FOSTERING A RESEARCH PRACTICE PARTNERSHIP TO UNDERSTAND THE COMMUNITY NEEDS FOR ADDRESSING SUICIDE PREVENTION AMONG YOUTH IN KLAMATH COUNTY

by

JOHN R. THOMAS, M.S.

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Student: John R. Thomas

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This dissertation has been accepted and approved in partial fulfillment of the requirements for the Doctor of Philosophy degree in the College of Education by:

Dr. John Seeley	Chairperson
Dr. John Seeley	Advisor
Dr. Lauren Lindstrom	Core Member
Dr. Christopher Murray	Core Member
Dr. Ellen McWhirter	Institutional Representative

and

Krista Chronister	Vice Provost for Graduate Studies

Original approval signatures are on file with the University of Oregon Division of Graduate Studies.

Degree awarded December 2021

DISSERTATION ABSTRACT

John R. Thomas, M.S.

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Title: Fostering a Research Practice Partnership to Understand the Community Needs for Addressing Suicide Prevention among Youth in Klamath County

Suicide is a leading cause of death amongst youth in the United States and it is more prevalent within American Indian communities than in other groups.

The present study was carried out at Klamath County (Oregon), a region with a relatively large American Indian population, and suicide rate estimated to be more than triple of national average. A research-practice partnership (RPP) was setup so that practitioners and academics could collaborate to better understand youth suicide prevention in the county. An action plan was developed for improving accessibility and effectiveness of youth mental health services in the region.

This paper consists of three studies conducted within the RPP framework. Firstly, Klamath County Community Needs Assessment investigated youth support professionals' perceptions of most urgent needs and barriers, training preferences, and awareness of available resources in connection with youth suicide prevention. An online survey was sent to local healthcare, education, and community practitioners. Results revealed that there was a particularly strong perceived need for more youth mental health services, and greater access to existing services.

Secondly, Klamath County Youth Survey aimed to study the County's youth and examine views on mental health support and youth suicide prevention. An online survey was administered to children at one elementary school and one high school. Results showed that the youth were prone to have slightly negative views of the mental health services available to them. Many students were unaware that their school offered mental health support. Other students, although aware of the support provided, were afraid to access it due to general worries about their family finding out.

Third study aimed at exploring the extent to what RPP was conducted according with best-practice guidelines. A content analysis was performed on the meeting minutes and agendas of RPP, using a recognized framework for RPPs in education as the coding scheme. Results confirmed that RPP met most criteria for effectiveness, although more could have been done to rely more on research and evidence within the practice community.

Results from these studies directly informed creation of an action plan aimed at reducing youth suicidal ideation and behavior in Klamath County.

CURRICULUM VITAE

NAME OF AUTHOR: John R. Thomas

GRADUATE AND UNDERGRADUATE SCHOOLS ATTENDED:

University of Oregon, Eugene

DEGREES AWARDED:

Doctor of Philosophy, Special Education, 2021, University of Oregon
Master of Education, 2002, University of Oregon
Bachelor of Education, 1999, University of Oregon

AREAS OF SPECIAL INTEREST:

Special Education

PROFESSIONAL EXPERIENCE:

Job Coach, Albertina Kerr, 2019-Present

Behavioral Health Specialist IV, Puunene HI, State of Hawaii Department of Education, 2009-2012

Director of Educational Programming/Assistant Director Foster Care Programs, Paia HI, 2007-2009

Interim Community Services Program Director, Paia HI, 2006-2007

Director of Educational Programming, Paia HI, 2005-2006

Community-Based Instruction Program Director, Paia HI, 2004-2005

Special Education Teacher/Administrative Assistant, Kaneohe HI, 2003-2004

Therapeutic Recreation Teacher, Springfield OR, 2000-2003

GRANTS, AWARDS, AND HONORS:

STEM ECOsystems Science Technology Engineering and Math Grant

Project ENLIST: Engaging New Leaders in Implementation Science Training. U.S. Department of Education Office of Special Education Programs. FY 2014-2018.

National Association of People Supporting Employment First!
2017 Emerging Researcher Award-leadership and commitment toward integrated employment is "seen as outstanding, passionate, and furthering the inclusion of all people in the world of work."

PUBLICATIONS:

Thier, M., **Thomas, R.**, Tanaka, J., & Minami, L. A. (2016). Global by design: A participatory evaluation of a global citizenship after-school program. *Journal of Research in Curriculum and Instruction, 20*(3), 220–231.

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CHAPTER I: INTRODUCTION

Youth suicide is a growing cause of concern in the United States of America (USA). and should be considered as one of the biggest public health issues facing the nation. When adolescents take their own life, this is a strong indicator of very intense personal suffering and life marked by sometimes severe trauma. Thus, it should be evident that research, theory, and practice into youth suicide prevention is of paramount importance.

The field of education, and the gatekeepers within that sector, are generally well equipped and trained to play a vital role in the implementation of youth suicide prevention strategies, given the amount of time they spend working directly with children who may be at risk. However, it could be argued that at present, American students receive relatively limited suicide prevention support at school, despite the fact that suicide prevention is a public health priority. In this respect, according to a nationally representative sample of school coordinators, whilst 73.7% of high schools had policies requiring that students received instruction on suicide prevention, only 36.7% of schools had suicide prevention classes from a teacher who was trained in suicide prevention. It is also interesting to notice that within the same study it was found that only 28.4% of health courses were delivered by a teacher who received professional development on suicide prevention no more than two years prior to the study (Centers for Disease Control and Prevention [CDC], 2014). In this respect, it has been argued that where school-based suicide prevention initiatives *are* in place, their effectiveness is often limited due to difficulties associated with implementing evidence-based strategies into practice (Park et al., 2020).

The studies presented in this dissertation are motivated by the key aim to develop effective and locally tailored suicide prevention strategy and initiative which can be successfully

embedded within schools. The research was conducted within Klamath County, Oregon, where the youth suicide rate is considerably higher than the national average. There was a particular focus on ensuring that the implications for practice following the research would be suitable for the American Indian and Alaska Native (AI/AN) population, as there is a relatively large AI/AN community within Klamath County, and this group historically has a greater risk of suicide than other racial and ethnic groups within the USA.

1.1 Background

1.1.1 Youth suicide in the United States

Suicide is the second leading cause of death among youth aged 10 to 19 in the USA (CDC, 2021a). Tragically, suicidal behavior (i.e., suicide plans, suicide ideation, gestures, or attempts) have been steadily increasing in recent years. For instance, in 2019, there were 2,744 deaths by suicide among this age group, with approximately 29.4% of all death classified as injury-related deaths (CDC, 2021a). According to the CDC, rates of suicide for those aged 10 to 24 have increased by almost 60% between 2007 and 2018 (Curtin, 2020). Similarly, a study exploring rates of hospitalization for suicidal attempts or behavior among American children between 5 and 17 years old found that there were steady increases between 2008 to 2015, with almost 15,000 such hospitalizations per year (Plemmons et al., 2018),

Suicidal ideation (i.e., thoughts, ideas, or ruminations about the possibility of ending one's life) have also become relatively prominent among American youth. For example, in 2019, data from the CDC's Youth Risk Behavior Survey showed that approximately one in six adolescents in Grades 9 to 12 reported significant suicidal ideation (Ivey-Stephenson et. al., 2020). Depression, which is one of the major pre-cursors to suicidal ideation, is also increasing.

According to a Pew Research Center analysis of data from the 2017 National Survey on Drug Use and Health, the number of teenagers in USA who experienced depression increased 59% between 2007 and 2017 (Geiger & Davis, 2019). One should note that, in 2017, an estimated 3.2 million American adolescents aged between 12 to 17 years old experienced at least one major depressive episode, representing 13.3% of the entire USA population aged 12 to 17 (National Institute of Mental Health [NIMH], 2021a).

Overall, the aforementioned data and other types of data seem to paint a worrying picture that American youth are increasingly at risk of suicidal ideation and suicidal behavior. To address this growing crisis, it is crucial to ensure that the signs and symptoms of youth depression and suicidal ideation are identified so that at-risk youth can receive the appropriate preventive and treatment services. Given that more than one in five teenagers experience their first episode of major depression before they graduate from high school (Mojtabai et al., 2016), school settings should be considered a strategic entry point for suicide prevention efforts (Lake & Gould, 2011).

1.1.2 Risk factors for youth suicide

One should note that not all adolescents are at the same risk of developing depression, suicidal ideation or suicidal behaviors. There is a wide range of factors that can affect overall levels of risk which will make it more likely that youngsters will develop depression, and that this depression will progress to suicidal ideation, and subsequently progress to suicidal behaviors. From an environmental perspective, one could argue that risk factors can occur at various different levels including individual, family, school, culture, and community. Moreover, these factors can interact in ways that contribute to, or exacerbate, risk. As such, it is critical to

identify and understand risk factors at each of these levels, so that effective interventions are adopted in order to reduce risk of suicidal behaviour and ideation.

At the individual level, various predictors of youth suicide have been identified. For example, one review of the literature concluded that the key risk factors for youth suicide included: experiencing one or more mental disorder; having had previous suicide attempts and/or a history of self-harm; a personality characterized by high impulsivity and low self-regulation; a family history of mental disorders, especially depression and substance abuse; the presence of suicidal behavior amongst family members; interpersonal losses (e.g., the break-up of a relationship, the death of friends); school- or family-related stressors; and the availability of means to commit suicide (Bilsen, 2018).

At the community level, socioeconomic status has long been known to contribute to stress (Chandola & Marmot, 2012). For example, an analysis of county-level poverty and suicide rates found that counties with higher levels of poverty, had significantly higher suicide rates (Hoffmann et al., 2020). Hoffman et al. argued that the insecurity caused by low socioeconomic status may contribute to long-term exposure to toxic levels of stress, and consequent impairments in decision-making, self-regulation, mood, and impulse control. Children and youth living in poor neighborhoods are also more likely to be exposed to family violence and trauma (Butcher et al., 201). Finally, poorer neighborhoods are also more likely to lack infrastructure (e.g., quality schools, sustainable jobs, health care facilities, mental health resources) that support good health (Kirby & Kaneda, 2002).

The risk of suicide is also particularly high among those who live in rural communities. For example, the suicide rate of rural youths (ages 10-24) is approximately double that of their peers in urban settings (Fontanella et al., 2015; Heron et al., 2018; Singh et al., 2013), even after

controlling for socioeconomic variables, access to standard health care; and deprivation levels that include resource, opportunity, and mobility (Fontanella et al., 2015; Singh et al., 2013). Rural youth are also significantly less likely than urban youth to report recent suicidal ideation and suicide attempts, even though they are equally likely to report receiving psychological care (Goldman-Mellor et al., 2018). Some researchers have argued that this rural-urban disparity occurs because those living in rural communities often have less access to mental health care, live in communities where there are stigmas associated with mental disorders and "help-seeking" behaviors, and may also face geographic and social isolation (Fontanella et al., 2015; Nestadt et al., 2017; Singh et al., 2013).

1.1.3 The American Indian and Alaska Native populations

Suicide rates also vary between different ethnic groups, and therefore ethnicity can be considered another major risk factor for suicidality. Of particular interest in the present study is the AI/AN community. This broad classification represents approximately 5.2 million citizens in the USA (Norris et al., 2012) who have origins in the indigenous peoples of the Americas. This encompasses the 574 indigenous tribes, also known as "Indian Nations" (e.g., Cherokee, Navajo, Sioux), including Indigenous populations in Alaska (i.e., Native Alaskan) and Hawaii (i.e., Pacific Islander). Furthermore, it includes the indigenous First Nations, Inuit, and Métis communities from Canada, as well as indigenous peoples from Mexico, Central America, and South America.

