk and prevention categories (individual, interpersonal, community, and society).

Figure 2 Focus Group Insights on Suicidal Risk and Protective Factors: A Socio-Ecological Perspective

Suicidal risk and protective factors are deeply intertwined with mental health and broader structural factors. Discussing suicide without addressing these factors would provide an incomplete picture, as mental health challenges like depression, anxiety, and stress are often shaped by interpersonal, community, and societal influences. Focus group findings of this study highlighted structural conditions such as economic stability, access to mental health services, and the strength of community support systems play a crucial role in determining both vulnerability to and protection from suicidal behaviors.

Risk Factors

Like many resort towns in the Western United States, Big Sky relies heavily on seasonal workers and exhibits significant wealth disparities. This qualitative study found that workers in Big Sky face numerous risk factors, including substance abuse, isolation, inadequate housing, economic inequality, high altitudes, limited mental health services, and poor mental and behavioral health outcomes, all of which can lead to self-harming behaviors. Despite the prevalence of these issues, Big Sky has been slow to address them. Using the SEM framework, the risk factors that eventually leading to self-harming behaviors are categorized into four main areas: individual, interpersonal, community, and societal.

Individual: Social isolation and Behavioral change. Social isolation is a critical warning sign of suicidal behavior, often manifesting as a withdrawal from social connections and activities once enjoyed. Participants noted this shift:

> "That person doesn't want to go and hang out with the group anymore. They would rather stay at home, when normally they would like to participate."

This isolation can deepen, leading to avoidance of social gatherings, as one participant explained, "Maybe there's a party and they prefer to stay at home... thinking about other things that aren't good." When combined with unhealthy coping mechanisms, such as excessive drinking, this behavior signals a growing sense of hopelessness and requires immediate attention. As one participant highlighted, "It's just like more of a daily practice of drinking to the point of being drunk, versus just having one after work." These patterns suggest the need for close monitoring of social isolation as it can indicate suicidal ideation.

The quality of living conditions also serves as an external reflection of internal distress. One focus group participant described the connection between chaos in living environments and emotional turmoil:

"There is a big correlation between the two—this person's life being kind of chaotic and their house being a little bit chaotic as well."

This finding reflects when a person begins to isolate themselves and their once manageable living conditions start to spiral out of control, it can be an indication that they are overwhelmed by stress, anxiety, or depression. This external chaos often parallels the internal feelings of hopelessness, worthlessness, or lack of purpose they are struggling to manage, which can lead to feelings of hopelessness and despair—common precursors to suicidal thoughts. Recognizing this external chaos, along with social withdrawal, is vital in identifying individuals at risk.

Changes in behavior, particularly increased drinking, social withdrawal, or excessive distraction, self-sabotaging remarks such as "I wish I was a different person" or "I wish I wasn't me", often mirror internal emotional turmoil and despair, especially when paired with social withdrawal and other distress. One participant observed, "The first thing I think of is just the behavior change. If they are drinking way more, isolating way more, maybe even distracting themselves way more." These behaviors often reflect efforts to manage overwhelming emotions or escape reality. When these shifts are persistent and uncharacteristic, they may be linked to feelings of hopelessness or emotional distress, contributing to suicidal thoughts.

Individual: Substance misuse. Focus group respondents highlighted substance misuse as a significant risk factor for suicidal behavior and mental health issues in Big Sky. One participant noted, "There's always something in Big Sky that involves alcohol or celebrating going on every night," indicating the pervasive presence of alcohol in social activities. Another respondent pointed

out that newcomers to ski culture and the industry can easily fall into patterns of substance or alcohol abuse without realizing it, stating,

> "You quickly want to fit in... and then a couple of weeks... a month or two can go by, and then you don't realize that you're actually kind of in this full-circle trigger cycle."

This reflects how the desire to belong can lead individuals to unwittingly engage in harmful behaviors that may later contribute to mental health struggles and suicidal thoughts.

Individual: Environment. Respondents identified the weather as a significant risk factor for suicidal behavior and mental health struggles in Big Sky. One participant remarked, "The sun never comes out here... it's cold all the time and dark all the time," emphasizing how the lack of sunlight and persistent cold can negatively impact mental well-being. Others shared similar experiences, with one noting a noticeable mental decline in the darker months, particularly November through January, saying, "I noticed my mental shift in November goes down." The long periods of darkness, especially when it's "dark when you go to work and dark when you come home," were mentioned as especially challenging. These environmental factors, coupled with isolation during the off-season and holidays, can exacerbate feelings of depression and contribute to suicidal thoughts, particularly for newcomers lacking a strong support system.

Individual: Lack of awareness and normalization of mental health issues. Focus group respondents emphasized that a lack of awareness and normalization of mental health issues is a significant risk factor for suicidal behavior and mental health struggles in Big Sky. One participant mentioned that adults often keep their mental health concerns to themselves, with only a few seeking help—typically those who can afford it or have committed to addressing it. Another respondent highlighted the contradiction in mental health awareness, noting that while resources may be available,

"The people that need it the most... don't even know they need it, reflects a deeper issue, where individuals remain unaware of their mental health needs, likening it to having water available but those who need it being "up in the hills."

Additionally, participants discussed the mentality that "life is hard, so deal with it," with many feeling that their problems aren't severe enough to warrant seeking help, which becomes a major barrier to accessing mental health resources. There's also a prevailing belief, especially within certain industries like ski patrolling, that trauma and loss are simply "part of the job" and must be handled individually. Participant mentioned:

"Oh, I'm a ski patroller and trauma is just part of the job. And avalanches is just a thing. And you just need to be able to move through it." Or like, if your friend dies, then it's like, "Well, other people are struggling too."

This normalization of suffering and the expectation to endure it alone prevent many from recognizing the importance of mental health care, further exacerbating the risk of suicidal behavior

Interpersonal: Family discord . "I think that could also be because of a lack of connection with your family. I mean, when you don't feel comfortable, connected, when you don't feel happy in your own family, you look for other people to satiate, fill that need". Focus group respondents discussed how a history of family discord or violence is a significant risk factor for suicidal behavior and mental health issues. One participant pointed out how stress and frustration within families can lead to unhealthy patterns of venting anger, noting that:

"Yes, I think drugs and alcohol are factors, since they are easy to access, that's what a lot of people use to destress. They go to parties, too, but I also think that – well, in families, it is repeated a lot within families. I mean, the mom comes from work, stressed out, she takes it out on her husband and daughter. The husband comes home stressed out and takes it out on his wife and daughter. His daughter comes home, I don't know, from school upset because of something and so I feel that there are a lot of people who seem like they are healthier because they don't do drugs, they don't, but they get even in other ways that aren't healthy. It's with other people who clearly aren't at fault or anything."

This pattern of transferring stress and anger within the family creates a cycle of emotional harm, even if family members do not engage in substance abuse. Another respondent emphasized how a lack of healthy family relationships or support can exacerbate mental health struggles, stating, "there's a lot of drama and difficulty... where families are going through a divorce or other things," which often leads to unhealthy coping strategies, including addiction. The ripple effect of family conflict can intensify feelings of frustration and helplessness, contributing to poor mental health outcomes. Additionally, the inability to share concerns with family members without fear of judgment or lack of solutions forces individuals to seek professional help they may not be able to afford, further compounding their stress. Participant noted:

> "…So, it's like if you're going to vent to someone who isn't going to give you a solution, but instead is going to judge you, you're seeing it as a need to see professional because if you can't share with your family, you must go to someone who has studied that. But if you need someone who has studied, and they are paying who knows how much and you don't have the ability, you know…." That's the situation that we're in."

These dynamics, combined with a home environment filled with frustration and aggression, are major contributors to mental health struggles and potential suicidal behaviors.

Interpersonal: Loss of connection and lack of sense of belonging. Respondents highlighted a lack of sense of belonging and loss of connection as key risk factors for suicidal behavior and mental health struggles in Big Sky. One participant expressed the difficulty of breaking into already established social groups, which can lead to feelings of isolation, noting,

> "Personally, I found it difficult to engage in already established groups, so sometimes that is isolating. Sometimes it's challenging to get away from work... there's other connections that would probably be beneficial but are sometimes difficult to enter into."

The difficulty in forming meaningful connections, often due to financial constraints or preexisting social cliques, contributes to feelings of loneliness. Another respondent pointed out

that conflicting work schedules, with people working multiple jobs or having different days off, further limits opportunities for socializing, making it hard to maintain friendships, as reflected in the sentiment, "See them in spring." The lack of consistent connection exacerbates feelings of disconnection and loneliness. One of them mentioned,

> "I think that there are certainly groups in Big Sky that sometimes it's difficult to enter groups. The groups that you do tend to associate with are largely the work environment. Maybe the recreational environment. And it's really hard, I think, to find a good group of a network of friends. I think it's an opportunity that this community particularly has to make people feel more welcome."

Respondents also noted that Big Sky's transient nature, with seasonal workers frequently leaving, creates an environment where people often say goodbye to friends, not knowing if they will ever reconnect. This sense of impermanence and instability in relationships can be emotionally challenging, leading to feelings of loss and contributing to poor mental health outcomes. The inability to find a supportive network and form lasting bonds within the community creates a sense of isolation, heightening the risk of suicidal behaviors.

Community: Community dynamics. It's highlighted that Big Sky's small-town nature presents unique challenges that can contribute to suicidal behavior and mental health struggles. One participant mentioned the discomfort of seeking local mental health services, fearing the lack of anonymity, saying, "I didn't feel comfortable going to someone here who might know my husband."

Another respondent, originally from a large city, noted that in a small town like Big Sky, "you're very careful about who you tell what. Because personal relationships often overlap, making individuals cautious about sharing their struggles." This lack of privacy can increase feelings of isolation, as people may avoid discussing mental health challenges for fear of gossip or judgment.

Additionally, the limited social circles in Big Sky were noted as a barrier to forming distinct groups of friends and colleagues. One participant observed that: "the people that would be your friends are also people that you would potentially be working with," which blurs the line between personal and professional life. This lack of separation can make it harder for individuals to find support outside of work, exacerbating feelings of loneliness and limiting opportunities for meaningful, confidential connections—factors that heighten the risk of suicidal behavior.

Respondents highlighted that Big Sky's work culture, particularly in the service and tourism industries, contributes to mental health struggles and increases the risk of suicidal behavior. One major issue is the intense pressure on workers to prioritize customer satisfaction, often at the expense of their own well-being. One participant noted,

> "There's this constant conversation about taking care of the customer or the tourist,
> but where is the conversation about taking care of the workforce?"

This imbalance can lead to burnout, as employees are pushed to meet the high expectations of tourists, without adequate support from their employers. Another respondent emphasized the emotional toll of dealing with demanding and sometimes hostile customers, particularly when employers fail to protect staff from abusive behavior. "If your company is not acting as a buffer to keep you safe from those customer reactions... it doesn't matter how much work you can do," they said. The expectation to meet unrealistic demands from customers, who view their trip as a once-in-a-lifetime experience, only adds to the stress. One worker recalled being verbally attacked over a minor issue, reflecting how even small incidents can become overwhelming in such a high-pressure environment. This work culture, where employees are consistently undervalued and unsupported, fosters an environment of chronic stress and emotional exhaustion, creating significant mental health risks and increasing the likelihood of suicidal behavior.