The AI/AN community should be considered a particularly important target for physical and mental healthcare interventions because these populations suffer from disparities across numerous physical and mental health indicators compared with other racial/ethnic groups in the

USA. For example, AI/AN community members have a lower life expectancy, lower quality of life, and are disproportionately affected by a greater number of chronic health conditions than are other racial and ethnic groups (Arias et al., 2014; Cobb et al., 2014). AI/AN individuals also suffer a disproportionate burden of mental health problems including substance abuse, depression, and posttraumatic stress (Gone & Trimble, 2012).

Unsurprisingly, this also translates to a higher risk of suicide within AI/AN communities. Indeed, of all ethnic groups, AI/AN individuals living in non-metropolitan areas have the highest suicide rate in the USA (Leavitt et al., 2018; Stone et al., 2021). It is likely that the aforementioned disparities in general health contribute to the greater risk of suicide, and that this in turn can increase the likelihood of future suicide among those in affected communities. For example, particular risk factors of suicide in AI/AN communities included deaths by suicide and other causes among friends and family, as well as a high rate of alcohol use (Leavitt et al., 2018). AI/AN suicide decedents also tend to be younger than non-Hispanic whites who died by suicide (Leavitt et al., 2018), suggesting that youth in these communities are particularly affected by their difficult circumstances.

Overall, there is a clear need to ensure that AI/AN communities across the USA have suitable access to healthcare in order to help them to deal with the physical and mental health challenges that they face. However, healthcare efforts within AI/AN communities are often met with resistance and skepticism, grounded in their experiences of historical mistreatment and oppression from governmental institutions (e.g., Canales et al., 2011; Guadagnolo et al., 2009). As such, it is critical that healthcare practitioners working within AI/AN communities are sensitive to this historical mistrust and ensure that their work includes a careful analysis of potential barriers to treatment.

1.2 Study Context

1.2.1 Oregon's experience

The research presented in this dissertation takes place in Oregon, a state in the Pacific Northwest region of Western USA. Suicide prevention research and practice is particularly important in Oregon, as the state has one of the highest rates of suicide in the entire country. According to the most recent CDC data, Oregon has the tenth highest suicide rate among all states at 20.4 deaths by suicide per 100,000 people (CDC, 2021b). By contrast, the national rate of death by suicide is 13.9 per 100,000 people (NIMH, 2021b). The suicide rate in Oregon has been increasing since 2011 (Oregon Health Authority [OHA], 2018a), having been at 17.8 per 100,000 people in 2018 (OHA, 2018b).

These overall trends are mirrored in data specifically pertaining to suicidal ideation and behavior among Oregon's youth. For example, suicide is the leading cause of death among youth between the ages of 10 and 24 years old in the state. The most recent data reported to the OHA shows an annual toll of 129 deaths by suicide amongst those aged 24 and under in Oregon, in addition to more than 900 Oregon youth who were hospitalized for self-inflicted injury or attempted suicide (OHA, 2019). Suicidal ideation is also relatively commonplace amongst youth in the state. Results from the Oregon Healthy Teens (OHT) survey, issued annually since 1997 to capture standardized data on the health and well-being of youth within Oregon , shows that 20% of 8th graders and 19% of 11th graders within the state had seriously considered suicide in the past year (OHA, 2018b). Moreover, 10% of Oregon's 8th graders and 7% of 11th graders had actually attempted suicide one or more times during the last year (OHA, 2018b).

Reflecting the experience of the AI/AN population nationwide, the AI/AN community within Oregon suffers numerous health disparities in morbidity, mortality, health outcomes, and

access to care compared to non-Hispanic Whites (Northwest Tribal Epidemiology Center, 2014). Additionally, there are higher rates of substance misuse and depression within the AI/AN community, which in turn contributes to a higher rate of suicidal behavior than in other groups (Barlow et al., 2012; Young & Joe, 2009). For example, a 2014 study from the Northwest Tribal Epidemiology Center found that deaths from suicide were higher for AI/AN people (2.8% of all deaths) than Whites (1.9%) in Oregon. Although the majority of AI/AN suicides occurred between 20 and 39 years of age, the largest disparity in suicides between AI/AN and Whites occurred in the 10 to 19 age group. Within this age range, AI/AN youth were 2.8 times more likely to die by suicide than were Whites (Northwest Tribal Epidemiology Center, 2014).

1.2.2 Klamath County, Oregon

Even more specifically, the present research is situated within Klamath County, which is located in the high desert of southern Oregon. It is the fourth largest county in Oregon by size, but only the fifteenth largest by population, home to an estimated 68,238 people (United States Census Bureau, 2021). The largest town in the county, Klamath Falls, has a population of just 21,753 (United States Census Bureau, 2021).

Research into youth suicide prevention is particularly important in Klamath County because the county has some of the highest suicide rates in Oregon, as Section 1.2.4 will explicate in more detail. Before that, the next section will provide a brief history of the Klamath Tribes and explain why many AI/AN people in the county are still mistrustful of public health organizations, which may be one of the main reasons for the high rates of suicide within the county.

1.2.3 A brief history of the Klamath Tribes

Klamath County is named after the Klamath Native American Tribes, whose traditional name is "?ewksiknii", meaning people of the lake/lakes, ponds, and marshes. The Klamath Tribes are federally recognized and consist of three distinct but affiliated tribes: Klamath, Modoc, and Yahooskin. These communities have inhabited the Upper Klamath River Basin region of southern Oregon and northern California for thousands of years. Indeed, Klamath County today has a relatively high Native population compared to the USA more generally. Overall, 5% of Klamath County have solely AI/AN identity, compared with 1.3% nationwide (United States Census Bureau, 2021).

The Tribes have had a complicated history with the USA government, which may contribute to present-day feelings of mistrust towards public institutions. This history starts in the mid-nineteenth century, at a time when the Upper Klamath Basin was increasingly filled by settlers. These settlers fenced off land and put cattle out to graze, depriving the Tribes of access to country where they would hunt game and gather edible plants, leading to starvation and increased tension between the Tribes and the settlers. As a result, the tribes experienced a loss of access to traditional food items, and began to experience increasing problems in the form of Western diseases (Dougill, 2016).

To avoid violent conflict, the Tribes agreed to cede more than 20 million acres of their traditional territories by signing the Treaty of 1864, in return for enabling them to retain 2 million acres and the rights to hunt, fish, and gather on the reserved land in perpetuity. As a result, the Klamath Indian Reservation was created, and a period of assimilation with the settlers began.

By 1950, the Klamath Tribes were amongst the wealthiest and most self-sufficient tribes in the USA. However, in 1954 the Klamath Termination Act was passed, as part of the wider USA Indian termination policy. The purpose of this policy was to forcibly assimilate Native Americans into mainstream American society, compelling them to abandon their traditional ways of life and become what the government considered "civilized". The Klamath were a particular target of this policy, because the prosperity they enjoyed while continuing to follow their traditional practices was seen as a threat to the narrative that forcible assimilation was in the best interests of tribal communities.

In practical terms, the passing of the Act meant that federal government no longer recognized the tribal status of the Klamath, the sale of reservation lands was permitted, and federal aid provided to the Tribes because of their Indian status was ended. The Klamath themselves were not consulted about the termination, and when they were finally given the option to vote on the subject, rejecting the termination was not an option, and they were merely allowed to choose the way in which they would be compensated for the loss of their reservation. The result of this vote was that, in 1961, the majority of tribal members received lump-sum cash payments of $43,000 as compensation for the loss of land.

However, in many cases this proved to be disastrous. Tribal members were ill prepared to manage the windfall payments they received, particularly when combined with the loss of their traditional way of life and means of employment. As a result, unemployment and alcoholism increased considerably, whilst health conditions and education deteriorated. By 1975, a survey of the Klamath revealed that few tribal members now owned land or were otherwise economically independent.

Across the 1970s, opposition to the USA Indian termination policy grew, and the process of restoring federal recognition of Native American tribes began. For the Klamath, federal status was restored in 1986 with the passing of the Klamath Restoration Act, which re-established the Klamath as a sovereign nation. The land base was not returned; however land is held in trust for the Tribes and a recent purchase doubled their land holdings. Additionally, the restoration process also included the production of an economic self-sufficiency plan, designed to help tribal members regain economic independence and play a pivotal role in their local economies.

Today, the current tribal enrollment is approximately 5,400. The present-day Klamath Indian Reservation consists of twelve small non-contiguous pieces of land in Klamath County, totaling just 308 acres, which very few tribal members live on. The Tribes are now led by a governing body consisting of a chair, vice-chair, secretary, and treasurer, and six Klamath Tribal Council members-at-large. The restoration of tribal status has helped the Tribes to begin the process of regaining self-sufficiency, which includes the development of a Restoration Strategy involving a partnership with the USA Forest Service for co-stewardship of the reservation land (Hatcher et al., 2017).

However, many social and health inequities remain. Research has demonstrated that historic colonial and federal policy has contributed to a form of post-traumatic stress disorder amongst the Klamath tribespeople, termed post-colonial stress disorder (Ball, 1998). Even today, Native American communities in the region still experience high rates of food insecurity, particularly with respect to Native foods (Sowerwine et al., 2019). Additionally, the uneasy relationship with federal government continues; since 2001, the Tribes have been embroiled in a water rights dispute with the states of Oregon and California (Angel, 2020). These factors may

explain the fact that the region experiences some of the highest rates of suicide in the USA, as the next section discusses.

1.2.4 Suicide rates in Klamath County

In Klamath County, then, several risk factors for suicide come together. It is located in Oregon, where the suicide rate is above the national average and has been steadily increasing. It is a relatively rural county, with the associated issues of isolation and limited access to mental healthcare. Finally, it is home to a relatively large AI/AN community, who experience numerous health disparities compared with other communities, and have an uneasy relationship with public health bodies rooted in legitimate perceptions of historical mistrust. Therefore, for the purposes of the present research, Klamath County was an important location to explore suicide prevention initiatives, with a particular focus on youth and the AI/AN community.

Indeed, the available data confirm that the prevalence of deaths by suicide is considerably higher in Klamath County than elsewhere. Although the county had recently experienced a downward trend in deaths by suicide – decreasing from 34 per 100,000 in 2014 to 22 per 100,000 in 2016 – the suicide death rate in Klamath County increased to 47 per 100,000 in 2017. This is more than double the state of Oregon's rate of 20.4 per 100,000 deaths and more than triple the overall USA rate of 13.9 per 100,000 (Healthy Klamath, 2021).

The results from the 2018 Oregon Student Wellness Survey confirm that AI/AN youth from Klamath County also report considerably higher suicidal attempts and mental health issues compared to other youth within the state. For students who identified as being a member of the Klamath Tribes, 24.3% of 6th grade students, 27.3% of 8th grade students, and 9.4% of 11th grade students reported attempting suicide in the previous 12 months, all of which are significantly

higher rates than the state as a whole (at 7.5%, 10.2%, and 8.1%, respectively; OHA, 2018b). Furthermore, the same survey revealed that 9.6% of 6th grade students and 26.2 percent of 8th grade students from the Klamath Tribes met the criteria for experiencing a mental health concern requiring further assessment, which again are higher than statewide numbers for the same grades (8.9% and 14.2%, respectively; OHA, 2018b).

Overall, the available data confirm that there is a clear need to address the growing issue of youth suicide in Klamath County, Oregon. The suicide death rate in the county is considerably higher than both the state and national average, and there is evidence to suggest that AI/AN youth in Klamath County are at particularly high risk. As such, the present research program was designed to support the implementation and sustainment of youth suicide initiatives in Klamath County. Before turning to the details of the research, however, the national and state approaches to youth suicide prevention will be briefly reviewed.

1.3 Policy Context

1.3.1 National approaches to youth suicide prevention

At the national level, suicide prevention initiatives are guided by the National Strategy for Suicide Prevention (NSSP). In particular, the first goal of the NSSP ("integrate and coordinate suicide prevention activities across multiple sectors and settings", p. 29) and Objective 1.1 of the NSSP ("to integrate suicide prevention into the values, culture, leadership and work of a broad range of organizations and programs with a role to support suicide prevention activities", p. 30) (United States Department of Health and Human Services [HHS] Office of the Surgeon General and National Action Alliance for Suicide Prevention, 2012) demonstrate the importance of embedding suicide prevention strategies across a range of

different sectors and organizations to have the maximum impact. This supports the suggestion that schools will be perfectly placed to deliver interventions for youth suicide prevention.

However, currently in the USA there are no federal mandates or laws that require school administrators to engage in training on suicide prevention. Nor are there requirements for faculty and staff to be offered training to support their role as gatekeepers who can identify youth who may be at risk of suicide, so that they may provide immediate support and make a referral to an appropriate individual who is able to offer help. In fact, school-based suicide prevention laws vary significantly across states in terms of their content and stringency (American Foundation for Suicide Prevention, 2014; 2015). One contributing factor to the limited legal and regulatory support is the fact that the research base specifically for school-based suicide prevention programs is limited, due to challenges with identifying evidence-based practices, implementing those practices, and evaluating their effectiveness.

1.3.2 Approaches to youth suicide prevention in Oregon

In Oregon specifically, several initiatives have arisen in response to the relatively high levels of suicidal ideation, suicide attempts, and deaths from suicide amongst youth in the state. At the state level, policymakers passed bill ORS 418.704 in 2015, which called for the development and implementation of a statewide initiative aimed at preventing youth suicides. This led to the creation in 2016 of the Youth Suicide Intervention and Prevention Plan (YSIPP), which was structured to be an adaptation of the NSSP. Specifically, the YSIPP sought to improve suicide prevention across the education, healthcare, and criminal justice sectors by giving professionals the knowledge and capacity-building they need to identify and respond to markers of suicidal ideation.

The implementation of the YSIPP led to the passing of various Senate Bills (SBs), aiming to put its ambitions into practice. For example, a collaboration between the OHA and the Alliance to Prevent Suicide ("the Alliance") led to the passing of SB 48 in 2017, which requires OHA to document the courses behavioral health professionals and educators have taken in assessment, treatment, or management of suicidal ideation among youth. In 2019, SB 707 codified the Alliance into statute as the Youth Suicide Intervention and Prevention Advisory Committee. Also in 2019, SB 52 ("Adi's Act") mandated that the Oregon Department of Education should ensure that all school districts in Oregon have a suicide prevention, intervention, and postvention plan, as well as a school board policy in place for the 2020-2021 school year.

Similar initiatives have been implemented at an even more local level in Klamath County, in response to the troubling statistics for this part of the state. Specifically, Klamath County Suicide Prevention Stakeholder Assessment was launched in 2020 in order to identify and gather information from individuals across the County who are engaged with, or could provide insight on, suicide prevention needs, efforts, and resources. It is a component of a larger initiative, guided by the Klamath County Suicide Prevention Coalition, to prevent suicide events (attempts and deaths), to reduce the impact of suicide events that do occur (not only by preventing further suicide events but also by providing support to affected individuals and communities), and to enhance citizens' sense of community belonging.

The development of these initiatives shows that policymakers within Oregon and Klamath County have recognized the high prevalence of youth suicide in the area and are committed to providing the solution. However, these youth suicide prevention initiatives are still in a nascent stage, and there is no guarantee that their implementation will effectively address the

issues faced by youth in the county. To improve implementation and outcomes, there is a need to examine the conditions under which using research evidence improves decision making, policy implementation, service delivery, and, ultimately, suicide prevention. In other words, there is a need for research on the *use* of evidence-based practices by state and local decision makers and by practitioners in the context of youth suicide prevention in Klamath County.

1.4 Research Overview

1.4.1 Purpose and approach

To summarize, the present research grew out of the recognition that AI/AN youth in rural communities are at particularly high risk of suicide. This is especially true of the individuals living in Klamath County, Oregon, who have a significantly high suicide rate at both the statewide and nationwide level. School-based programs are a particularly effective way of reaching a large number of AI/AN youth and increasing the availability of services for those living in isolated non-metropolitan areas (US Department of Health and Human Services, 2010).

Therefore, the main objective of the present research was to support the implementation of youth suicide prevention initiatives in Klamath County, with a particular focus on improving the accessibility and effectiveness of existing services. To achieve this, partnerships were formed with educators and AI/AN community members within Klamath County, helping to ensure that the recommendations could be specifically tailored to the local context. The research component of this partnership aimed to survey the perceptions of key stakeholders in Klamath County, including both the professionals who work with at-risk youths in Klamath County and the youths of Klamath County themselves.

1.4.2 Structure of the dissertation

The structure of the dissertation will be as follows. The first chapter has presented in detail the context for the studies, including both the problems to be addressed and the type of research that will be used to address them. The next chapter will provide a literature review, focusing first on youth suicide prevention theory and practice, and then on research-practice partnerships in the context of education and youth suicide prevention. The third chapter will describe the methodology for the current studies, presenting both the research questions that were addressed by the studies and the strategies that were used to collect data. Next, the fourth chapter will present the results of the studies, before the fifth chapter evaluates these in more detail and finishes with a brief conclusion.

CHAPTER II: LITERATURE REVIEW

In this chapter, a comprehensive narrative review of the literature pertaining to the key theoretical and practical considerations around youth section prevention will be performed. The chapter is divided into five sections, in total.

Firstly, the review will focus on a key theoretical framework for understanding youth suicide, termed the interpersonal-psychological of suicidal behavior (IPTS; Joiner, 2005; Van Orden et al., 2010). Understanding the key concepts in youth suicidal ideation and behavior, and how they relate to one another, will be an essential part of achieving the goal to realize concrete improvement in programs and resources for students affected by suicide. To this end, the section will explore the extent to which the IPTS is a valid lens for understanding youth suicide.

The second section will consider certain protective factors that increase resilience in youth. In particular, the concept of "adolescent connectedness" will be reviewed, drawing upon the work of Karcher (2011). Then, the specific role of "school connectedness" in reducing the risk of suicidal ideation and behavior in youth will be described.

In the third section, existing evidence on youth suicide prevention initiatives will be reviewed. The different "tiers" at which school-based mental healthcare programs can be delivered will be highlighted before a brief review is undertaken of general and formalized suicide prevention initiatives in schools. Finally, common barriers to implementing school mental health programs and suicide prevention initiatives will also be reviewed.

The fourth section turns to the use of structured collaborations between researchers and practitioners, termed research-practice partnerships (RPPs). The development of RPPs within the broader discipline of implementation science is discussed, as are some of the key strategies that can be used within RPPs.

The fifth section focuses specifically on RPPs within the field of education. First, the strategies that can be used to implement evidence-based practice into schools and other educational strategies are highlighted. Then, the characteristics of effective RPPs in education are discussed, a framework for implementing RPPs in education is introduced, and the potential benefits of RPPs focusing on youth suicide prevention in schools are noted.

2.1 The Interpersonal-Psychological Theory of Suicidal Behavior

The first part of the literature review outlines and evaluates the IPTS, which is one of the most popular and influential theoretical frameworks of suicidal behavior. First, the theory is described in detail, and its core propositions are outlined. Next, general research evidence in support of the IPTS is discussed. Finally, recognizing that studies on adults may not generalize perfectly to the youth context, the review also explores whether the IPTS is supported in studies with adolescent samples.

2.1.1 Overview of the theory

The IPTS (Joiner, 2005; Van Orden et al., 2010) was developed with the aim of providing a theoretical framework for suicidal behavior by consolidating a broad array of risk factors for suicide. Overall, the core proposition of the IPTS is that an individual is most likely to die by suicide if they have both the desire for suicide (*suicidal ideation*) and the capability to act upon that desire (*acquired capability*).

The cognitive component of the theory, suicidal ideation, arises due to the simultaneous activation of two cognitive-affective states relating to the perception of the self in an interpersonal context: *perceived burdensomeness* and *thwarted belongingness.* Each state is itself

comprised of additional facets and associated with various risk factors. It is when the two states are co-present alongside a general feeling of *hopelessness* (the belief that the present negative state is stable and will not change), that suicidal ideation is most likely to develop.

Perceived burdensomeness refers to the perception that one's existence has become a burden for friends, family, and/or society more generally. It comprises two facets: *self-hate* (i.e., "I hate myself") and *liability* (i.e., "It is better for others that I die than I live"). There are various situational risk factors for the development of perceived burdensomeness, such as unemployment, homelessness, illness, and low self-esteem (Van Orden et al., 2010).

Thwarted belongingness refers to the perception that is one is alienated from one's friends, family, other valued social circles, and/or society more generally. It also comprises two facets: *loneliness* (i.e., "I feel disconnected from others") and *absence of reciprocal care* (i.e., "I have nobody to turn to and nobody turns to me"). Situational and psychological risk factors which predict the development of thwarted belongingness include family conflict, living alone, having few social supports in one's network, and the tendency to view the behaviors of others as rejection (Van Orden et al., 2010).

Finally, the IPTS proposes that suicidal intent develops into active suicidal desire when the individual has lost the inherent drive for self-preservation and feels capable of engaging in lethal self-injury, which is referred to as acquired capability. A diminished fear of death is made possible through repeatedly exposing oneself to physically painful and/or fear-inducing scenarios and allowing habituation and increased pain tolerance to develop over time. Here, risk factors include a family history of suicide, a previous suicide attempt, exposure to physical violence or combat, and a history of childhood maltreatment (Van Orden et al., 2010).

To summarize, the IPTS therefore leads to a simple proposition about the people who are most at risk of suicide. Simply put, individuals who score highly on all three constructs (thwarted belonginess, perceived burdensomeness, and acquired capability) are those who are most at risk of imminent suicidal behavior. The core tenets of the model are shown below, in Figure 1.