Community: Housing environment. Focus group respondents emphasized that housing and the roommate culture in Big Sky are significant risk factors for mental health issues and suicidal behavior. One participant shared alarming stories about dangerous living conditions, stating,

> "I've seen some horrendous roommate stories here. People being chased out by guns, just installing security cameras, and then cutting each other's security camera line."

Despite these hazards, many workers remain in such environments because affordable housing options are scarce, forcing them to choose between safety and having a place to live. The communal living arrangements provided by many employers add to the stress. Described as "dorm room-ish," these setups place individuals with different habits, schedules, and lifestyles into tight living spaces, leading to tension and conflict. One respondent noted, "With that many people in that space, there's not your own space per se to just take a breath... Buttons get pushed, and it all rolls into work life and your home life."

Substance use also exacerbates the challenges of communal living, especially for those who don't engage in drinking or drug use, further isolating individuals in their homes. Additionally, the pressure to maintain employment is heightened by the connection between housing and job security, with one respondent stating, "Housing puts a lot of pressure on job performance. Because if you lose your job, you lose your house."

Community: Stigma. Respondents highlighted stigma as a significant risk factor for mental health challenges and suicidal behavior in Big Sky. Many shared that people often keep their mental health struggles private due to the fear of being judged or misunderstood. One participant remarked, "People keep issues of mental health to themselves."

Another respondent mentioned how stigma impacts even those who may not personally feel it, explaining, "Not because I personally have a stigma, but because I'm aware of the stigma

that's out there, and I have to be cognizant of that as a professional and just like as a human being."

While there has been societal progress in how mental health is treated and discussed, respondents agreed that much more work is needed. Despite some strides, one participant noted, "Mental health, I think, is still more stigmatized than it should be."

The difficulty of opening up to others also came up, with one individual sharing that attempts to talk with friends about mental health were met with resistance due to lingering taboos: "It's been tough... it's kind of still taboo." Ultimately, while the importance of mental health is acknowledged, stigma continues to serve as a barrier to asking for and receiving help. One participant summed it up by stating, "There's this perception that it's very easy to ask for help and receive it. And I've just not found that to be the case."

Respondents highlighted gender discrimination as a significant risk factor for suicidal behavior and mental health issues. They noted that cultural norms and expectations, especially regarding masculinity, contribute to mental health challenges. One participant shared, "From my friend group, especially the men, I know more about their home lives and their parents just telling them to suck it up. Talking about feelings just isn't anything normal to them," illustrating how societal pressure discourages men from expressing emotions and seeking help.

Another respondent observed, "You see how men are taught culturally to not talk about things," emphasizing how ingrained gender norms can lead to emotional suppression. This suppression, in turn, can result in untreated mental health issues. Additionally, participants discussed how discrimination, including gender-based discrimination, can lead to depression and other negative outcomes. As one participant explained,

> "Discrimination influences depression... if you don't express yourself, it accumulates and then it could be that we find refuge in other things, delinquency,

alcohol and sometimes, like he was saying, even taking our lives because of discrimination and everything that comes with it."

Societal: Barriers to mental health care. Respondents noted that barriers to accessing mental health services can exacerbate emotional struggles. They highlighted the widespread factors as challenges in accessing health services expanding from finding suitable and affordable providers, logistical issues like time-management, health insurance and transportation to make and keep appointments with providers:

> "A lot of people who work at the resort, they're hourly and might be on the mountain. For them to access services available only Tuesday through Thursday from 9:00 to 5:00 means they have to take not just that hour off, but also find a way to get to the office, have their appointment, and then return."

Respondents also highlighted issues with finding and affording appropriate care. One said,

> "Whether it's insurance, accessibility, or finding the right person, it's not as easy as just calling 988 and getting resources. Seeking help in your own community has its own challenges." This underscores how logistical and financial barriers complicate the process of obtaining necessary mental health support."

Another participant pointed out that the lack of immediate help contributes to the problem: "Sometimes there aren't people who want to listen, or you're very far from a place that has the necessary services." Additionally, the financial burden of taking time off work to access services was mentioned: "Depending on your schedule, you're losing a significant part of your income to access help. When living paycheck to paycheck, you can't afford to invest in your future.

Respondents highlighted the challenges of accessing and maintaining meaningful connections with mental health providers in Big Sky, emphasizing the potential risk to mental health and suicidal behavior. Many noted the lack of infrastructure and inadequate mental health services in the area. One participant pointed out, "We don't have counseling available seven days

a week... and I think it puts a disproportionate strain on our hourly workers," underscoring how the scarcity of resources makes it difficult for workers to receive the support they need.

Others shared frustrations with the limitations of existing services, such as short-term counseling options through employee assistance programs. One individual explained how gaps in service can leave people without consistent care when they need it most:

> "I only got three free sessions, and then I had to wait three months... So, that lag time, getting cut off, then it was harder."

Another challenge raised was the difficulty in finding a therapist who is a good fit. Respondents noted how disheartening it can be when the connection with a counselor isn't right. As one person remarked, "If you have a bad experience or you don't click with the first one... I was like, 'I don't know if this is worth it.'" The process of trying to establish a connection with a therapist can become overwhelming, especially when multiple attempts don't result in helpful interactions. This lack of a reciprocal relationship with providers was echoed by another respondent:

> "It doesn't feel reciprocal, your need and their experience or their expertise... at some point, you think, 'How many times do I have to say something before I'm receiving some valuable information?"

This lack of satisfaction and continuity in care contributes to feelings of discouragement and may prevent individuals from continuing to seek help, further exacerbating mental health challenges.

"Even though there are options like Via and sliding scale fees available in Big Sky, the reality is that working multiple jobs and long hours means that taking time off for a $10 counseling session actually costs more due to lost wages. For someone whose rent is $1,500, this added expense makes it hard to prioritize mental health." This quote underscores how financial

limitations affect access to mental health services. Even with sliding scale fees and low-cost options available, financial pressures frequently render it difficult to obtain care. Another respondent shared a more direct view on the impact of financial constraints:

> "The money earned is very little, and it's often a choice between eating and going to see a psychologist. Most people will prioritize food over mental health services due to their limited resources."

These responses illustrate that while affordable mental health services may be available, the overall financial strain and opportunity costs associated with accessing these services can be substantial barriers for individuals, contributing to increased risk for mental health challenges.

Another significant risk factors for suicidal behavior and mental health challenges echoed by the respondents were health insurance. One respondent criticized the quality of health insurance provided, saying, "For people who do qualify for a health insurance, the resort's health insurance is absolute garbage." Many workers, especially those in seasonal or hourly positions, face limited health insurance coverage, which often provides insufficient support for mental health services. Furthermore, while the resort offers a $65-a-week wellness stipend, this amount is often insufficient to cover the costs of essential mental health care. Even with sliding scale options, counseling sessions can be prohibitively expensive, costing around $100 each, as one participant shared:

> "…Speaking for myself, my insurance is not great. And even though there are sliding scales for some things, it's prohibitive. A counseling session, even with insurance, can be $100 a session. And if you're talking two or three times a month, that's prohibitive."

Lack of infrastructure can significantly exacerbate mental health issues and increase the risk of suicidal behavior. As one focus group respondent described,

> "When you're the psychology trying to access resources that make you feel like a valued member of society, and you're having to whistle stop tromp through snow,

cut across the parking lot, go across a bridge, and then enter a basement food bank, I think that's another barrier as well, is that it feels like your service for being poor is this misery. And that's not fair. That's not at all what I think anyone deserves. It does feel like it's kind of baked into the model."

The experience of accessing mental health resources can be demoralizing and alienating when the process itself is fraught with physical and emotional barriers. Navigating difficult conditions—such as trudging through snow, crossing parking lots, and entering inadequately maintained facilities—can make individuals feel undervalued and stigmatized. This sense of being treated unfairly or as a burden, especially when seeking help in already challenging circumstances, can compound feelings of worthlessness and despair.

Focus group respondents reported that exhaustive and fragmented messaging can serve as a significant barrier to promoting mental health and preventing suicidal behavior. Many participants expressed frustration with the overwhelming number of mental health programs and resources available, which can lead to "message fatigue." "Challenging to keep track of the different programs, such as those from the Yellowstone Foundation, Big Sky, or Wellness In Action", leading to a sense of being overwhelmed and disengaged:

> "Working for Big Sky, I feel like there's been so many programs that seem to be almost created recently, where it's almost too much. Exhausting when you are trying to keep track of –oh, is this the Yellowstone Foundation? Or is this like, Big Sky in Bozeman? Or is this like, WIA? And there's like all these things in here. So, like, I was just don't wanna hear any of it right now. It just needs to be like filtered so it's more helpful."

This information overload can make it difficult for individuals to discern which resources are relevant and accessible to them, resulting in decreased motivation to seek help. Additionally, respondents highlighted the need for more straightforward and simplified communication. They suggested that mental health resources should use clear, easily understandable language and provide streamlined, step-by-step guidance to make accessing support more manageable. Without

these improvements, the abundance of information can become a deterrent rather than an aid, ultimately impeding individuals' ability to find and utilize mental health resources effectively.

<u>Protective Factors</u>

Focus group discussion revealed even in the midst of mental health challenges, Big Sky community possess an incredible resilience that enables them to thrive despite adversities. While mental health issues pose significant barriers to individual well-being and community cohesion in Big Sky, the collective strength, support systems, and resources within the community yet serve as powerful catalysts for resilience and growth.

Individual: Wellness. Focus group participants revealed that practicing self-care and striving for contentment can be powerful protective factors in addressing suicidal behavior and mental health challenges. One participant discussed the recent shift in workforce mindset, where individuals have started to prioritize their well-being over the demands of their job:

> "But the shift of the workforce mindset of, and I think for the majority, from a personal standpoint, I think this is a good thing where you're like, "You know what? I don't exist for my job. I exist to be a human, and I need to take care of myself.""

However, participants also acknowledged the complexity of balancing self-care with the demands of professional life. While taking time for therapy, exercise, and personal happiness is crucial, they also noted the reality of societal expectations—particularly the need to work in exchange for financial stability. One participant expressed the challenge of reconciling these two conflicting priorities, especially in fields where workers are depended on by others for essential services. The pressure to show up for work, fulfill commitments, and contribute to the functioning of society can sometimes clash with the need for personal care, leaving individuals unsure of how to navigate both. They expressed:

"..in the current system in which this country operates, we've all signed this social contract that we are going to work in exchange for money, in exchange to buy the things that we need to live, to have the life that we want. Like, you have to set boundaries and be healthy. And we also have to follow through on our commitments. So, how do you do both? I don't know."

Interpersonal: Interconnectedness. The focus group participants revealed that fostering a sense of interconnectedness can serve as a protective factor in addressing suicidal behavior and mental health challenges, particularly in tight-knit communities. One participant highlighted how their town consistently comes together when a family faces adversity, reflecting a longstanding culture of mutual support. While the participant admits that this collective strength isn't always directly applied to mental health, they note that the community's willingness to "have each other's backs" over the past two decades remains a powerful, protective force:

> "This town's really good at like, when something happens to a family or something, really good at coming together quick with resources and support. I think I feel like I've seen that a lot in the last 20 some odd years. But I don't know how that applies to mental health. But I think that's the strength of our – of Big Sky. Like, we'll come together and we'll – we got your back for the most part. I mean, I'm sure there's other people who don't feel like they got their back taken."

Another participant identified a "craving for connection" as a deeply rooted need in their community, particularly in industries where the adrenaline-fueled lifestyle might distance people from each other and from meaningful relationships. This craving, they suggest, extends beyond the workplace and touches on a desire for deep connections with nature and others. The importance of listening and cultivating close-knit relationships was also emphasized as a key aspect of fostering interconnectedness. A participant discussed how workplaces can feel like "family units," where colleagues look out for one another, especially during difficult times. They mentioned:

> "And sometimes that can be such a strength, right? It's like the family unit within your workplace. And like, you're here for each other. And you know when someone's having a hard time."

This mutual care and attention help create a safety net for individuals who might be struggling internally but are reluctant to show it externally. Furthermore, the participants stressed the importance of taking time to truly get to know others. One mentioned that individuals may face chronic mental health challenges that aren't immediately visible, making it crucial to invest time and effort in building relationships that go beyond surface-level interactions.

However, respondents expressed contradiction in the sense that interconnectedness, while generally viewed as a strength in the community, can also become overwhelming and anxiety-inducing:

> "It's a huge strength that's got like the double-sidedness of it too, of like there's very little separation. Like the person who's your boss is also your friend is also the dah, dah, dah, is also your doctor. Like there's just a lot of overlap that I think is part of the reason why we all care about each other so much. But I think it also feeds into that sense of overwhelming. Just like, "Can I have a second where one person doesn't know all of my business?"

The overlap of personal and professional relationships strengthens bonds, but the lack of boundaries leads to feelings of being overwhelmed, as individuals feel constantly exposed and boundaries between personal and professional roles become blurred.

Interpersonal: Intergenerational connection. The focus group participants highlighted the importance of intergenerational connections as a protective factor in addressing mental health challenges and suicidal behavior. One participant shared their personal experience on how mentorship from older individuals had greatly benefited them throughout their life, providing valuable advice and perspective:

> "I know through the course of my life, I have benefited greatly from mentorships, from working alongside someone who's older than me, and then they can give me some advice because sometimes, not all the time, but sometimes the thing you're feeling is universal and not that big of a deal."

The wisdom of someone who has lived through similar challenges can offer reassurance and context, helping younger people realize that their struggles may be universal and not insurmountable. Another participant emphasized that creating comfortable spaces for open dialogue, particularly across generations, could be lifesaving. Participants also suggested practical ways to encourage intergenerational interaction, such as organizing informal community-based activities like basketball games for connection allow people of different ages to bond over shared experiences and build trust. The presence of older mentors in these spaces can provide guidance and emotional support to younger individuals, offering a sense of stability and continuity.

Community: Normalizing mental health conversations. Focus group participants noted that as more resources and support networks, such as Wellness in Action and the navigator group, become available, people feel a greater sense of security and optimism and engage in conversations about mental health. One participant expressed how engaging with these resources personally brought a reassuring sense that "it's really going to be okay".

> "Lately here, like there's Wellness in Action, there's the navigator group. You can feel and see the support. And me personally, as I get more involved with it myself, I feel a sense of like, it's really gonna be okay. Because before, it was kind of like, "Let's have a conversation, and I don't know what to do." Now, it's kind of like, "Let's have a conversation and here's where you could take the next step if you would like to." That's how I feel like it's happening."

Additionally, participants emphasized that earlier, discussions around mental health often felt uncertain, but now they come with tangible solutions and next steps. One participant shared how, previously, conversations would end without actionable guidance, but now people are equipped with knowledge of where to seek further support.

While conversations about mental health have become more common in work settings, participants pointed out that they are still less frequent in social spaces. The focus group recognized

the need for mental health conversations to extend beyond professional environments into more

casual social settings, where the stigma around these topics still exists. They reported:

> "In my work, there's more conversations about behavioral and mental health, not
> so much outside of work. And when I socialize, it's not very much a part of the
> conversation, but through work, it is every day a part of the conversation, but I'm
> not hearing it outside very much."

Community: Sense of safety. Focus group participants identified Big Sky's sense of safety

as a protective factor against suicidal behavior and mental health challenges. They emphasized the

physical security of the community, such as leaving cars or homes unlocked without fear, which

fosters psychological ease and reduces anxiety "it is safe here for sure. [Inaudible] the fact that

you can leave the door of your home open. Very few times do you hear about someone who is out

of whack who pulled out a gun who – I mean, you don't hear about that at all."

Additionally, participants noted the friendliness and helpfulness of residents, reinforcing a

supportive, non-discriminatory social environment. One participant remarked on how even if

someone is lost, others take the time to provide directions, overcoming language barriers and

offering assistance:

> "..if you get lost, they'll take the time and tell you which way it is. They find a way
> to be understood beyond language."

Societal: Available resources in Big Sky. Focus group participants highlighted the BASE

community center as a significant protective factor in addressing mental health challenges and

reducing suicidal behavior. The center offers a wide array of resources and activities, creating a

space where community members can come together, find support, and engage in healthy,

substance-free activities. Participants expressed:

> "As long as people are coming together to have this shared vision and these shared
> goals, that's going to be hugely effective. And I think communicating that out to the
> community is huge. Like, it needs to happen probably better than it is right now.

Because with what BASE at the Community Center is doing, like yes, that's a huge asset that could be built upon"

Moreover, BASE has become a hub for physical, artistic, and mental well-being through its diverse programs and spaces for counseling, fitness classes, and artistic pursuits. Participants also recognized that BASE's services, including fitness programs, arts, counseling, and even structured outdoor activities, offer alternatives to typical social venues that might involve alcohol or other high-risk environments. By encouraging participation in community-based activities, the center has helped individuals like the ski shop worker mentioned in the testimony, who found personal growth and support through BASE, showing its positive impact on residents' lives:

"I think that Base is such a great foundation. To this question, I've been hitting them like five years ago and just to see what it is now and that's doing exactly what it was supposed to be doing."

Respondents also revealed in addition to its recreational and counseling services, BASE has made efforts to address more specific mental health needs through initiatives such as grief groups and emotional first aid training. Programs like these, along with the peer support specialists in the community and partnerships with organizations like the Big Sky Medical Center, make BASE an integral part of the local mental health infrastructure.

Recommendation from Community's Perspective

The focus group discussion on creating a thriving community in Big Sky led to a series of valuable recommendations aimed at promoting awareness of suicidal behavior and addressing mental health needs. Participants highlighted the importance of fostering strong relationships, creating safe and supportive environments, and providing accessible resources for mental health care. Through their personal stories and experiences, they emphasized the need for more open conversations, the de-stigmatization of mental health issues, and the integration of wellness

practices into everyday life. These discussions informed the development of targeted recommendations to enhance mental health support, raise awareness, and ultimately help Big Sky become a more resilient and mentally healthy community which is discussed in this chapter.

Normalize mental health care and conversation. To further destigmatize mental health, it is essential to normalize therapy and integrate mental health care into routine health services. One participant suggested, "It should just be mandatory, everybody should have some [therapy] in order to qualify for your health insurance, you need to have X number of therapy sessions per year or something." This reflects a growing recognition that mental health care should be viewed as essential as physical health checkups. Additionally, when mental health advocacy is discussed, many feel relief and gratitude, as noted by another participant: "Whenever I have brought up the topic of mental health... there's this relief or gratefulness or they're so happy to hear that that's a topic being addressed." These reactions indicate the need for creating safe spaces for open dialogue. In transient and adventure-seeking communities, such as Big Sky, mental health risks and substance use are especially prominent. One person observed, "People who are addicted to adventure and adrenaline may be more prone to mental health issues... and more likely to use substances." Therefore, tailored mental health interventions are needed for these high-risk communities.

- Foster ongoing conversations within the community about mental health to break down barriers to seeking help.
- Encourage individuals to share their experiences and struggles openly to create supportive spaces.

- Emphasize patience and persistence in promoting a culture where discussing mental health is accepted and encouraged.

- Harness the popularity of mindfulness and other well-being practices by promoting them as accessible tools and standard aspect of preventive healthcare for everyone, thus encouraging wider participation in mental health care.

Available and accessible resource: Mental health Infrastructure. To improve mental health infrastructure in communities, it is important to provide accessible resources and wellness opportunities in common public spaces. As one participant mentioned:

> "Everybody has to go to the post office... having information there... it's a place that doesn't cost anything to have some resources."

This highlights the need for free, easily accessible locations, such as post offices or grocery stores, where mental health information and resources can be made available. Additionally, offering wellness programs at places of work or community hubs could encourage participation. Another participant noted, "If Big Sky offered a wellness thing... where I could go, I knew there was someone that I trusted... I would probably go." This reflects the importance of creating trusted spaces for mental health care, where individuals can access various tools, such as yoga, meditation, or art therapy, to support their well-being.

- Provide free access to mental health information and resources in locations frequented by the public, such as post offices and grocery stores, to ensure broader reach without financial barriers.

- Integrate Holistic Approaches into Work Practices: Encourage businesses and organizations to incorporate central nervous system regulation tools, mindfulness

practices, and other therapeutic activities such as yoga, meditation, or art therapy, at places

of work or community centers as part of their work culture to promote overall well-being.

Available and accessible resource: Telehealth. To improve access to telehealth services, it

is essential to create safe and private spaces where individuals can confidentially attend virtual

therapy sessions. One participant highlighted the ease of telehealth, noting,

> "We have telehealth for this great way to access therapy almost instantaneously.
> Like one minute, you're skiing, next thing you're doing a telehealth session."

However, they also mentioned the lack of private spaces at the resort, saying, "We have no

safe private space to be able to do that... there's no way, if you want your stuff to be truly

confidential." This underscores the need for designated areas that ensure privacy for telehealth.

Without proper spaces, employees may avoid using telehealth services, even when they're

available. The idea of a telehealth room, "like a breastfeeding room but for telehealth," offers a

simple yet effective solution for providing confidential spaces at work, particularly in

environments such as resorts.

- Promote Awareness and Accessibility of Telehealth Services to ensure that employees are
  informed about the availability and ease of accessing telehealth services, promoting its
  convenience as a tool for mental health support.
- Encourage Organizational Support and engage management and decision-makers to
  prioritize the creation of telehealth-friendly spaces, removing barriers to employee
  wellness and mental health care access.

Available and accessible resource: Emotional first aid training. Emotional first aid training is

a valuable, cost-effective tool that helps individuals recognize and respond to emotional

distress in others. As one participant noted, "It's such a valuable tool that costs nothing,"

reflecting the significant benefits it provides without financial barriers. This training has a positive ripple effect within the Big Sky community, as people apply what they've learned beyond the formal training environment. Additionally, the Wellness Navigator program, which includes emotional first aid training, has been instrumental in helping individuals identify signs of emotional regulation or dysregulation. A participant shared,

> "Taking two rounds of emotional first aid training... helped with being able to observe if someone is regulated properly in accordance with their central nervous system."