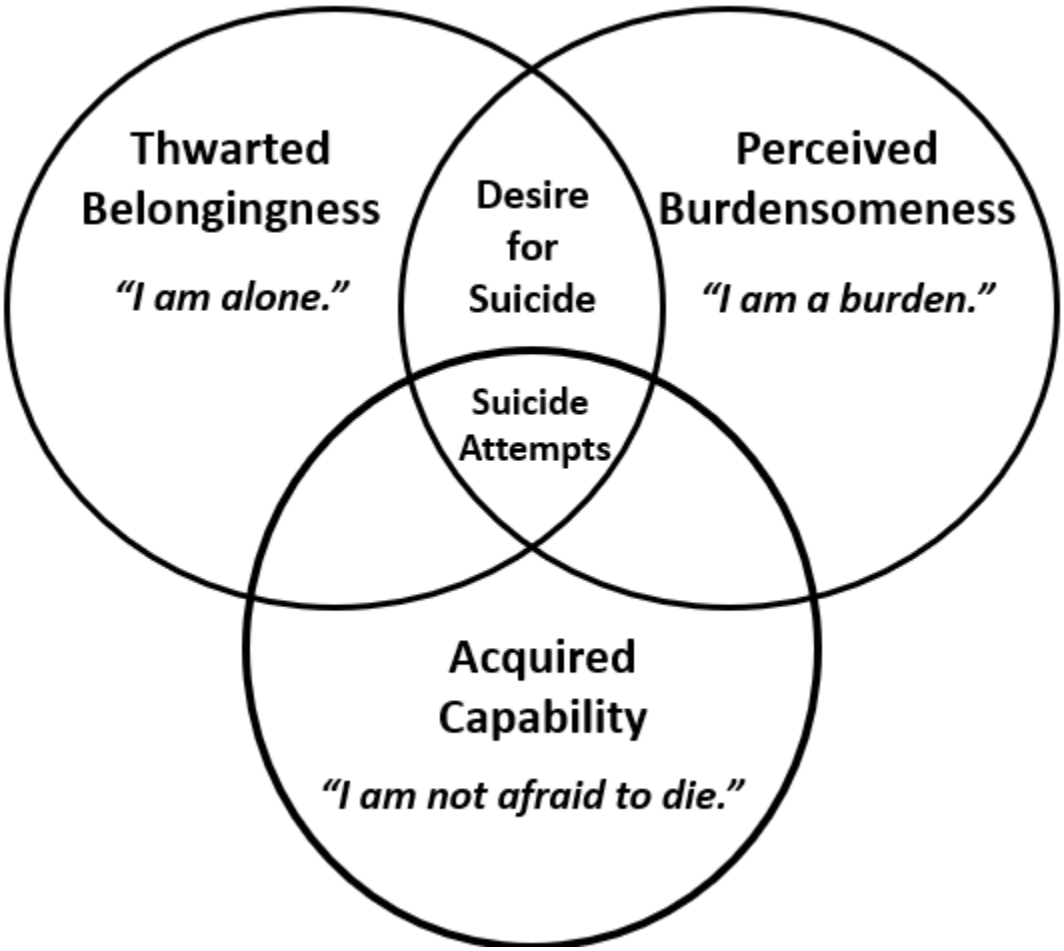

Figure 1. **The interpersonal-psychological theory of suicidal behavior (Source: Joiner, 2005)**

2.1.2 Adult studies into the interpersonal-psychological theory of suicidal behavior

The research evidence shows that the core predictions of the IPTS have received relatively good support in the research literature. Ma and colleagues (2016) conducted a

systematic review of the IPTS, synthesizing 58 research articles representing 66 individual studies in total. They found strong support for the predicted association between perceived burdensomeness and suicidal ideation, with more than three-quarters of studies suggesting the relationship was statistically significant. However, evidence in favor of the other predictions in the model was more mixed.

Chu and colleagues (2017) built upon this initial review but provided an even stronger standard of evidence by conducting a meta-analysis of 122 published and unpublished studies. Their analysis confirmed that the predictions of the IPTS were supported, albeit with relatively modest effect sizes. Specifically, the results showed that the interaction between thwarted belonginess and perceived burdensomeness was significantly associated with suicidal ideation, and that the interaction between thwarted belongingness, perceived burdensomeness, and acquired capability was significantly associated with a greater number of prior suicide attempts.

2.1.3 Youth studies into the interpersonal-psychological theory of suicidal behavior

Recognizing that conclusions derived from adult data might not be equally applicable to adolescents, Stewart and colleagues (2017) conducted a review of evidence into the IPTS in studies with youth samples. Overall, 17 relevant studies from 15 publications were identified in the review. The studies differed with respect to which aspects of the IPTS they focused on, and the extent to which they explicitly considered the IPTS in their theoretical formulation.

Overall, good support was found in youth samples for the different predictions made by the IPTS. First, the predicted associations between perceived burdensomeness, thwarted belongingness, and suicidal ideation were supported in several studies. For example, loneliness (used as a proxy for thwarted belongingness) was associated with suicidal ideation, mediated by

increased depression (Lasgaard et al., 2011). Similarly, social support (reflecting lower perceived burdensomeness and higher belongingness) was a protective factor against suicide attempts (Wong & Maffini, 2011).

Support was also found for the hypothesized role of acquired capability in heightening the risk of suicide attempts. For example, it was found that suicidal ideation and a history of non-suicidal self-injuries (leading to the development of acquired capability over time) were the only unique predictors of suicide attempts in an adolescent sample when tested alongside other suicide risk factors such as depression, anxiety, impulsivity, and borderline personality disorder (Klonsky et al., 2013). Similarly, in an interview study by Nock and colleagues (2006) it was found that adolescent inpatients who reported no pain when making non-suicidal self-injuries (indicating acquired capability) made twice as many suicide attempts as those who reported pain.

Overall, Stewart and colleagues (2017) concluded that the IPTS is a promising explanatory framework for understanding suicidal ideation and behavior in adolescence, although the need for more studies which directly tested the model's propositions was noted. Thus, for the purposes of the present research, the IPTS was accepted as an appropriate theoretical lens through which to consider the different factors implicated in the development of suicidal ideation in youth in Klamath County.

2.2 Adolescent connectedness

The second part of the literature review focuses on the "positive" side of youth suicide prevention (i.e., on enhancing protective factors, rather than mitigating risk factors). This part of review will summarize the construct of adolescent connectedness. First, Karcher's (2011)

conceptualization of adolescent connectedness will be explicated in detail, before research into school connectedness and its relationship with youth suicide prevention will be reviewed.

Connectedness has long been recognized as a crucial construct to target through youth development programs, forming one of Lerner and colleagues' (2000) "Five Cs" (alongside Competence, Confidence, Character, and Caring). Connectedness is particularly important in the context of youth suicide prevention because it is positively associated with resilience (Abubakar & Dimitrova, 2016; Howard Sharp et al., 2015) and negatively associated with perceived burdensomeness (Opperman et al., 2015). Therefore, it can be predicted that interventions which successfully develop adolescent connectedness can also be expected to reduce the risk of youth suicide.

2.2.1 Defining connectedness

The perception of connectedness arises out of the universal need for belongingness and relatedness, and essentially reflects the extent to which an individual experiences feelings of attachment and affinity in daily life. For example, according to Hagerty et al. (1993), "connectedness occurs when a person is actively involved with another person, object, group or environment, and that involvement promotes a sense of comfort, well-being, and anxiety-reduction" (p. 293). Similarly, Karcher and colleagues (2008) note that "connectedness includes the acts of giving back to, being involved with, and investing oneself in an affective manner in places and activities as well as in relationships with other people" (p. 651).

Importantly, both of these definitions recognize that individuals' perceptions of connectedness are not limited to interpersonal relationships but may also be found in their relationships with specific locations and activities. In other words, connectedness can be

expressed across a number of different "social ecologies" (i.e., the common and important contexts, relationships, and activities of engagement in individuals' lives; their "ecological worlds") (Karcher et al., 2008). The most important social ecologies for adolescents are represented in Karcher's (2011) conceptualization of adolescent connectedness.

2.2.2 Conceptualizing adolescent connectedness

Karcher (2011) developed the Hemingway Measure of Adolescent Connectedness, providing researchers and practitioners with a tool to measure the various components and sub-components of adolescent connectedness. Specifically, the Hemingway Measure identifies 15 ecological worlds within which an adolescent can experience connectedness, arranged into three higher-order dimensions. Together, these constitute a detailed conceptualization of adolescent connectedness.

The first dimension is "connectedness to self". The first sub-dimension here is connectedness towards the *present self* (i.e.., sense of self-esteem, grounded in experiences in current relationships and reflecting a self-awareness of skills, talents, and unique interests). There is also a second sub-dimension of connectedness towards the *future self* (i.e., the adolescent's image of an ideal future self, and the actions that they make to secure a positive future).

The second dimension is "connectedness to others", capturing a range of different interpersonal relationships. For example, it includes adolescent's involvement in and caring for their parents (or for their mother and their father separately) and with their siblings. It also includes relationships with various other groups of adolescents, including friends, peers,

culturally-different peers, and romantic partners. Finally, it also includes relationships with teachers, given the crucial role educators play in the lives of adolescents.

The third and final dimension is "connectedness to society". Here, the focus moves beyond intra- and interpersonal relationships, and also recognizes that individuals can experience connectedness with places and activities. Specifically, the first component within this dimension is connectedness to one's neighborhood (i.e., the quality of relationships with others in the neighborhood, and the degree to which they view their neighborhood as comfortable, supportive, and interesting). There is also connectedness to the world of reading (i.e., enjoying reading escaping into a quiet world of one's own choice) and connectedness to religion or spirituality (i.e., faith in an external power and a larger sense of community connection). Finally, there is also the sub-dimension of school connectedness (i.e., how much the adolescents enjoy and work hard at school).

Overall, research confirms the prediction that adolescent connectedness serves as a protective factor for youth, helping them to remain physically and mentally healthier, and achieving more positive outcomes across the life course. For example, one longitudinal analysis concluded that higher adolescent connectedness was associated in adulthood with reduced emotional distress, fewer experiences of violence (as perpetrator and victim), less risky sex behaviors, and lower substance misuse (Steiner et al., 2019).

2.2.3 School connectedness

Out of the various social ecologies proposed by Karcher (2011), the role of connectedness in school life (i.e., including the connectedness to teachers sub-dimension as well

as the school connectedness sub-dimension) is thought to be particularly important in the context of youth suicide prevention.

Whitlock and colleagues (2014) build upon the definition of school connectedness proposed by Karcher (2011) and offer an even more detailed conceptualization. Specifically, they suggest that school connectedness is an attitude which comprises four distinct components: (a) social affiliations (positive school relationships, feeling cared about and/or respected by adults at school, and perceived opportunities to interact with adults at school); (b) school belonging (feeling part of the school, feeling safe at school, and feeling happy at school); (c) attitude about school importance (caring about and trying to do one's best at school); and (d) a supportive learning environment (clear and appropriate expectations and perceived fairness) (Whitlock et al.,, 2014)

A key assumption made within this conceptualization is that school connectedness has an inverse relationship in adolescents with suicidal thoughts and behaviors (Whitlock et al., 2014). The meta-analysis by Marraccini and Brier (2017) provides evidence in support of this assumption. They investigated associations between school connectedness and suicidality across general and subpopulations (e.g., high risk and sexual minority youth) using a random effects regression model. Eligible studies examined a measure of school connectedness explicitly referred to as "school connectedness" or "connections at school" in relation to suicidal ideation or suicide attempts among youth enrolled in school (Grades 6-12). Results confirmed that higher rates of school connectedness were associated with reduced reports of suicidal thoughts and behaviors across both general and suicidal populations. The findings were consistent when analyzed separately for suicidal ideation and suicide attempts and remained stable when accounting for variability in measurements.

Most research into school connectedness and suicidal ideation is cross-sectional in nature, however there is also some supporting evidence of the same relationship from longitudinal studies, strengthening the claim that the two variables are causally related. Specifically, the analysis by Steiner and colleagues (2019) showed that adolescent school connectedness was inversely related with suicidal ideation in adulthood.

Overall, therefore, there is good evidence to suggest that school connectedness acts as a protective factor in reducing the risk of youth suicide. Whitlock and colleagues (2014) propose that three mechanisms account for this protective effect. In their framework, the inverse association between school connectedness and suicidality is accounted for by: (a) intrapersonal responses and processes (i.e., experiencing positive emotions when spending time with others, and feeling a sense of belonging); (b) collective responsibility and action (i.e., feeling part of a community in which the reciprocal exchange of care, respect, trust, and support is important); and (c) positive norms and expectations (i.e., the development of group norms to seek help from others in times of difficulty). This framework directly references the IPTS and shows how school connectedness can lead to reductions in thwarted belongingness and perceived burdensomeness, thereby protecting the youth against suicidal ideation.

To conclude, the findings of these studies nonetheless support the need for increased school connectedness as an important strategy in youth suicide prevention initiatives. This has important implications for the design and delivery of screening and intervention efforts conducted in schools. In particular, it suggests a role for ensuring that school personnel are supported in working directly with youth to help foster and grow feelings of school connectedness.