Moreover, emotional first aid can be critical in preventing crises; one individual mentioned seeking treatment after experiencing suicidal thoughts, emphasizing the importance of early detection and intervention. Expanding emotional first aid training can empower more community members to offer support and prevent severe mental health crises.

- Offer emotional first aid training and regular refresher courses more broadly within the community and workplaces, equipping individuals with skills to ensure individuals remain skilled in recognizing signs of emotional distress and can manage their own emotions and support others in distress when needed

- Raise awareness about the importance of emotional first aid training, emphasizing that it is a free, accessible tool that can have a significant impact on mental health and crisis prevention in the community.

Available and accessible resource: Wellness Navigator or HR intermediary. Establishing a Wellness Navigator or HR intermediary focused on mental health can significantly improve access to care and foster trust within large companies in Big Sky. As participants suggested, having

someone who can coordinate between insurance, concerns, and appropriate professionals would

streamline the process of seeking mental health support. They noted:

> *"Coordinate all those systems. That like, there should be a position where you're trained and that's what you do. You help give resources. You're some of the builder – this all starts with relationships, too."*

Larger employers, such as Big Sky and Yellowstone, could benefit from creating positions

specifically designed to connect employees with resources. One participant highlighted the

importance of trust, noting, "If you can't build a relationship with someone, you're probably not

going to trust them to go for help." This underlines the need for a Wellness Navigator to build

relationships and offer consistent, personalized support. Such a role would help employees

navigate mental health resources and insurance, allowing them to feel more comfortable seeking

help. Another participant emphasized the broader impact of these relationships: "Having a circle

where you feel comfortable... could help many people." Expanding access to Wellness Navigators

or trained HR personnel dedicated to mental health could create a supportive environment that

normalizes mental health discussions and intervention, ultimately saving lives.

- Integrate dedicated roles within HR or as part of wellness programs to connect employees with mental health resources, insurance support, and therapy options

- Prioritize Relationship Building in Mental Health Support to ensure that Wellness Navigators or HR intermediaries focus on developing trusting relationships with employees to encourage them to seek help when needed.

- Foster an organizational culture where mental health resources are easily accessible and discussed openly, helping to reduce stigma and improve well-being across the workforce.

Promoting and broadcasting. Promoting mental health awareness and resources in the

community requires more public advocacy and open conversations. As one participant suggested,

"Making it more public... speaking publicly about it and talking to your friends about what you're going through... just that you're getting help and it's been really helpful*"* can help reduce stigma and encourage others to seek help. Public figures or individuals who have benefited from mental health support should act as advocates, as one participant highlighted:

> "If they see you up on stage talking about it... there's trust... 'Oh, "A" is going through it, and he went to that group, and okay, I'll check it out.*"*

Word of mouth is a powerful tool for spreading awareness. Additionally, participants emphasized the importance of making mental health resources more visible in the workplace. Simple actions like posting information can help normalize mental health conversations: "I love the idea of a poster... just like something to have in your business." Broadcasting mental health support, starting with employers, and extending to the broader community, will create a culture where seeking help is not hidden or stigmatized, making resources more accessible and trusted.

- Engage individuals who have benefited from mental health resources to speak publicly and share their experiences, normalizing the conversation and reducing stigma.

- Simplify the process of finding mental health resources through posters, flyers, and other visual resources for clear guidance and advocacy efforts within the workplaces and community.

- Establish centralized hubs or designated spaces for mental health support, ensuring resources are easily accessible for all community members.

Creating a safe space / relationship / support group. Creating safe spaces and fostering relationships are essential for providing opportunities for individuals to seek help when needed. One participant emphasized the importance of "creating a space to have the opportunity for someone to say if they needed help or not," highlighting the need for informal, supportive

environments where trust can develop naturally, such as during activities like hiking. Establishing relationships is a key component of this process, as getting to know someone can open the door for them to feel comfortable expressing their mental health concerns. Another participant touched on the challenge of transient communities, where people may be reluctant to invest in relationships because of high turnover: "I'm tired of putting in energy into making a new friend when they're going to leave in two years." However, this mindset can be shifted by organizing regular gatherings or activities that bring people together, simply for the sake of being together. By creating more welcoming, inclusive environments, communities can reduce isolation and provide the relational foundation needed for individuals to reach out for help.

- Organize regular activities like hikes, group meetups, or community events that foster casual environments for people to build relationships and feel comfortable expressing their needs.

- Emphasize the importance of developing trust and relationships within communities to provide opportunities for individuals to seek mental health support.

Engage and nurture relationships. Engaging and nurturing relationships, both personal and professional, plays a vital role in mental and emotional well-being. As one participant shared, family support can be crucial, stating, "I'm lucky to have my close family here. I have a husband and I have two sons... they're the ones that can get me out of bed in the morning if I just don't want to." This highlights the importance of close family connections in helping individuals cope with daily challenges. Similarly, engaging in physical activities like biking, hiking, or sports can serve as a mental and emotional release. Another participant emphasized this, saying,

> "Sports has always been a good way to be healthy physically and emotionally... it frees you, like walking, etc. It makes you happier."

- Promote meaningful relationships and emphasize the value of nature in enhancing overall well-being within the community.

- Encourage individuals to rely on family or close relationships during challenging times, as these personal connections can be a source of motivation and emotional strength.

- Advocate for regular participation in sports, walking, or outdoor activities to help relieve stress and boost emotional well-being, making such activities more accessible within the community.

Discussion

The findings from this qualitative study underscore the significance of community-specific individual, interpersonal, and environmental factors in shaping mental health and suicidal ideation among the Big Sky workforce. The socio-ecological model served as a useful framework to categorize the influences on suicidal risk, with participants' experiences reflecting the importance of personal, relational, and societal contexts in mental health outcomes. Evidence suggests that incorporating SEM into suicide prevention strategies leads to more holistic interventions that build resilience across multiple layers, from strengthening social support networks to improving community-based mental health services (224, 238).

This study confirmed that social isolation and withdrawal from once-pleasurable activities are critical indicator of potential suicidal ideation as highlighted by previous research that links reduced social connectedness with increased vulnerability to mental health deterioration and suicide risk (200, 220, 243). Participants' narratives also echoed earlier studies suggesting that fostering social inclusion and addressing isolation should be a priority in mental health

interventions, especially in resort communities where transient populations and seasonal work contribute to instability (235, 244).

Findings highlighted disorganized living conditions often reflects internal emotional turmoil, a finding consistent with studies that link environmental chaos with stress and depression (237, 245-247). Additionally, behavioral changes such as increased alcohol consumption, sleep deprivation, and altered appearance were noted as potential warning signs. Previous research has long established a strong association between substance abuse and suicidal ideation (229, 248-250), and sleep disturbances have been identified as a predictor of suicidal behavior (251-254). These findings suggest that interventions aimed at improving the external environments and daily routines of individuals at risk could play a critical role in mitigating the progression of suicidal ideation.

The findings of this study illustrate the multifaceted risk factors contributing to self-harming behaviors among workers in Big Sky, Montana. This aligns with previous research on resort towns, where transient populations and significant socioeconomic disparities exacerbate mental health challenges (219, 255-257). The seasonal nature of work, coupled with the demanding conditions of high-altitude environments, often leads to isolation and substance abuse (258-261). In Big Sky, substance misuse, particularly alcohol abuse, was highlighted as a significant factor influencing mental health, echoing findings from similar studies in resort communities (262) which found that alcohol and drug misuse in seasonal resort towns often goes unchecked due to cultural acceptance, leading to increased mental health issues such as depression and suicidal ideation (242, 262-264). The desire to belong to the local culture, which is deeply intertwined with social drinking, may push individuals into harmful behavioral patterns. The

normalization of alcohol use as part of social life complicates efforts to recognize the onset of dependency and mental health deterioration, particularly for those new to the industry (265).

Environmental factors also play a crucial role in exacerbating mental health struggles. As respondents noted, the long, dark winters in Big Sky, with minimal sunlight and extreme cold, mirror findings from research on seasonal affective disorder (SAD) in high-latitude regions (266-268). These conditions, compounded by isolation during the off-season, present a significant challenge to mental well-being (266). This is consistent with previous studies that link long periods of darkness and cold with increased depressive symptoms and suicidal ideation (232, 269-271). However, the scarcity of recent studies emphasizes the necessity of examining the relationship between weather patterns and mental health issues, such as depression, as well as fatal outcomes among the at-risk workforce in resort communities (272). The lack of accessible mental health resources in the community further intensifies these challenges, as individuals may not seek help due to financial or cultural barriers, a phenomenon well-documented in rural mental health research (241). Addressing these environmental and social determinants of mental health in Big Sky is critical for reducing self-harming behaviors among its population.

A pervasive lack of connection and belonging was identified as a major contributor to feelings of isolation and suicidal ideation (200, 239, 243, 245). Many participants reported difficulty integrating into existing social groups, which are often established around work or recreational activities, making it challenging for newcomers to build meaningful relationships. This is consistent with research by which found that the transient nature of seasonal employment in resort towns often leads to social fragmentation and a lack of cohesive community support (225, 231). The constant turnover of seasonal workers exacerbates the sense of impermanence and

instability in social relationships, further isolating individuals who may already be struggling with mental health challenges (273). Without strong social ties or a reliable support network, many workers in Big Sky are left vulnerable to the cumulative effects of these risk factors, increasing the likelihood of self-harming behaviors (220, 259, 260, 274).

In small communities like Big Sky, the social fabric is tightly knit, creating challenges related to privacy and confidentiality. This mirrors earlier studies, such as those by Rost and colleagues (264), which found that individuals in rural areas often avoid seeking mental health services due to concerns about anonymity and potential social repercussions (223, 227). The fear of gossip and judgment in tight-knit communities discourages individuals from accessing care, reinforcing isolation, and increasing the risk of mental health crises (233). This demonstrates that the small-town nature of Big Sky creates an environment where personal struggles are often kept hidden, limiting the effectiveness of mental health interventions. To effectively address mental health challenges in Big Sky, interventions must target these deeply ingrained cultural norms and work towards reducing stigma, particularly in rural and isolated communities (230, 235, 237, 240).

Work culture, especially in service-driven industries like tourism, plays a pivotal role in exacerbating stress and mental health struggles, contributing to burnout and suicidal ideation. These findings align with others' (275) work on occupational burnout, which underscores the detrimental effects of chronic workplace stress and emotional labor on mental health (273, 275). In tourism-driven economies, workers are expected to meet the high demands of customers, often with minimal support, leading to increased stress, burnout, and heightened vulnerability to mental health challenges ((272, 273, 275, 276). The failure of employers to protect workers from abusive customers further compounds these risks, indicating a need for systemic changes within the work

environment to mitigate mental health risks (255, 273). Communal living arrangements and poor housing conditions, as described by the participants, lead to heightened tensions and stress, especially in the absence of personal space. This aligns with research conducted by Bentley and colleagues in 2016 highlighting emotional turmoil are often resonated with the external environment in which an individual resides (277). The housing crisis in Big Sky, coupled with the stress of communal living, underscores the importance of addressing housing policies as part of broader mental health interventions in tourism-based communities.