2.3 Youth Suicide Prevention Initiatives in Schools

The third part of the literature review explores school interventions that have been used to improve mental health and prevent suicide amongst youth. The first section considers the different "tiers" that a school-based mental healthcare program may be delivered at. Then, examples are provided of school-based suicide prevention initiatives at each of these tiers, with a note on implications for future research and practice. Next, two formalized suicide prevention initiatives (Good Behavior Game and Signs of Suicide) are briefly reviewed. Finally, barriers to implementing school mental health programs are noted.

2.3.1 Delivery tiers for school-based mental healthcare

Researchers and practitioners have increasingly realized that educational contexts provide numerous opportunities for positive youth mental health promotion initiatives. For example, a school might implement a preventive intervention focusing on the screening, early detection, and rapid treatment of youth mental health disorders. Schools might be the context where effective diagnostic interventions, treatments, and clinical procedures for adolescents are developed. Researchers in school settings might also want to explore how best-practice treatment guidelines can be effectively embedded into existing care systems.

Generally, it is recognized that school-based mental healthcare initiatives can operate across three 'tiers', corresponding with the Institute of Medicine's (1994) three "continuum of care" categories for preventive healthcare. Specifically, healthcare interventions can be targeted at the *universal* level (Tier 1; addressing the entire group of students or a specific sub-population, with an unknown and variable probability of developing a disorder), the *selective* level (Tier 2; addressing a specific sub-population of students with a higher risk of developing a disorder),

and/or the *indicated* level (Tier 3; addressing identified students who have minimal but detectable signs or symptoms of the disorder).

The tiered system assumes that Tier 2 strategies can be effective for those who are unresponsive to Tier 1 approaches, and likewise Tier 3 strategies are appropriate for those who are unresponsive to Tier 2 approaches (Farmer, 2016). In this way, the tiered system can help educators to meet the needs of students generally, as well as to identify students who need more specialized and tailored interventions (Vaughn & Swanson, 2015; Wehby & Kern, 2014).

However, for student mental health interventions, it has been recognized that the majority of programs operate on Tiers 1 and 2 (Belhumeur et al., 2017), and fewer programs operate at Tier 3 by identifying youth who may have already developed a mental health disorder (Singh et al., 2013). This suggests that there is an unmet need within schools for those adolescents who are experiencing more serious mental health issues, who have the most need for individualized healthcare support.

2.3.2 School-based suicide prevention initiatives at each tier

The continuum of care framework has also been used as a classification tool for evaluating youth suicide prevention programs. In Robinson and colleagues' (2013) systematic review of the literature, a total of 41 school-based suicide prevention initiatives were identified, and categorized into universal, selective, or indicated interventions. Overall, the review identified 15 universal awareness programs, 23 selective interventions, and three indicated interventions. Examples of suicide prevention initiatives from each tier are summarized below.

Universal (Tier 1) programs typically consisted of interventions delivered to the entire school population through the curriculum. For example, in the study by King et al. (2011), more

than a thousand high-school students completed a suicide prevention program in which they were given information regarding depression risk factors, suicidal warning signs, suicidal risk factors, and common myths associated with suicide. Students were also taught coping strategies for everyday life stressors. Survey data showed that the program was effective in improving students' knowledge and attitudes about suicidal behavior, as well as in reducing suicidal intentions amongst the students. Similarly, other universal interventions were also effective in improving knowledge regarding the risk factors and warning signs for suicide (Robinson et al., 2013).

The review identified two broad types of selective (Tier 2) intervention: gatekeeper education and screening programs. The aim of gatekeeper education was to increase knowledge, improve attitudes, and further confidence among school staff. Successful gatekeeper training programs were effective in increasing participants' knowledge, confidence, and self-efficacy regarding youth suicide behavior (Robinson et al., 2013). Meanwhile, the aim of screening programs was to identify students who were at risk of suicidal behavior, but who would not otherwise have come forward for help. Overall, between 4% (de Wilde et al., 2011) and 45% (Brown & Grumet, 2009) of young people were classified as 'at-risk' following different screening programs (Robinson et al., 2013). The review also highlighted variations in the extent to which at-risk adolescents were given follow-up care, demonstrating that screening instruments were a useful tool for identifying deficits in current practice.

Finally, the review identified three interventions that could be classified as indicated (Tier 3), with the aim of reducing suicide risk behavior in specific youth who had displayed warning signs. For example, the randomized controlled trial by Tang and colleagues (2009) showed that a program of intensive interpersonal psychotherapy was more effective than

treatment as usual for improving depression, anxiety, hopelessness, and suicidal ideation amongst depressed adolescents with suicidal risk. In the other two trials, however, both the intervention groups and the treatment as usual groups showed improvements in suicidal-related behavior over time, so the effect of the intervention itself could not be confirmed (Robinson et al., 2013).

Overall, therefore, the review highlights that the tiered system is a valuable approach for designing suicide prevention initiatives, but the benefits are not yet being fully realized due to limited support at the Tier 3 level. To address this, Singer and colleagues (2019) developed a new framework for preventing youth suicide consisting of universal, selective, and indicated prevention strategies. In other words, their proposed strategy offers multi-tiered systems of supports (MTSS); different specific interventions are applicable for the general staff population, the general student population, specialist staff members (e.g., school counsellors), and students with a higher risk and/or history of suicidal behaviors. In this the way, the use of an MTSS framework is valuable as a holistic framework within which to situate a youth suicide prevention program.

2.3.3 Formalized suicide prevention initiatives in schools

The review by Robinson and colleagues (2013) generally focused on *ad hoc* suicide prevention initiatives that have been implemented and evaluated within schools. However, there also exists several interventions with a more structured and replicable formula, enabling them to be more easily tested across different sites. While no school-based interventions have been documented to decrease youth suicide deaths through randomized controlled trials (Bennett et al., 2015), several have demonstrated efficacy in reducing suicide attempts and ideations (Calear

et al., 2016; Katz et al., 2013; Wilcox et al., 2008). Three Tier 1 interventions (promoting universal learning and behavioral support strategies to the entire school, rather than targeting specific at-risk groups or individuals; Robinson et al., 2018) that have been shown to be effective are the Good Behavior Game (Wilcox et al., 2008), Signs of Suicide (Schilling et al., 2016), and the Prevention of Escalating Adolescent Crisis Events (PEACE) protocol (Michael et al., 2015).

The aim of the Good Behavior Game is essentially to socialize children to the role of student, reducing aggressive and disruptive classroom behavior. In a classroom implementing the intervention, the teacher outlines clear rules for classroom behavior, before assigning children to teams (balanced with regard to gender and behavior). The team receives a reward if members commit no more than four infractions during the game period. By using this strategy early in the child's educational development (Grade 1 or 2), it is predicted that reductions in aggression and disruption will persist across their entire time at school, thereby also reducing the negative outcomes known to be associated with this type of behavior (including suicidality) (Suicide Prevention Resource Center, 2017).

Indeed, the Good Behavior Game has been found to significantly reduce the incidence of suicide attempts and ideation at long-term follow-up at 19-21 years of age (Wilcox et al., 2008). The protective effect is mediated by increases in social integration and acceptance, which are directly facilitated by the design of the intervention; this is particularly important for youth who were initially highly aggressive and disruptive (Newcomer et al., 2016). A particular benefit of the Good Behavior Game is its focus on implementation in early elementary school, sooner than the target age for most suicide prevention programs, and before the onset of most suicidal thoughts and behaviors (Bridge, Goldstein & Brent, 2006; CDC, 2017). However, it is also worth noting that some replication studies using the Good Behavior Game found weaker results, which

may be partially attributable to methodological limitations, but which also underscore the need for the intervention to be implemented with fidelity and ongoing support for staff (Wilcox et al., 2008).

Signs of Suicide is a school-based suicide prevention program aimed at students aged 13-18. It is an informational intervention, with the primary purpose of decreasing youth suicidal ideation and behavior by increasing student knowledge and adaptive attitudes about depression, using videos and guided discussions. Students learn to identify the warning signs of suicide and depression, and are encouraged to engage in help-seeking behaviors both personally and on behalf of any friends they suspect are struggling. At the end of the session, students complete a seven-question screening for depression, which can be anonymous, to encourage further help-seeking with professionals (Suicide Prevention Resource Center, 2016).

Signs of Suicide has also been shown to be effective in evaluation research. Specifically, research shows that middle school youth participating in Signs of Suicide were significantly less likely to report suicidal behavior than those in control groups and demonstrated improved knowledge of suicide and suicide prevention (Schilling et al., 2014). High school students had similar results, and significantly fewer suicide attempts were observed among those who participated in Signs of Suicide compared to control groups (Schilling et al., 2016). However, Signs of Suicide has been criticized based on a lack of independent replications, limited measurement of long-term impact, and several other aspects of the studies' design (Wei et al., 2015). Indeed, it has been argued that the supporting evidence for both Signs of Suicide and the Good Behavior Game is hampered by methodological limitations in studies prior to 2016 (Katz et al., 2013; Kutcher et al., 2016).

Finally, the PEACE protocol is a universal intervention which aims to provide school-based personnel with a quick but clear guide for identifying students who are at risk of harm towards themselves or others, so that students can be given the appropriate treatment and referral based on their level of risk (Marraccini & Brier, 2017; Michael et al., 2015). The evaluation is typically completed by worried teachers, family, or peers, who use item points to identify potential signs of suicidality based on social media posts, text messages, and/or the student's actions in school.

After the at-risk student is identified, an institute-based clinician will then assign a level of risk based on observations and reports of the student's behavior, temperament, and state of mind, as well as other factors which may be relevant (e.g., family history of death by suicide, ability to access lethal means). Risk stratification is then addressed using a color-coded classification representing progressively more advanced stages of risk: Green indicates current and short-lived suicidal ideation with slight or no plan; Yellow represents suicidal ideation with an unclear or no plan, and no access to means; Orange represents suicidal ideation and a plan with possible access to means; Red is the highest risk level, representing suicidal ideation and a determination for self-harm and access to the means to do so (Capps et al., 2019). After the risk level has been established, the clinician will attempt to match the student with an appropriate intensity of services, creating an independent custom action plan for the student, tailored to their specific circumstances. In this way, the PEACE protocol contains strategies for de-escalating risk, preventing future increase in risk, and directly addressing risk variables.

The PEACE protocol has so far been implemented in numerous school regions in rural western North Carolina (Goldman-Mellor et al., 2018), and appears to be effective in sharing strategies for identifying at-risk youth, de-escalating risk, helping to prevent a future increase in

risk, and directly addressing risk variables. Indeed, in one study it was revealed that there were no deaths by suicide and no suicide attempts after the implementation of the PEACE protocol (Sale et al., 2014), supporting its ongoing practicability and efficiency in schools. Additionally, the PEACE protocol has been successfully modified for application in different conditions, including three rural and tribal societies (Belhumeur et al., 2017). However, it is worth noting that there have been no independent appraisals of the PEACE protocol to date, so the early evidence should be interpreted with caution. Additionally, the fact that the protocol uses a systematic approach intended to be applied universally means there is limited scope for recognizing the specific risk factors, protective factors, specific mental health needs, and/or barriers to effective care that only emerge in certain contexts.

2.3.4 Barriers to implementing school mental health programs

Indeed, the barriers preventing the effective implementation of mental health programs within schools are critical to recognize at the onset of new projects, so that those involved can be aware of the issues which are likely to arise and proactively develop strategies to address them. Whilst many of these will inevitably be highly context-specific, others are more general in nature.