The discussion of protective factors within the Big Sky community reveals a complex interplay of individual, interpersonal, and community-level strengths that bolster resilience and mitigate the risk of suicidal behaviors, even amidst significant mental health challenges. Participants noted a shifting mindset, where individuals recognize the importance of personal fulfillment and setting boundaries between work and life. This shift reflects broader societal trends toward self-care, as suggested by research showing that prioritizing mental and physical health can enhance resilience and reduce burnout, particularly in high-stress environments (278). However, the difficulty of balancing these priorities with professional obligations, indicating that while self-care is a protective factor, it remains constrained by systemic demands (241, 246, 279). This tension between self-care and work-life demands aligns with findings by Leiter and Maslach (275), who emphasize the need for organizational changes to support employees' mental health fully.

On an interpersonal level, fostering a sense of interconnectedness within the community was frequently cited as a key protective factor. However, participants also noted the complexity of these close-knit relationships, where the overlap between personal and professional roles can lead to feelings of being overwhelmed. The double-edged nature of interconnectedness, where strong

community ties provide support but also contribute to a lack of boundaries, mirrors findings from a study conducted by Norris in 2000 (234), who discusses the potential downsides of social capital in closely-knit communities. Thus, while the strong social fabric of Big Sky is a protective factor, it can also exacerbate stress if individuals feel they cannot escape constant social expectations.

Our research revealed the value of intergenerational relationships in promoting resilience and providing emotional support, wisdom, and perspective by older individuals. Furthermore, findings on creating informal spaces for intergenerational interaction, such as community events, reinforces these connections and fosters a sense of continuity and support within the community support the broader literature that emphasizes the importance of mentorship and social integration in enhancing psychological resilience (280, 281).

At the community level, initiatives like the BASE community center were identified as critical protective factors that promote mental well-being and reduce the risk of suicidal behavior. BASE provides a safe and inclusive space where residents can engage in healthy, substance-free activities, thus offering an alternative to environments that may increase mental health risks. This aligns with research showing that access to community-based resources and recreational activities can reduce isolation and foster a sense of belonging, both of which are critical in mitigating mental health challenges (239). Additionally, the center's diverse programs—ranging from fitness and art classes to mental health support groups—highlight the importance of providing multifaceted resources to meet the varied needs of the community. This comprehensive approach to mental health aligns with the recommendations by the Substance Abuse and Mental Health Services Administration (SAMHSA), which advocates for integrated services that address both mental health and social well-being (230, 248).

The focus group discussions provided essential insights into the community's perspective on mental health and suicidal behavior. Participants emphasized the critical importance of fostering strong relationships, creating safe and supportive environments, and ensuring access to mental health resources. These findings underscore the community's recognition of the need for open dialogues around mental health, the de-stigmatization of mental health issues, and the integration of wellness practices into everyday life. By incorporating personal narratives and shared experiences, participants highlighted that creating a culture of transparency and support could significantly enhance community resilience and reduce mental health risks. This aligns with the growing body of literature that underscores the importance of social support networks and community engagement in mitigating suicidal behavior (240, 282).

A key recommendation emerging from the discussions is the normalization of mental health care and conversations. Participants expressed a desire to see therapy viewed as essential as physical health check-ups. Implementing structured programs that encourage regular mental health check-ups, as suggested by one participant, could significantly alter perceptions, and foster a culture where seeking help is not only accepted but encouraged. Additionally, establishing accessible resources in community hubs, such as post offices or grocery stores, can remove financial barriers and ensure that critical mental health information reaches individuals who may be reluctant to seek help. The idea of integrating wellness programs into workplaces also emerged, as participants recognized the potential for fostering trusted environments where individuals could engage in various supportive activities (248, 279, 283).

Moreover, the emphasis on telehealth services highlights the importance of adapting mental health support to the unique context of resort communities like Big Sky. The convenience

of telehealth can be enhanced by creating designated private spaces for virtual consultations, thereby addressing concerns regarding confidentiality and comfort. Additionally, participants suggested the implementation of emotional first aid training within the community, equipping individuals with the skills to recognize and respond to emotional distress in others. This proactive approach could not only empower community members but also create a supportive network capable of intervening before crises escalate (284, 285). Overall, the recommendations derived from the focus group discussions reflect a comprehensive approach to mental health that prioritizes accessibility, destigmatization, and community engagement, ultimately paving the way for a more resilient and healthier Big Sky.

Strengths & Limitations

The strengths of this study are rooted in its comprehensive exploration of the warning signs, risk factors, and protective factors associated with suicidal behavior within the Big Sky community. By applying a socio-ecological framework, the study was able to examine these factors across multiple levels—individual, interpersonal, and community—offering a more holistic view of how they interact to either heighten or mitigate the risk of suicidal behavior. This multi-level approach highlighted not only the complexities and interdependencies of these factors but also emphasized the importance of addressing mental health challenges through an integrated lens.

A key strength of this research lies in its use of community-driven insights and leveraging existing organizational networks for participant recruitment. By utilizing qualitative methods, specifically focus group discussions, the study gained a deeper understanding of participants' lived experiences, uncovering nuanced perspectives that are often missed in quantitative approaches. By

exploring the lived experiences and narratives of community members, the study was able to capture the complexity and contextual specificity of mental health challenges and protective factors in Big Sky. This bottom-up approach enhanced the relevance of the findings, as it ensured that the results were grounded in real-world experiences and directly applicable to the community's needs.

This qualitative research has several important limitations that warrant consideration, especially given the sensitive nature of the topic. First, recall bias may significantly affect the accuracy of the data, as participants were asked to reflect on their past experiences and perceptions surrounding suicidal behavior. This reliance on memory can lead to incomplete or distorted recollections, particularly in a context where emotions and stigma may inhibit open discussion about sensitive topics. Moreover, the subjective nature of personal perceptions plays a critical role in shaping the data. Individuals' interpretations of their experiences can vary widely due to personal beliefs, cultural backgrounds, and emotional states at the time of the interview. Additionally, the recruitment process such as convenience sampling and self-selection could lead to a skewed demographic profile, limiting the generalizability of the findings to the wider population. These limitations highlight the need for cautious interpretation of the results and suggest that further research is necessary to capture a more comprehensive view of the community's perspectives on this critical issue.

Conclusion

This qualitative study provides valuable insights of how individual experiences, cultural contexts, and social dynamics contribute to the complex landscape of suicide risk. The findings reveal a range of perceptions that highlight the importance of both personal and communal factors in shaping attitudes toward mental health and suicidal behavior. Evidently, underscores the importance of tailoring mental health and suicide prevention strategies to the specific socio-environmental realities of the Big Sky community, making it a valuable resource for stakeholders aiming to improve mental health outcomes in similar settings.

CHAPTER SIX

CONCLUSION

Key Summary Findings

This chapter provides a comprehensive overview of the major insights derived from both the qualitative and quantitative analyses across the research project included in this dissertation. This chapter synthesizes the core results, offering a clear picture of the primary outcomes related to mental health promotion, suicidal behavior, and intervention strategies. The qualitative findings highlight personal experiences, community perspectives, and thematic patterns, while the quantitative analyses underscore statistical trends, correlations of the primary outcome (suicidal ideation) with demographic and psychosocial factors. Together, these findings offer a robust understanding of the critical factors influencing mental health and inform future research and policy recommendations in the Big Sky resort community.

Survey Findings

Participant Demographics

The survey included 720 respondents, predominantly male (57.24%) and White/Caucasian (83.75%), with a significant portion aged 25-34 years (41.14%). Most participants work full-time, with common working hours being 41-50 hours per week. The majority live in employee housing (26.7%) or are homeowners (22.59%), and most are year-round employees (68.38%). Health insurance coverage is varied, with 54.65% having employer-provided insurance and 11.56% having no health insurance.

Mental Health and Psychosocial Characteristics

Housing insecurity, traumatic events, and financial difficulties are major stressors affecting participants, with 74.9% experiencing housing insecurity and 63% facing financial issues. Depression is prevalent among the sample, with mild depression reported by 37.87% and moderate depression by 18.77%. Despite some feelings of isolation and lack of companionship, a significant majority find social support through friendships with individuals of different ages (62.7%) and those within their age group (53%).

Suicidal Ideation

The majority of respondents strongly disagreed with having suicidal thoughts, specific methods, or plans, with 76.2%, 78.8%, and 84.5%, respectively. Agreement with these statements decreased as they became more specific or actionable, with only 4.4% agreeing to thoughts of suicide, 4.9% to thoughts of methods, and 0.3% to having a plan. A small but concerning subset (2.4%–0.9%) strongly affirmed these indicators, highlighting the need for targeted mental health interventions and crisis support for those at higher risk.

Bivariate Analysis

The findings reveal significant associations between suicidal ideation and several sociodemographic characteristics. Younger individuals (18–24 years) are more likely to report having suicidal thoughts (30.2%) compared to those aged 45 and above (4.7%). Sexual orientation is a critical factor, with bisexual individuals (21.4%) and those questioning/unsure (9.5%) reporting higher rates of suicidal ideation compared to heterosexual individuals (57.1%). Similarly, participants identifying as "Other" gender show elevated rates (4.7%) compared to males (48.8%) and females (46.5%). Relationship status plays a role, as single individuals (40.5%)

are more likely to report suicidal ideation compared to married or domestically partnered individuals (33.3%). Recent relocation also appears influential, with newcomers to Big Sky (<6 months) reporting the highest levels of suicidal ideation (50%), compared to residents living there for 5+ years (25%).

Psychosocial factors show strong associations with suicidal ideation. Severe depression is a key driver, with 27.9% of individuals reporting suicidal thoughts compared to 16.3% of those with minimal or no depression. Feelings of social disconnection are critical, as participants who "always" or "usually" lack companionship report suicidal ideation at rates of 11.6% and 25.6%, respectively. Similarly, those who "always" or "usually" feel left out show rates of 11.9% and 30.9%, and those who "always" feel isolated report the highest rates (37.5%). Notably, those who "never" feel isolated or left out report no suicidal ideation. These findings underscore the urgent need for targeted mental health interventions, especially for vulnerable groups such as sexual minorities, younger adults, socially isolated individuals, and those experiencing severe depression. The univariate analysis revealed no significant differences in suicidal ideation based on age, gender, sexual orientation, years lived in Big Sky, relationship status, or other socio-demographic variables. However, trends suggest higher suicidal ideation among newer residents (less than 6 months) and those working more than 60 hours per week. Notably, the analysis identified a significant correlation between suicidal ideation with depressive symptom status and feelings of isolation, with individuals experiencing severe depression scoring the highest and those who frequently felt isolated reporting significantly elevated scores in suicidal ideation. In contrast, common stressors related to work, social life, family, finances, and housing insecurity did not

demonstrate significant impacts on suicidal ideation, emphasizing that isolation is a critical factor influencing suicidal ideation in this sample.

Focus Group Findings

Risk Factors

The study identifies several risk factors contributing to suicidal behavior among Big Sky's workforces. Socio-environmental challenges, such as substance abuse, social isolation, and seasonal employment, are compounded by economic inequality and harsh weather, adversely affecting mental well-being. Social isolation was identified as a major risk factor for suicidal thoughts, particularly when combined with behaviors like substance use, withdrawal from social activities, and changes in appearance or sleep patterns. These behaviors often reflect underlying emotional distress, such as stress, anxiety, or depression. Participants also noted that individuals may turn to coping mechanisms like excessive media consumption or make self-critical remarks, further signaling emotional struggles. Recognizing these signs can help communities provide better support for individuals at risk of suicide, emphasizing the importance of social connection and mental health awareness. Interpersonal dynamics like family discord and a weak sense of community belonging lead to unhealthy coping mechanisms and increased feelings of loneliness.

Additionally, community challenges in this small-town setting, such as a lack of privacy and fear of judgment, discourage help-seeking behaviors. The demanding work culture, particularly in the service industry, exacerbates stress and burnout, while inadequate housing conditions contribute to mental health issues. Lastly, barriers to mental health access—including poor infrastructure, financial constraints, and an overwhelming number of mental health

programs—hinder individuals from receiving effective support, further exacerbating suicidal ideation and behavior.

Protective Factors

The study identifies several protective factors that support mental health and reduce suicidal behavior in Big Sky. Individual resilience is emphasized, as participants stress the importance of self-care and the need to balance personal well-being with work pressures, despite challenges posed by societal expectations. Additionally, a strong sense of interpersonal and community support fosters a supportive environment, although the overlap of personal and professional relationships can sometimes feel overwhelming. Intergenerational connections also play a vital role, as mentorship and open dialogues across generations provide valuable perspectives that enhance mental health support.

Moreover, initiatives like Wellness in Action have contributed to normalizing mental health conversations, leading to increased community engagement, although social settings still require improvement in this regard. The sense of safety within the community, characterized by a low crime rate and a friendly atmosphere, further reduces anxiety and fosters resilience. Lastly, the BASE community center serves as a crucial resource for addressing mental health issues, offering a variety of programs that enhance community mental health through diverse initiatives and partnerships.

Recommendations from Participant Perspectives

Based on participant perspectives, a range of recommendations emerged aimed at addressing mental health challenges and preventing suicide within the community. These

recommendations reflect a collective vision to create a supportive and proactive environment that prioritizes mental well-being.

Enhance Accessibility and Integration of Mental Health Resources: Provide free mental health information in common public spaces like post offices and grocery stores, integrate holistic wellness approaches such as mindfulness and therapy into workplace and community settings, and create private spaces for confidential telehealth services.

Expand Training and Support System: Increase the availability of emotional first aid training and establish Wellness Navigators or HR intermediaries to facilitate access to mental health resources and build trust within the community.

Promote Mental Health Awareness and Accessibility: Engage individuals who have benefited from mental health resources to share their experiences publicly, normalize and reduce stigma, and increase the visibility of mental health resources through posters and other visual aids.

Create Safe Spaces and Supportive Relationships. Organize regular sports and community activities to build relationships and create informal support networks. Foster environments where trust can develop naturally, allowing individuals to feel comfortable seeking help.

Conclusion

This research project highlights the critical importance of assessing suicidal ideation and the associated risk and protective factors, particularly within rural communities like Big Sky, Montana. In such areas, unique socio-economic conditions, geographic isolation, and cultural norms create an environment where suicidal behavior can be more prevalent, yet harder to detect and address. The seasonal workforce in Big Sky, coupled with limited access to mental health services and a culture that values self-reliance, contributes to significant mental health challenges.

By systematically evaluating both the risk factors, such as isolation and economic disparities, and the protective factors, such as social support networks and community engagement, this research provides a foundation for the development of tailored prevention strategies. These strategies are essential for reducing suicidal ideation and behaviors in rural populations where one-size-fits-all approaches often fall short.

A key component of the research is the integration of the Social Ecological Model (SEM) and Community-Based Participatory Research (CBPR) approaches. The SEM framework is particularly effective in examining how individual, relational, community, and societal factors interact to influence suicidal behavior. In a rural setting like Big Sky, these multiple levels of influence are critical to understanding the interplay between personal struggles, community dynamics, and broader societal pressures. At the same time, CBPR ensures that the research is rooted in the lived experiences of the local population. By engaging community members as co-researchers and stakeholders, the research fosters trust, cultural relevance, and practical applicability, making the findings more likely to result in successful, long-term intervention strategies. This approach not only leads to more accurate data collection but also promotes community ownership of the mental health solutions, ensuring that they are sustainable and responsive to local needs.

The combination of both quantitative and qualitative research methodologies further strengthens the project's findings. Quantitative data offers a measurable understanding of the prevalence of suicidal ideation, its correlation with various risk and protective factors, and the statistical trends over time. This is complemented by qualitative insights, which delve into the personal stories, experiences, and community perceptions that give context to the numbers. This

dual approach provides a comprehensive understanding of the issue and its many dimensions, from the broad patterns visible in statistical analysis to the nuanced, human experiences that underlie those patterns. By employing both approaches, this research contributes to a richer, more holistic understanding of suicidal behavior in Big Sky, and by extension, other rural communities facing similar challenges.

In terms of future research and policy, the findings of this project lay the groundwork for more targeted mental health interventions and policies. The insights gained from assessing risk and protective factors can inform future research into specific populations within rural communities, such as seasonal workers or indigenous groups, who may face mental health challenges. Moreover, the integration of SEM and CBPR can serve as a model for future studies seeking to blend community-driven research with multi-level analysis. For policymakers, this research emphasizes the need for mental health services that are both accessible and culturally tailored, as well as the importance of fostering community-based support systems. Ultimately, by providing a deep understanding of the local context, this research can guide the creation of policies and interventions that not only reduce suicidal ideation but also promote mental well-being across the entire community.

Future Steps

The Table 18 below offers a comprehensive overview of recommendations aimed at advancing future research and shaping policy to better address mental health and suicidal behavior. By integrating evidence-based strategies and addressing gaps in current practices, the recommendations seek to foster a more supportive and proactive approach to mental health. The

insights provided aim to guide both researchers and policymakers in developing initiatives that can

lead to significant improvements in mental health outcomes and prevention of suicide.

Table 18 Recommendations for Future Research, Policymaking, and Practice

Scope	Policy
Mental Health Education and Accessibility	• Develop and implement policies that promote comprehensive mental health education with a focus on recognizing suicidal risk and building resilience; ensuring make mental health resources readily available in common public spaces. This includes integrating mental health support into routine health services and ensuring accessibility without financial barriers
Mental Health Services	• Establish policies that require the creation of private and secure spaces for accessing mental health services, including telehealth, to maintain confidentiality and encourage usage
Supportive Roles and Programs	• Advocate for the integration of dedicated roles or programs within organizations such as Wellness Navigators to facilitate access to mental health resources and foster supportive environments for individuals seeking help
Scope	**Research**
Longitudinal Studies & Cross-Community Comparative Studies	• Implement follow-up studies to track changes in suicidal ideation and behavior over time, evaluating the effectiveness of implemented interventions and adjusting strategies as needed • Extend the research to other similar rural resort communities to compare risk factors and intervention efficacy, creating a model for broader rural mental health strategies
Integrated Wellness Approaches	• Conduct further exploratory research on the benefits of incorporating various wellness practices, such as mindfulness and therapy into community and workplace settings, and evaluate their impact on overall mental health and well-being

Scope	Practice
Tailor SEM & CBPR Informed Strategies- Training and Community- Based Support Programs	• Assess the effectiveness of training programs, such as emotional first aid, community-based activities, and support networks in enhancing community resilience, reducing mental health stigma, and supporting mental health interventions particularly in transient or high-risk populations. • Implement a formal gatekeeper training program for community leaders, educators, and service providers to increase their capacity to identify and respond to signs of suicidal behavior. • Organize regular workshops and seminars focused on educating the community about mental health, suicide risk factors, and available resources.
Mental health Services Utilization Barriers	Investigate the barriers to utilizing telehealth services and develop strategies to address these challenges, improving access and engagement in mental health care
Pilot interventions	• Collaborate with local health authorities and telehealth providers to enhance digital mental health services, particularly for residents in geographically isolated areas. • Establish Mobile Mental Health Units: Work with local health departments to implement mobile clinics that provide on-site mental health care, targeting high-need periods such as the tourist season • Launch small-scale peer support networks where trained local individuals provide mental health support and suicide prevention resources.

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APPENDICES

APPENDIX A

COMMUNITY PARTNERSHIP

Wellness Navigator Network

The Wellness Navigator Network represents a grassroots approach to promoting mental health and overall well-being in Big Sky. This small but impactful group of volunteers plays a vital role in linking individuals to available resources and forms the foundation of a behavioral health coalition aimed at creating a supportive environment where everyone can thrive. The network is made up of a diverse range of community members, including neighbors, friends, bartenders, custodians, non-profit leaders, administrators, ski patrollers, teachers, HR and event directors, small business owners, hospitality workers, housekeepers, chaplains, chefs, and others. Each member is trained in emotional first aid and suicide alertness. While they are not mental health professionals, they are equipped to help guide those in need toward appropriate services, especially when individuals feel unsure of where to seek help. It's important to note that the Wellness Navigator Network is not a substitute for professional mental health counseling. Their goal is not to replace counselors but to shift the local culture by promoting care and support within the Big Sky community.

The Yellowstone Club Community Foundation (YCCF)

YCCF is the collaborative and community partner of this study. This foundation provides philanthropic leadership in the greater Big Sky region through the award of grants and sponsorships to nonprofit organizations, student scholarships, and the coordination of collaborative responses to the region's complex needs.

Community Advisory Board

The Community Advisory Board (CAB) for the behavioral health assessment survey initiative in Big Sky, Montana, is made up of individuals from diverse community sectors, offering a variety of perspectives and areas of expertise. This group consists of local mental health professionals, government representatives, healthcare providers, law enforcement officials, educators, business leaders, and community members with lived experience or personal connections to suicide, providing valuable insights he CAB is expected to convene with the research team to engage in constructive discussions about the program, covering aspects from the formulation of research guidelines to implementation and potential modifications based on the identified needs of the community.

APPENDIX B

INTERVIEW QUESTIONNAIRE

BSBH Workforce Survey 2022

2022 Big Sky Behavioral Health Assessment Survey

---

intro *You are a valued community member and your mental health and quality of life matter.* **Welcome!** Thank you for taking time to share your experience of working in Big Sky. We want to learn more about factors that may impact your quality of life to understand how community organizations, programs and services can better support the health and well-being of Big Sky's workforce. It is very important that we get your honest response – there are no wrong answers. By including your email at the end of the survey, **you will be entered into a raffle to win $50!** This email is NOT attached to your survey response. All survey responses will be kept confidential and cannot be used in any way to identify you. The survey should take about 10-15 minutes to complete. What to expect: On the next page, you will find a screening question to ensure you indeed work in Big Sky OR live in Big Sky and work remotely. The following page is a formal informed consent that includes more detailed information about the survey. Questions about depression and thoughts of suicide will be asked, which could bring up painful thoughts and memories. You may opt not to answer any question you feel uncomfortable completing. We encourage you to reach out for support if needed: **Want information?** Call 2-1-1: Help Center's 24/7 resource coordination service **Want to speak with a counselor now?** Call 406-586-3333: Help Center's 24/7 counseling and resource coordination service **Emergency or crisis?** Call 9-1-1 or go to your hospital's emergency department For questions related to the project, reach out to Dr. Mark Schure at mark.schure@montana.edu Thank you for contributing to the health and wellness of the Big Sky workforce community!