Firstly, it should be recognized that school mental health is at a greater disadvantage than other disciplines with respect to research and evaluation, due to its position within two distinct and complex fields: education and mental health. Public health researchers have developed innovative mental healthcare interventions (e.g., Insel, 2009; NIMH, 2015), but limited research exists within the field of education for student mental health. As a result, many education

practitioners remain unaware either of the importance of school mental health programs, or the correct approach for implementing them.

For example, despite consistent demonstrations of the value of universal screening for social, emotional, and behavioral risk (Dowdy et al., 2015), less than 2% of schools in the USA adopt this strategy (Briesch et al., 2018). This is especially curious given that the School Health Assessment and Performance Evaluation (SHAPE) System (National Center for School Mental Health, 2021) provides a ready-made and effective tool for schools and districts to measure their status and track improvements (Connors et al., 2016).

The fact that so few schools have effective mental health programs, despite a robust evidence base concerning effective strategies for engaging youth and their families, can be attributed to limited knowledge translation among mental health professionals in schools (Guo et al., 2014; Haine-Schlagel & Walsh, 2015). Research evidence is not tailored for easy uptake by practitioners, nor are there mechanisms for embedding the research into practitioners' daily work (Park et al., 2020). This can be seen as the largest obstacle for mental health support within schools. To address this challenge, formal collaborations between researchers and practitioners can be particularly valuable.

2.4 Research-Practice Partnerships

Critical challenges in child and youth development, such as the increasing prevalence of youth suicidality, can be effectively addressed by education researchers and practitioners collaborating on the development and implementation of proactive systems of support (McLaughlin & London, 2013). As such, the next part of the literature review focuses on RPPs, referring to structured, strategic partnerships between researchers and practitioners. This

approach places more emphasis on the *process* of implementing youth suicide prevention initiatives, highlighting the importance of understanding the context in which implementation occurs.

In this section, RPPs will be discussed within the wider context of implementation science. The broad discipline of implementation science will be introduced and discussed, focusing on key principles which will be applicable to the present research. Then, the emergence of the study and practice of formalized RPPs within implementation science will be discussed. Next, the types of research that may be carried out under the RPP are briefly summarized. Following this, design-based implementation research and the practice of infrastructuring will be reviewed, as these are effective strategies which can be used within the context of an RPP. Finally, the section will conclude with a section which details a framework for assessing the effectiveness of RPPs.

2.4.1 Implementation science

Implementation science is the term used to refer to the scientific study of the application of research findings in practice. Essentially, implementation researchers are tasked with developing and improving "methods or techniques used to enhance the adoption, implementation, and sustainability of a clinical program or practice" (Proctor et al., 2013, p. 2). For example, early implementation research revealed that research is most likely to be used in practice when it is directly relevant to decision makers, thoughtfully framed, and embedded in policymaking processes, routines, and tools (Chorpita & Daleiden, 2014; Farrell et al., 2019; Honig et al., 2017).

However, it has also been recognized that efforts to apply research findings in practice can be frustrated by contextual factors which may introduce barriers to the uptake and adherence of the intervention, resulting in its ultimate failure to have an impact. Hence, implementation researchers must also take a broader perspective than traditional researchers and devote equal consideration to the context in which the intervention is to be implemented.

The area in which implementation science has received the greatest attention is healthcare. In clinical settings, implementation researchers focus not only on the characteristics of the patient and the treatment, but also those of the provider, the organizations in which the care is given, and the policy context (Bauer et al., 2015). In doing so, clinical researchers and practitioners can develop a more detailed understanding of the barriers which prevent patients from adhering to clinical guidelines, develop strategies to reduce these barriers, and thereby increase their confidence that the recommended treatment will be successful.

2.4.2 Combining research and practice

The emergence of implementation science as its own discipline led to the development of the participatory evaluation approach, which refers to the collaboration of researchers and practitioners in the evaluation of program delivery and outcomes (e.g., Ramanadhan et al., 2018). Such collaborations can be developed further, encouraging researchers and practitioners to partner throughout the entire intervention process (e.g., initial intervention design, implementing the intervention, evaluating the intervention effectiveness, and the subsequent adaptation and re-implementation of the intervention). When such partnerships are formalized from the outset, they are known as research-practice partnerships (RPPs). A long-term collaboration aimed at educational improvement or equitable transformation through engagement with research. These

partnerships are intentionally organized to connect diverse forms of expertise and shift power relations in the research endeavor to ensure that all partners have a say in the joint work (Farrell, et al., 2021).

The primary purpose of the RPP is to ensure that the intervention is implemented effectively, helping the recipients to realize the intended benefits. Beyond this, however, the RPP also has a secondary purpose to promote the rapid development and spread of innovations to new contexts, ensuring that the implementation remains rigorous, robust, transparent, and contextually relevant across diverse settings, delivery, staff, and subgroups (Glasgow & Chambers, 2012). In this way, RPPs tend to involve the investigation of the generalizability of practical innovations (e.g., programs, treatments, guidelines, policies), with a particular focus on the contextual factors which might affect the effectiveness of the intervention.

This place-based approach (i.e., the detailed understanding of the intervention context, supported by the direct involvement of the researcher in practice) is an integral element of the RPP. Researchers should learn as much as they can about the context in which the intervention is to be delivered, drawing upon the direct experience of practitioners. Correspondingly, practitioners should be included as partners from the start of the work, ensuring that their practical expertise is used to help design the research program itself.

Indeed, the partnership between researchers and practitioners is of utmost importance in any RPP, and should be intentionally fostered using carefully designed rules, roles, routines, and protocols that structure interaction, drawing upon best practices from previous RPPs (Coburn & Penuel, 2016). Establishing the partnership in this way provides a strong foundation for a collaborative infrastructure, enabling the program to harness the benefits of both research and practice. The structure of partnerships, and the process of adaptation, can then travel from place

to place, so that others can learn from these intentional efforts to foster collaborative reform, but iterate them in their own contexts.

The end goal of the RPP is the "instrumental" use of research, which occurs when practitioners use research directly and centrally to make decisions related to policy or practice (Coburn & Stein, 2010). This contrasts with "symbolic" uses of research (e.g., when education leaders apply research as justification for a decision that has already been made about a policy change) and "conceptual" uses of research (e.g., where practitioners' use of research shapes their thinking about a specific topic but does not immediately shape a specific decision).

Overall, research evidence confirms that RPPs tend to strengthen implementation, enhance the success of community health programming and partnerships, and streamline access to evidence-based knowledge and practices at the community level (Bryk et al., 2015). Therefore, it can be confirmed that RPPs are appropriate vehicles through which to implement interventions and are particularly well suited for ensuring that the intervention fits the local context.

2.4.3 Types of research within a research-practice partnership

To ensure that research is used instrumentally and effectively, researchers and practitioners within RPPs should work together to define the research questions (with direct implications to policy and/or practice), and then determine the best research methods to use to address these. Indeed, various types of research might be utilized at different stages of an RPP. Here, the academic expertise of the researcher is particularly valuable, in ensuring that all those involved in the RPP have a clear understanding of the strengths and limitations of different types of research, and that these considerations are considered when implementing extant research or

designing new studies. However, it is also important to ensure that practitioners should be on an advisory panel when studies are being designed, ensuring that practical realities are considered. In this way, the members of the partnership can work together to ensure that the most appropriate type of research is utilized from a range of different options, helping to reinforce the long-term output of evidence-based decision-making and the production of useful research

Perhaps most obviously, to ascertain whether the co-designed intervention had the intended effect, it is necessary to measure the key constructs of interest before and after the intervention (i.e., a pre-post study design). Typically, this would be done using quantitative methods, although qualitative measures may also be useful too. This type of study is known as evaluation research and encompasses any research methodology which is motivated by the assessment or appraisal of an intervention.

For some other types of research (e.g., meta-analyses of studies, foundational research), it may appear at first glance that there is no obvious way for them to be integrated within an RPP. However, if there are even indirect implications for practice, then such research can still be valuable for an RPP. For example, a systematic review or meta-analysis could be used to gather and assess evidence on a particular topic, helping to inform important decisions such as the design of the intervention and the most appropriate scales to use to measure key constructs.

Without boundaries on methodology, then, RPPs allow different approaches to research to be employed. For example, the improvement science methodologies developed in the disciplines of manufacturing and healthcare could be used (Bryk et al., 2015), and so too could other novel methods for synthesizing research evidence and translating it into practice be generated (Lipsey, 2014). Researchers themselves will also need to acquire non-traditional skills, including communicating with diverse audiences and imagining research agendas from a practice

perspective. As such, training programs for both researchers and practitioners will be needed to build the human capital pipeline for partnership work (Fleischman, 2013).

2.4.4 Design-based implementation research

As well as incorporating various types of research design, RPPs have also utilized different strategies to facilitate effective partnerships between researchers and practitioners. In particular, one of the most important aspects of the RPP is to ensure that the partnership has a deep understanding of the site at which the intervention is to be implemented, so that the proposed innovations "fit" these complex contexts. To achieve this, the strategy of design-based implementation research (DBIR) can be particularly valuable.

DBIR attempts to bridge the gap between research and practice by using an iterative approach to bring together researchers (who typically design interventions) and practitioners (who are expected to implement the interventions) in establishing effective, sustainable, and scalable interventions (Fishman et al., 2013). Penuel and colleagues (2011) note that DBIR follows other forms of RPP by encouraging practitioners to be engaged in a model of "collaborative, iterative, and systematic research and development", but can be differentiated by the fact that it adopts an explicitly "practice-centered" problem definition (Penuel et al., 2011, p. 331).

Crucially, DBIR places a high priority on the context in which implementation occurs, recognizing that designs are not independent of the complex ecosystems in which they will be integrated. This necessitates the researcher to spend time working alongside facilitators, which is one of the most important distinguishing characteristics of DBIR. By developing first-hand experience of the situated interactions within the implementation context (i.e., the culturally and

historically organized material, social, and built environment), researchers improve their capacity to define persistent problems of practice and commit to iterative and collaborative intervention designs. The involvement of researchers in the practice context helps to ensure overall buy-in for the research project and increases the likelihood that the innovations will be usable in a range of contexts (LeMahieu et al., 2017).

In this way, research stakeholders and implementation facilitators are engaged as collaborators, whose potential actions can become part of the design *in situ.* The design and the context are considered parts of a distributed ecosystem, wherein some contexts are better able than others to realize the effectiveness of a design. Therefore, when introducing a paradigm-changing innovation, an implementation site is needed which is not only "tolerant" of disruptive innovations (Christensen, Baumann, Ruggles & Sadtler, 2006; Christensen, Johnson & Horn, 2016), but is also positioned to maximize their potential. To support the process of embedding a disruptive innovation, a key feature of DBIR is "infrastructuring".

2.4.5 Infrastructuring

At a simple level, the key feature of infrastructuring is creating "reliable working infrastructures" (Star, 2010, p. 610), where an infrastructure can be understood as the network of tools, relationships, standards, and protocols that individuals or groups rely on to carry out daily tasks and accomplish goals (Pipek & Wulf, 2009). The process of infrastructuring therefore focuses on building a foundation for change by attending to who or what is already in place, while also seeking to build networks that can make significant and broad changes to practice (Penuel, 2015). Where traditional design projects tend to focus on the design of a single tool to

address a single aim, infrastructuring focuses on multiple tools and their relation to one another in support of the many goals that actors may have.

The process of relationship-building takes primacy in infrastructuring. Social practices are continually changing (Star & Ruhleder, 1996), and so designers who may initially have been outsiders to a system can aim to become part of it, can cultivate long-term relationships with other actors inside the system, and build a network where co-design is commonplace (Emilson, Hillgren & Seravalli, 2014). In general, projects may collapse if the interests, values, goals, or ways of working of the different actors conflict with one another. To overcome this, the process of infrastructuring discourages following "pre-defined plans", and instead encourages design teams to engage in "patchwork efforts" focused on "continuously matching different stakeholders and their respective agendas" (Emilson et al., 2014, p. 55). Developing accounts of these patchwork efforts is a distinctive feature of DBIR, as it allows for an explicit focus on issues that emerge early in implementation, and subsequently enables direct responses to those issues.

In this sense, infrastructuring can be thought of as part of the invisible background of work, e.g., a "system of substrates" like electrical power grids and highways (Star & Ruhleder, 1996). Focusing design efforts on a "working infrastructure" means making sure that the educational intervention "plugs into" other infrastructures and tools in a standardized way. In this way, the process of infrastructuring should be considered a key part of any RPP.

2.4.6 Assessing the effectiveness of research-practice partnerships

A framework to assess the effectiveness of RPPs was developed by Henrick et al. (2017). This can be a helpful tool for members of the partnership to use, at the onset of the project,

during the project, and after the project, to increase the likelihood that the RPP will achieve its objectives and ensure that lessons are learned and applied in subsequent RPPs.

Specifically, the framework proposes that five dimensions of RPPs should be periodically assessed. The first of these is "building trust and cultivating partnership relationships". This is assessed by evaluating different aspects of the researcher-practitioner partnership, such as the level of collaborative decision-making in the partnership and the extent to which RPP members recognize and respect each other's perspectives and areas of expertise.

The next dimension is "conducting rigorous research to inform action". Here, the assessment focuses on the quality of the research design and the extent to which findings are embedded into practice. For example, different assessment indicators include whether the research conducted adequately addresses problems of practice facing the practice organization; whether the processes for collecting, organizing, analyzing, and synthesizing the data are fit for purpose; and whether findings are shared in a way that take account of the needs of the practice organization.

The third dimension is "supporting the partner practice organization in achieving its goals". The focus of the assessment for this dimension includes a determination of the extent to which RPP provides research and evidence to support improvements in the organization, identifies productive strategies for addressing problems of practice, and informs the practice organization's implementation and ongoing adjustments of improvement strategies.

Next, the fourth dimension is "producing knowledge that can inform educational improvement efforts more broadly". To meet this dimension, the RPP should be able to demonstrate that it has developed and shared knowledge and theory that contributes to the research base, as well as new tools and/or routines that can be adapted to support improvement

work in other settings. Additionally, the RPP should develop two dissemination plans, one of which supports partnership goals, and one which is broader and more general.

Finally, the fifth dimension is "building the capacity of participating researchers, practitioners, practice organizations, and research organizations to engage in partnership work". The assessment here focuses on the extent to which the process of conducting an RPP helped inspire positive individual and organizational change. For example, different assessment indicators include judgments on whether team members have been supported to assume new roles and develop the capacity to conduct partnership activities, and on whether there is a meaningful change in the organization's norms, culture, and routines around the use of research evidence.

To use the framework effectively, members of an RPP should discuss each of these dimensions at the onset of the project. Different strategies should be proposed for meeting the various indicators listed for each of the five dimensions, thus helping to ensure that the RPP has the maximum chance of success. Then, as the project continues, the framework can be periodically reviewed to check progress against these initial objectives. If any barriers have unexpectedly risen that hinder progress against any indicator or dimension, the RPP should discuss these openly and develop strategies for resolution. The paper by Farrell and colleagues (2018) demonstrates how this framework was effectively used in the context of an education-based RPP, confirming its utility for the RPP described in this dissertation.

2.5 Research-Practice Partnerships in Education

The next section turns to the use of RPPs specifically within the discipline of education, exploring what is known about the characteristics of effective partnerships in schools and other

teaching facilities. First, general principles for embedding educational research into practice are considered. Next, recurring features of successful RPPs within education are highlighted and discussed. Finally, a conceptual framework for research-practice partnerships in education is described.

2.5.1 Embedding education research into practice

Implementing research into practice is also applicable to the domain of education. Traditionally, this would be limited to the application of evidence-based educational innovations within schools and other teaching facilities. Research work would be translated for and shared with educators, who would then be expected to implement the innovation themselves. In most cases, the actual success of the implementation is rarely measured, as it can be difficult for schools and districts to commit resources to evaluative work (e.g., data collection, quality improvement) when no immediate reward is apparent, and they may also lack the expertise to perform the evaluative work. When researchers have been able to evaluate the effectiveness of this approach, the results have suggested that these externally designed interventions (intended to be delivered across a wide range of facilities) are typically difficult to implement at local sites and tend to have limited effectiveness (Nordstrom, LeMahieu & Berrena, 2017).

Nonetheless, as education leaders are increasingly held responsible for the academic success of their students (Clifford, 2015; McMahon, Peters & Schumacher, 2014), it becomes increasingly important for schools to be able to make valid and reliable judgements about the effectiveness of the interventions they use to improve student outcomes. Hence, the effective application of research, and the ongoing evaluation and refinement of interventions, is becoming a priority in educational practice.

Implementation science in general, and the use of RPPs in particular, is an integral part of achieving this aim. Indeed, it has been demonstrated that the implementation of educational innovations can be more effective if the program is explicitly designed to suit the context in which it is to be delivered and supported by an on-site facilitator working alongside the educators themselves (Correnti & Rowan, 2007). Furthermore, research shows that facilitated engagement sessions within educational environments are an effective tool for fostering structured and informal opportunities for iterative learning throughout the policymaking process (Cvitanovic, McDonald & Hobday, 2016; Neal et al., 2018). Hence, there is good evidence to support the use of RPPs in education.

RPPs in education should seek to foster close collaboration between those who are primarily responsible for designing and evaluating educational innovations (researchers) and those who are primarily responsible for implementing these innovations and ensuring they are embedded in continued practice (teachers and education policymakers). To derive the maximum benefit for educators, communities, and service providers (e.g., Coburn et al., 2012), the RPP should seek to:

- Identify problems of existing education practice.
- Develop mechanisms for evaluating and applying existing education research in practice.
- Perform a comprehensive analysis of the education context.
- Co-design and implement evidence-based and locally-tailored solutions to address the identified problems.
- Continually evaluate and refine the process of implementation.

2.5.2 Characteristics of effective research-practice partnerships in education

It should be noted that not all RPPs are equally successful, and so it is also necessary to understand the ways in which the characteristics of RPPs influence educators' use of research evidence. Unfortunately, the RPP field lacks frameworks and tools for examining the impact of these efforts and providing ongoing implementation feedback that these partnerships can use to improve and grow (Coburn & Penuel, 2016). Hence, the goal of this section is to perform a brief narrative review to articulate some of the strategies which have been found to be particularly effective in fostering RPPs in education and leading to more positive outcomes.

The first important consideration regarding the use of RPPs in education is to assess whether the implementing unit or organization (e.g., the school, community center) is ready and able to successfully sustain an improvement-change (Farrell & Coburn, 2017). This points to the "absorptive capacity" of partnerships. Specifically, absorptive capacity is the ability of educational leadership to recognize the value of new information, to assimilate it, and to apply it in novel ways as part of organizational routines, policies, and practices. Organizational leaders must identify available and needed knowledge (acquisition), use it to either create processes and routines to incorporate it into current practice (assimilation) or to develop new solutions (transformation), and then apply it to new problems (exploitation) for implementation to succeed and be sustainable (Cohen & Levinthal, 1990; Zahra & George, 2002).

Even if the implementing organization has high absorptive capacity, there is no guarantee that the intervention will be successful. Additional criteria are also needed to increase the likelihood of an effective partnership. By examining past and current RPPs in education, Tseng, Easton, and Supplee (2017) identify three salient principles that contribute to RPP success in this context:

1. Collaborations must be mutually beneficial to both practitioners and researchers.
2. Ongoing research in a practice area increases the likelihood of addressing a persistent problem, because it offers a cycle of learning and doing.
3. Partners should trust one another and help each other succeed, ensuring that agreements are not violated.

The first element, mutual beneficence, can be facilitated by ensuring that the RPP starts with a jointly defined research agenda, so that all partners are clear about the aims of the partnership and the strategies that should be used to achieve those aims. This requires high absorptive capacity among the education leaders, ensuring that they are open to the idea of using knowledge from implementation science for continuous improvement cycles. The success of the partnership relies upon all partners (not just the researchers) being involved in carrying out the functions of dissemination and implementation (Wandersman et al., 2008).

The second element highlights the fact that single, stand-alone studies rarely influence practice. Instead, continuous, ongoing research is a better strategy for ensuring research findings and can be easily converted into practical tools to inform policy. This approach is demonstrated effectively in the snapshot system developed by Suppovitz and colleagues (2004) during a partnership between the Duvall County School District and the Consortium for Public Research in Education. In their designed routine, educational leaders first articulate what the different levels of implementation of the instructional initiatives look like before these are embedded into rubrics and walk-through protocols. Next, researchers collect extensive data of implementation using those tools, and then use the data to both spread best practices and make organizational adjustments (Suppovitz, 2006; Suppovitz & Weathers, 2004). This can also be viewed as a good

example of organizational learning, since the routine becomes integrated into the ways that central office staff work within the schools.

The third task, following the establishment of a mutually-beneficial partnership committed to continuous research and improvement, is to foster trust among researchers and practitioners. Broadly described, partners collaborate to "fine tune programs, interventions, or regimens of activities through iterative processes that rely heavily on measurement, quick studies and refinement" (Easton, 2013, p. 18). Developing trust enables increased capacity of all involved for partnership work (Wentworth et al., 2017).

Overall, the achievement of the three principles set out by Tseng and colleagues (2017) will help the RPP to develop "co-creative capacity", thereby increasing the chances of effective research and implementation. Specifically, co-creative capacity involves the union of scientific resources, governance capability, and adaptive leadership at multiple- and whole-system levels, helping to create the infrastructure and conditions necessary for the sustainable use of evidence (Metz, 2015). In turn, this enables increased role clarity and shared commitment among interconnected researchers and practitioners, enhanced synergies among complex and adaptive knowledge systems, and the optimization of evidence use in local contexts to foster sustainable outcomes.

With strong co-creative capacities, implementation strategies for a particular place can then be converted into widely applicable tools, methods, and practices for enhancing research and action on socio-environmental challenges, across a range of disciplines. In this way, RPPs can become vehicles for using research in educational settings and helping educational organizations in their local improvement goals (Bryk et al., 2015), particularly when they focus

on persistent problems that are identified by educational leaders (Allensworth, 2013; Farrell et al., 2017).

2.5.3 A conceptual framework for research-practice partnerships in education

Farley-Ripple and colleagues (2018) synthesized the relevant research literature to develop a conceptual framework for RPPs in education (shown in Figure 2), which can be used to guide future partnerships. The academic partner, as the primary "research broker" who is responsible for sharing academic evidence with practitioners in the partnership, should be cognizant of this framework and ensure that its key implications are applied within the RPP.

Within the framework, the term "depth" is used to characterize research use and production within an RPP (i.e., the activities, roles, routines, and tools by which research meaningfully and systematically informs educational decisions). Specifically, depth is conceptualized as having six dimensions: evidence (i.e., the extent to which scientific research is evaluated and used); search and dissemination (i.e., the thoroughness and scope of the search for relevant literature); interpretation (i.e., the extent to which decision-makers interpret and generate research in informed and critical ways); participation (i.e., the breadth of individuals included in the decision-making process, ideally spanning organizational boundaries and including members of both the research and practice communities); frequency (i.e., the extent to which the collection, evaluation, and application of research evidence is institutionalized in decision-making practices); and decision stage (i.e., the extent to which research is used at different stages of the decision-making process).