Page Break

X→

work Do you currently work in Big Sky OR live in Big Sky and work remotely?

○ Yes (1)

○ No (0)

Display This Question:

  If work = 0

JS

skipend Sorry, you are not eligible to complete this survey.

Skip To: End of Survey If skipend Is Displayed

Page Break

join **SUBJECT ELECTRONIC CONSENT FORM FOR PARTICIPATION IN HUMAN RESEARCH AT MONTANA STATE UNIVERSITY** **Project Title:** Big Sky Behavioral Assessment of the Big Sky Workforce Population **Funding Source:** Yellowstone Club Community Foundation **Principal Investigator:**

 Mark Schure, PhD

 Montana State University

 305 Herrick Hall

 Bozeman, MT 59717 **Invitation** You are invited to take part in a behavioral community health assessment study. The purpose of this study is to better understand the scope of behavioral health issues that impact those working in the Big Sky resort community. **Why are you being asked to be in this research study?** Big Sky is a unique resort community with many service industries employing community members. We are asking input from this workforce population about their own behavioral health needs. **What is the reason for doing this research?** Your input will help inform future efforts to meet the behavioral health needs of persons working in the Big Sky community. **What will I be expected to do during this research study?** In this study, participants will be asked to complete a short online survey (about 40 questions) simply anonymously. **What are the possible risks of being in this research study?** You may feel uncomfortable thinking about or answering some questions. However, you may opt to not answer any question you feel uncomfortable completing. Questions about depression and thoughts of suicide will be asked, which could bring up painful thoughts/memories. **What are the possible benefits to you for being in this research study?**

 The assessment may provide you additional awareness about your own behavioral health and needs.

 What are the possible benefits to other people?

 This study will provide a better picture about the behavioral health issues impacting those you work or live with. Results from this study will be shared with community leaders and potentially published in an academic journal.

 What are the alternatives to being in this research study?

 Your participation in this study is voluntary. You may choose to stop completing the assessment at any time.

 What will participation in this research study cost you?

 There is no cost to you to participate in this research study.

 Will you be paid for being in this research study?

 If you choose to do so, you may provide an email to be entered into several $50 dollar gift card lotteries. Your survey results are stored separately from the email addresses so that your identity (via email address) cannot be connected to your response.

 How will your information be protected?

 Your personal information will be separated from your survey answers. Only researchers for this study will have access to your data. All data that can be linked to you will be kept secure on password protected computers or in locked cabinets. Your data will have a code instead of your name. It will be analyzed as part of the entire study group. Results cannot be linked to you or

other study participants.

Computer interview security

Your data will be protected with both software and hardware security.   **Contacts**

If you have questions about this research project, please contact Mark Schure at 406-994-3248 or mark.schure@montana.edu. If you have other questions about your rights as a research study participant, please contact the Chair of the Institutional Review Board, Mark Quinn at 406-994-4707 or mquinn@montana.edu.   **Consent**

I have read the information in this consent form. I have discussed any questions I have with the project staff. My questions have been answered to my satisfaction. I voluntarily agree to participate.

Documentation of informed consent

You are freely deciding whether to be in this research study. Clicking on the "Join Study" button represents your legal signature and means that (1) you have read and understood this consent form, (2) any additional questions have been answered, and (3) you have decided to be in the research study.

◯ Join Study (1)

◯ Decline Participation (2)

Skip To: End of Survey If join = 2

End of Block: Default Question Block

Start of Block: Block 1

tenmin This survey will take approximately 10-15 minutes to complete.

----

workcat Which workforce category best describes you?

◯ Winter seasonal employee (1)

◯ Summer seasonal employee (2)

◯ Winter and summer seasonal employee (3)

◯ Year-round employee (4)

X→

intemp Are you an international employee or employer (i.e., have you come to Big Sky from another country to work)?

○ Yes (1)

○ No (0)

---

origin What is your country of origin?

_____

X→

remote Do you work remotely and live in Big Sky?

○ Yes (1)

○ No (0)

---

hourswk How many hours per week (on average) do you work?

○ Fewer than 20 hours a week (1)

○ 20-32 hours a week (2)

○ 33-40 hours a week (3)

○ 41-50 hours a week (4)

○ 51-60 hours a week (5)

○ More than 60 hours a week (6)

X→

indust What industry best describes your occupation? *(Select all that apply.)*

☐   Food & Beverage Services   (1)

☐   Construction   (2)

☐   Grocery   (3)

☐   Retail   (4)

☐   Property Management   (5)

☐   Non-profit   (6)

☐   Education   (7)

☐   Health Care   (8)

☐   Real Estate   (9)

☐   Administration   (10)

☐   Marketing   (11)

☐   IT   (12)

☐   Hospitality   (13)

☐   Government   (14)

☐   Other: (15) _____

Page Break

X→

rescomm Select the option that best describes your residency and commuting status.

○ I am a homeowner in Big Sky   (1)

○ I rent a place in Big Sky (2)

○ I am a homeowner and commute from out of town (3)

○ I rent and commute from out of Big Sky (4)

○ I live in employee housing in Big Sky (5)

○ I live in my car/camp (6)

○ I am staying with friends and not on a lease (7)

○ I live in employee housing outside of Big Sky and commute to work. (8)

○ Other: (9) _____

X→

housize Including yourself, how many people live in your household?

▼ 1 (1) ... 14 or more (14)

X→ X→

share With whom do you share housing accommodations? *(Select all that apply.)*

☐ Nobody (1)

☐ Parent(s) (2)

☐ Sibling(s) (3)

☐ Spouse/partner (4)

☐ Coworkers (5)

☐ Friends (6)

☐ Other adults (7)

☐ Children (8)

Page Break

intro2 The following questions are about how you feel about the Big Sky community.

---

trust I can trust the people who live and work in this community.

- ○ Not at all   (1)

- ○ Somewhat (2)

- ○ Mostly (3)

- ○ Completely (4)

---

ident Being a member of this community is part of my identity.

- ○ Not at all   (1)

- ○ Somewhat (2)

- ○ Mostly (3)

- ○ Completely (4)

Page Break

intro3 The following questions ask about your general sense of connectedness to other members of the Big Sky community.

---

socemo Thinking of the last month, how often did you get social and emotional support from others when you needed it?

○ Always (1)

○ Usually (2)

○ Sometimes (3)

○ Seldom (4)

○ Never (5)

---

compan How often do you feel that you lack companionship?

○ Always (1)

○ Usually (2)

○ Sometimes (3)

○ Seldom (4)

○ Never (5)

---

leftout How often do you feel left out?

○ Always (1)

○ Usually (2)

○ Sometimes (3)

○ Seldom (4)

○ Never (5)

---

isol How often do you feel isolated from others?

○ Always (1)

○ Usually (2)

○ Sometimes (3)

○ Seldom (4)

○ Never (5)

---

agefr I am able to find people my own age to develop friendships with.

○ Always (1)

○ Usually (2)

○ Sometimes (3)

○ Seldom (4)

○ Never (5)

---

dagefr I am able to develop friendships or relationships with others from different age groups.

○ Always (1)

○ Usually (2)

○ Sometimes (3)

○ Seldom (4)

○ Never (5)

Page Break

intro4 The following questions ask you about your beliefs and attitudes about mental health.

---

caring People in this community are generally caring and sympathetic to people with mental health issues.

○ Strongly disagree   (1)

○ Somewhat disagree (2)

○ Neither agree nor disagree (3)

○ Somewhat agree (4)

○ Strongly agree (5)

---

talk It is easy for me to talk about mental health or emotional challenges.

○ Strongly disagree (1)

○ Somewhat disagree (2)

○ Neither agree nor disagree (3)

○ Somewhat agree (4)

○ Strongly agree (5)

---

strug I would be able to tell if someone was struggling with a mental health concern.

○ Strongly disagree (1)

○ Somewhat disagree (2)

○ Neither agree nor disagree (3)

○ Somewhat agree (4)

○ Strongly agree (5)

Page Break

notseek What are the reasons you might not open up or seek help about an emotional or mental health issue or challenge? *(Select all that apply.)*

☐ None. I wouldn't have an issue opening up or seeking help. (1)

☐ Embarrassed to talk about it (2)

☐ Feelings of shame (3)

☐ Unsure of how to describe the issue to others (4)

☐ Not trusting of professional help (5)

☐ Do not think that it would help to open up (6)

☐ Do not want to be judged (7)

☐ Do not want to be misunderstood (8)

☐ Would prefer to deal with it on my own (9)

☐ I can't afford it (10)

☐ People would think differently of me (11)

☐ Do not feel worthy of help (12)

☐ Do not want to be a burden (13)

☐ Asking for help would make me appear weak or unable to handle things on my own (14)

☐ Do not know who to go to for help (15)

☐ Do not have access to reliable transportation (16)

☐   Other (please specify): (17)

_____

intro5 The following questions ask you about stress you experience in your life.

X→

stress Please identify specific things in your current life that make you feel stressed. *(Select ALL that apply.)*

☐ My job   (1)

☐ Personal health (2)

☐ Social life/relationships (3)

☐ Family   (4)

☐ Finances   (5)

☐ Work/life balance (6)

☐ Life transition: (7) _____

☐ Traumatic event: (8) _____

☐ Housing insecurity   (9)

☐ State of the world   (10)

☐ Other: (11) _____

Carry Forward Selected Choices from "stress"

X→ X→

mostres Based on your previous response, please rate how much each of these stressors is affecting you lately.

	A great deal (1)	A lot (2)	A moderate amount (3)	A little (4)
My job (mjob)	○	○	○	○
Personal health (mhealth)	○	○	○	○
Social life/relationships (msoclife)	○	○	○	○
Family (mfamily)	○	○	○	○
Finances (mfinanc)	○	○	○	○
Work/life balance (mwlb)	○	○	○	○
Life transition: (mlife)	○	○	○	○
Traumatic event: (mtrau)	○	○	○	○
Housing insecurity (mhouse)	○	○	○	○
State of the world (mworld)	○	○	○	○
Other: (mother)	○	○	○	○

Page Break

intro6 The following questions ask you about your own personal mental health.

X→

days In the past 30 days, how many days was your mental health not good?

▼ 0 (0) ... 30 (30)

End of Block: Block 1

Start of Block: Block 2

X→

bother Over the last **two weeks**, how often have you been bothered by any of the following problems?

	12-14 days (3)	8-11 days (2)	1-7 days (1)	Not at all (0)
Little interest or pleasure in doing things (binter)	◯	◯	◯	◯
Feeling down, depressed, or hopeless (bdepress)	◯	◯	◯	◯
Trouble falling or staying asleep, or sleeping too much (bsleep)	◯	◯	◯	◯
Feeling tired or having little energy (btired)	◯	◯	◯	◯
Poor appetite or overeating (bappeti)	◯	◯	◯	◯
Feeling bad about yourself -- or that you are a failure (bfeelbad)	◯	◯	◯	◯
Trouble concentrating on things, such as reading or watching TV (bconcen)	◯	◯	◯	◯
Moving or speaking so slowly that other people could have noticed (bmovslow)	◯	◯	◯	◯

| Thoughts that you would be better off dead or of hurting yourself (bhself) | ○ | ○ | ○ | ○ |

Display This Question:

   If bother = 9 [1]

   Or bother = 9 [2]

   Or bother = 9 [3]

Or If

   Q33 >= 20

help1 If you or someone else you know needs help, please reach out to the following resources:
     Want information? Call 2-1-1: Help Center's 24/7 non-emergency resource coordination service for mental health, substance use and social support. This one number will connect you to any Big Sky and surrounding area resource. **Want to speak with a counselor now?** Call 406-586-3333: Help Center's 24/7 counseling and resource coordination service.
     Emergency or crisis? Call 9-1-1: Wellness check and possible transport to necessary level of care

X→

feels For the following questions, please rate the extent to which each of the following statements describes how you have been feeling or acting in the past **two weeks**.

	Strongly agree (4)	Agree (3)	Neither agree or disagree (2)	Disagree (1)	Strongly disagree (0)
I have been having thoughts about killing myself (fthought)	◯	◯	◯	◯	◯
I have thoughts about how I might kill myself (fhow)	◯	◯	◯	◯	◯
I have a plan to kill myself (fplan)	◯	◯	◯	◯	◯

Page Break

End of Block: Block 3

Start of Block: Block 6

help2 If you or someone else you know needs help please reach out to the following resources:
Want information? Call 2-1-1: Help Center's 24/7 non-emergency resource coordination service for mental health, substance use and social support. This one number will connect you to any Big Sky and surrounding area resource.   **Want to speak with a counselor now?** Call 406-586-3333: Help Center's 24/7 counseling and resource coordination service.   **Emergency or crisis?** Call 9-1-1: Wellness check and possible transport to necessary level of care

End of Block: Block 6

Start of Block: Block 4

X→

counsel During the past 12 months, was there any time you needed mental health treatment or counseling for yourself?

○ Yes (1)

○ No (0)

X→

getcoun Were you able to get the treatment or counseling that you needed?

○ Yes (1)

○ No (0)

----

nocoun What would you say is the MAIN reason that you did not get these services?

○ Cost (1)

○ Lack of availability (2)

○ Lack of time – limitations in my schedule (3)

○ Stigma, others would know (4)

○ Didn't know where to seek help (5)

○ I felt I could handle it on my own (6)

○ Lack of reliable transportation (7)

○ Language barrier (8)

○ Lack of motivation (9)

○ Other: (10) _____

X→

healins What type of health insurance do you currently have? *(Select all that apply.)*

☐   I do not have health insurance (1)

☐   Insurance through my employer (2)

☐   Private (self) insurance (3)

☐   Medicaid/Medicare (4)

☐   VA (5)

☐   Other (6)

Page Break

X→

aware Are you aware of any providers, programs, or resources available in the Big Sky community to help people with mental health needs?

○ Yes (1)

○ No (0)

---

reach If you needed mental health services in the future, how likely would you be to reach out to local providers, programs, or resources for help?

○ Very likely (1)

○ Somewhat likely (2)

○ Not at all likely (3)

---

teleth If teletherapy (therapy delivered online or via phone) were available to you at a cost you could afford, how likely would you be to use this type of visit for mental health or substance abuse support?

○ Very likely   (1)

○ Somewhat likely (2)

○ Not at all likely (3)

Page Break

intro7 The following questions ask you about community perceptions on alcohol use, your own personal alcohol and drug use, and yours or others' substance use impact on your own life.

----

alsoc For most people in the Big Sky community, alcohol is important to social life.

○ Strongly disagree   (1)

○ Somewhat disagree (2)

○ Neither agree nor disagree (3)

○ Somewhat agree (4)

○ Strongly agree (5)

----

binge Over the **last two weeks**, how many times have you had five or more drinks of alcohol at a sitting?

○ Not applicable, I don't drink. (1)

○ None   (2)

○ 1 time   (3)

○ 2 times   (4)

○ 3 times   (5)

○ 4 times   (6)

○ 5 times   (7)

○ 6 times   (8)

○ 7 times   (9)

○ 8 times   (10)

○ 9 times   (11)

○ 10 or more times   (12)

X→

reduce During the past **6 months**, have you tried to reduce your alcohol use?

○ Yes   (1)

○ No (0)

○ Not applicable (11)

Page Break ———————————————————————————————

X→

marij During the past **30 days**, on how many days did you use marijuana?

▼ 0 (0) ... 30 (30)

X→

redmar During the past **6 months**, have you tried to reduce your marijuana use?

○ Yes (1)

○ No (0)

○ Not applicable (11)

X→

othdrug During the past 30 days, on how many days did you use other nonprescription drugs (e.g., cocaine, MDMA, ecstasy, etc.)?

▼ 0 (0) ... 30 (30)

X→

drugre During the past **6 months**, have you tried to reduce your drug use?

○ Yes (1)

○ No (0)

○ Not applicable (11)

---

lifeaff To what degree has your life been negatively affected by your own or someone else's substance abuse issues?

○ A great deal (1)

○ Somewhat (2)

○ A little (3)

○ Not at all (4)

Page Break

intro8 Almost done! Please tell us a little more about yourself.

----

age Which age group do you currently fall in?

○ 18-24 (1)

○ 25-34 (2)

○ 35-44 (3)

○ 45-54 (4)

○ 55-64 (5)

○ 65+ (6)

----

gender Which gender to you identify with?

○ Female (1)

○ Male (2)

○ Other (please specify): (3)

_____

----

sexori Which of the following best describes your sexual orientation?

○ Heterosexual   (1)

○ Lesbian (2)

○ Gay (3)

○ Bisexual (4)

○ Another sexual orientation (please specify): (5)

_____

○ Questioning or unsure (6)

Page Break

years How many years have you lived in the Big Sky area?

○ Less than 6 months   (1)

○ 6-11 months (2)

○ 1-2 years (3)

○ 3-4 years (4)

○ 5-10 years (5)

○ 11-20 years (6)

○ 21+ years (7)

---

relation What is your relationship status?

○ Single   (1)

○ Married or in a domestic partnership (2)

○ In a partnership but not living together (3)

○ Divorced or separated (4)

○ Widowed (5)

X→

raceth What race/ethnicity do you most identify yourself as? *(Select all that apply.)*

☐ White/Caucasian (1)

☐ Hispanic/Latino (2)

☐ African American (3)

☐ American Indian/Native American (4)

☐ Asian/Pacific Islander (5)

☐ Other: (6) _____

X→

findsurv Where did you find out about the survey? (*Select all that apply.*)

☐ Social media (1)

☐ Email (2)

☐ Employer (3)

☐ Flyer - what location?: (4) _____

☐ Friend/Colleague (6)

☐ Other (5)

Page Break ——

help3 If you or someone else you know needs help, please reach out to the following resources:
Want information? Call 2-1-1: Help Center's 24/7 non-emergency resource coordination service for mental health, substance use and social support. This one number will connect you to any Big Sky and surrounding area resource. **Want to speak with a counselor now?** Call 406-586-3333: Help Center's 24/7 counseling and resource coordination service. **Emergency or crisis?** Call 9-1-1: Wellness check and possible transport to necessary level of care.

For a comprehensive list of resources, click on the following link: Resource List Thank you very much for taking the time to complete this survey.

If you would like to be entered into a raffle for a $50 gift card, please select "Enter raffle (finish and go to separate survey)". You will need to provide a valid email address to be considered.

If you do not want to enter the raffle, you may select "Do not enter raffle (just finish survey)" to end the survey.

○ Enter raffle (finish and go to separate survey) (1)

○ Do not enter raffle (just finish survey) (2)

End of Block: Block 4

APPENDIX C

FOCUS GROUP GUIDELINE

Big Sky Behavioral Health – Workforce
Focus Group Guide
(For community members)
Moderator Name:
Participant IDs:
Date:
Time Start:
Time End:

<center>**Moderator Directions**</center>

Copies of informed consent and confidentiality forms should be provided to each participant and read aloud for the benefit of those with difficulty reading. Participants should be provided an opportunity to ask any questions.

The following is a guide. Try to ask all the questions below in the order given, but it is more important to maintain the flow of discussion. Suggested probes have been included. Participation of all group members should be encouraged. A safe environment for discussion should be maintained by reminding group members to be respectful.

Start by explaining the ground rules as follows:

Before we start, I would like to remind you that our discussion will be tape recorded. Any names mentioned will be removed from any writings based on our discussion. We are interested in learning what each of you think about the things we'll discuss, so please feel free to share at your own comfort level. There are no right or wrong answers in this discussion. Regardless of whether you agree or disagree with what others say, it is important that we hear your opinions. I am sure we will hear some disagreements and even disagreements are helpful in this research. We can disagree without being disagreeable or disrespectful.

You probably prefer that your comments not be repeated to people outside this group. Please treat information others share by not sharing it with anyone outside this group.

Let's start by each of us introducing him or herself. When you do so, please state your age and what you do for work in the community. (**Research team members also introduce themselves and their roles).**

After introductions, a team member can then start the audio-recording.

[Generic prompts: If responses are limited or require clarification, probes may be used to elicit more detailed responses. Probes should use words or phrases presented by the participant using one of the following formats:

1. What do you mean by _____?
2. Can you tell me more about _____?
3. Can you give me an example of _____?
4. Take as much time as you need.

<center>**Perspectives on addressing mental and behavioral health concerns**</center>
When I talk about mental health issues, I mean issues like depression, anxiety, stress, and any other related mental health issues. When I talk about behavioral health issues, I mean issues such as drug and alcohol use and any other behaviors that may be related to behaviors that affect mental health and one's quality of life.
1. What do you think about our topic today (meeting perception on mental and behavioral health needs of your community members)?
2. How do community members communication on mental and behavioral health issues?
3. How do people here coping strategies with stress and mental health concerns?
4. What specific resources are available for people with mental and behavioral health resources issues?
5. What are the challenges to seeking help for mental and behavioral health issues in your community?

6. Have you ever noticed or felt when another person might be seriously struggling? If so, did you feel comfortable reaching out to them? Why or why not?
7. What do you feel are risk factors or signs that someone might be thinking about suicide?

Barriers to seeking help

Moderator: We would now like to explore in more detail what some of you have brought up earlier.

8. What are your thoughts about why people do not talk about or seek help for their mental and behavioral health issues?
9. What do you think is driving stressors among people working in Big Sky? For example, from our recent survey, respondents listed finances, housing insecurity, life transitions, work/life balance, and traumatic events as some of the top stressors.
10. Where or who generally would you go to if you or a close friend or family member was experiencing high distress?

Resources for Mental and Behavioral Health

11. Expectations What do you wish existed in your community when navigating mental and/or behavioral health challenges?
12. Strengths What strengths exist in Big Sky that could be built upon to positively impact the health and wellness of the community? What are Big Sky's strengths that contribute to healthy behaviors and mental health?
13. Thriving community How would you describe a community that is thriving?

Final Questions/Summary

14. Let's summarize some key points from our discussion. [Moderator states and examines group for verification]. Is there anything I missed?
15. Do any other thoughts come to mind on these topics at this point?

Moderator: I would like to express to each of you my appreciation for sharing your thoughts about our topic today. If you have any follow-up questions or thoughts you would like to share, please feel free to contact me at the information provided in your copy of the consent form.