The conceptual framework also recognizes the possible existence of gaps in the perspectives and assumptions of researcher and practice communities when entering the

partnership, which can adversely affect the depth of research use and production. Specifically, the framework identifies potential gaps across five key areas: in the perceived usefulness of research products; the nature and quality of the research; the problems that the research should address; the structures, processes, and incentives for producing and using research; and the specific relationship between the communities in education research and education decision-making.

The greater these gaps, the greater the "community dissonance", leading to lower research use and/or the use of research which lacks depth. Conversely, if these gaps are minimized, greater and deeper use of research will occur. Thus, at the onset of an RPP in education, partners should make use of the framework by explicitly testing the extent to which research-practice gaps are evident across each of these five areas. Where gaps are identified, these should be discussed in detail, with the aim of reaching a solution to improve the alignment between researchers and practitioners. This will serve to reduce community dissonance, which in turn can be predicted to improve research depth, thereby leading to a more successful and effective RPP.

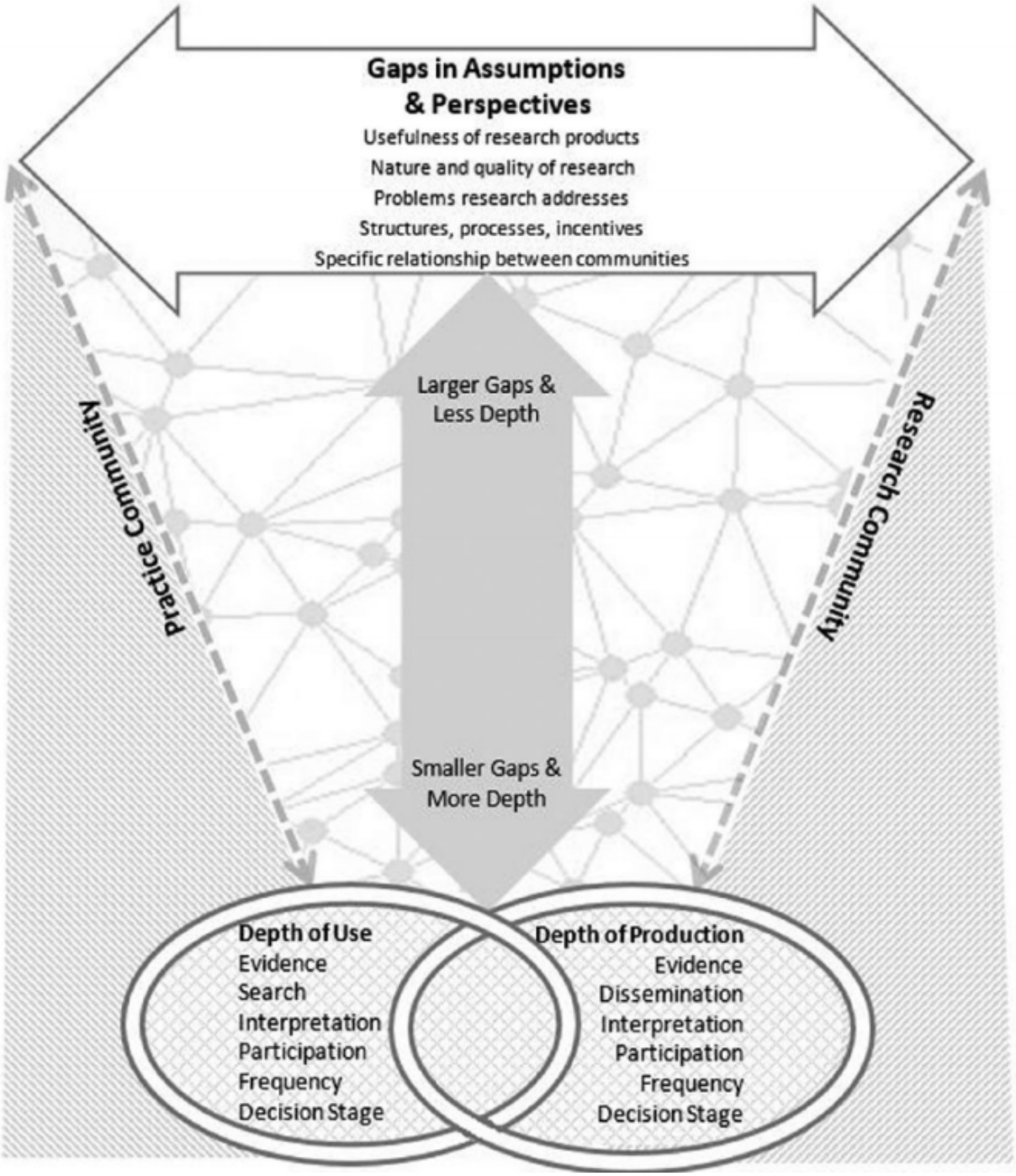

***Figure* 2. A conceptual framework for improving research-practice partnerships in education, taken from Farley-Ripple *et al.* (2018)**

2.5.4 Potential benefits of research-practice partnerships in youth suicide prevention

In the previous sections, evidence has been provided to support the use of RPPs in healthcare and in education. Research and practice into youth suicide prevention encompasses both of those categories, in that it involves a healthcare intervention in an education setting. As such, there is good reason to believe that RPPs can support the implementation of various evidence-based tools for preventing youth suicide. At present, however, there are no previous examples of RPPs focusing specifically on youth suicide prevention.

Youth suicide prevention RPPs could be beneficial in various ways. For example, RPPs could help to support the administration and precision of screening instruments for suicide risk in schools, and for matching at-risk individuals to an appropriate level of care. Additionally, RPPs could be used to ensure that evidence-based interventions for suicide prevention are delivered with high level of quality across a range of school mental health modalities (including technology-assisted fidelity aids and tele-health, or other sustainable approaches to consultation). Unfortunately, at present relatively few RPPs with the aim of reducing youth suicidal ideation and/or behavior have been conducted.

2.6 Summary

2.6.1 Summary of literature review

This chapter has provided a detailed summary of both the key theoretical and practical considerations for youth suicide prevention within schools. The first two sections explored key risk and protective factors for youth suicide. First, the IPTS was shown to be a valid framework for understanding suicidality in both adults and youth. It demonstrated that suicidal ideation is essentially a cognitive-affective phenomenon, characterized by an increased sense of

burdensomeness and a decreased sense of belongingness. The risk of imminent suicidal behavior is heightened when the individual also acquires the capability of self-harm. Hence, it is critical for youth suicide prevention initiatives to explicitly consider how specific intervention strategies might be used to address feelings of perceived burdensomeness and thwarted belongingness, to reduce suicidal ideation.

In the second section, the concept of adolescent connectedness was discussed as a factor which could enhance resilience against suicidality. Using the IPTS, it was shown that adolescents can experience connectedness across 15 social ecologies, arranged into three higher-order dimensions (connectedness to self, connectedness to others, connectedness to society). One form of connectedness in particular, school connectedness, was reviewed in detail, and it was demonstrated that adolescents with higher school connectedness experienced higher perceived belongingness and lower perceived burdensomeness, thereby reducing their risk of suicidal ideation and behavior. Therefore, it was concluded that youth suicide prevention initiatives should also explicitly seek to foster school connectedness.

The third section reviewed existing practice into school-based youth suicide prevention, considering both specific programs and more general factors which affected the effectiveness of the implementation. Here, it was revealed that the majority of school interventions occur at the universal level (targeting the entire school population) or the selective level (targeting a sub-population with a higher risk of developing a mental health disorder), but they may also do so at the indicated level (targeting specific individuals displaying signs or symptoms of a mental health disorder). The most significant barrier currently affecting the implementation of evidence-based school mental health programs is a lack of support for embedding research into practice,

suggesting there is a need to foster more effective partnership between researchers and practitioners.

Offering a potential solution for this issue, the final two sections turned to the use of RPPs as a vehicle through which to support collaborations more effectively between research and practice. In the fourth section, the emerging discipline of implementation science was introduced, and it was discussed that the study of formalized RPPs rose out of this discipline. The different types of research that might be conducted within an RPP were discussed, including a broad range of potential research methodologies in addition to the more commonplace use of evaluation research. The strategies of DBIR (i.e., researcher spending time working alongside facilitators at the site where the intervention is due to occur) and infrastructuring (i.e., the process of seeking to build networks that can make significant changes to practice) were also discussed. Finally, a framework for assessing the effectiveness of RPPs was provided.

The fifth section reviewed RPPs in the context of education. The benefits of RPPs over traditional forms of evaluation in education were noted, as were the core activities that should form the basis of an RPP in education. Then, the characteristics of effective RPPs in education were reviewed. In particular, the importance of developing co-creative capacity by establishing a joint research goal, committing to continuous evaluation and refinement, and developing a trusting relationship between researchers and educators was highlighted. Finally, potential benefits of using RPPs to address the issue of youth suicide prevention. In particular, it was suggested that this could be more effective than existing approaches because it allows for better knowledge translation between mental health researchers and education practitioners, and also allows for interventions to be more effectively adapted to the local context.

2.6.2 Linking the literature review to the present research

Having completed this comprehensive review of the literature, the chapter will now conclude with a brief description of the research in the present study. As Chapter 1 illustrated, there are particularly high rates of mental health issues and suicide amongst young people in Klamath County. Tribal children and adolescents are at particular risk, and often lack access to effective healthcare provision. Therefore, the research aimed to address the pressing need for youth suicide prevention interventions in Klamath County, by developing insight into how to improve the accessibility and effectiveness of existing services.

Each section of the literature review had important implications for the design of the research and any subsequent recommendations for practice, in order to maximize the likelihood of effective outcomes. For example, the discussion of the IPTS and school connectedness highlighted the key theoretical principles that needed to be kept in mind when designing a youth suicide prevention action plan. In particular, the importance of reducing perceptions of thwarted belongingness and perceived burdensomeness, whilst increasing perceptions of school connectedness, was highlighted.

However, even if the designed intervention adheres perfectly to these principles, there is no guarantee that it will be effective. In the third section of the review, it was shown that various contextual factors may arise which prevent the intervention from being successful in practice. For example, in Klamath County, the relatively high proportion of AI/AN individuals might be a key contextual factor which needs to be taken into account; existing issues with mental healthcare are compounded by historical mistrust of public agencies within tribal communities, which can make it more difficult for healthcare practitioners to engage with the people most in need of help. For this reason, it is crucial for researchers and practitioners to work together to

understand how any evidence-based interventions can be effectively tailored, mitigating any barriers that are particularly localized to the context where the intervention will be delivered.

The final sections of the literature review revealed that formalized RPPs can be an effective vehicle for addressing critical challenges in youth development, including youth mental health issues. The use of DBIR was highlighted as critical for developing a comprehensive understanding of the local context. For the RPP itself, the principles of mutual beneficence, the continuous use of research evidence, and the fostering of trust between the research and practice communities, were highlighted as critical considerations affecting the effectiveness of partnerships. Few previous RPPs have been conducted specifically for youth suicide prevention, however the principles discussed in this part of the literature review should be as applicable to this outcome as they are to other youth development outcomes.

2.6.3 Research purpose

The implications which emerged from the literature review were used to shape the focus of the present research. Specifically, to address the issue of youth suicide in Klamath County, an RPP was set up between the University of Oregon (UO) Suicide Prevention Lab and the Klamath County Suicide Prevention Coalition. The overall aim of the RPP was to create an action plan for improving the accessibility and the effectiveness of youth suicide prevention services in Klamath County, to ultimately reduce the prevalence of youth suicide within Klamath County.

To assist with this, the purpose of the research component of the RPP was essentially to gather insight which could then be used to support the creation of the action plan and the subsequent development and implementation of locally-tailored youth suicide prevention initiatives. In particular, the research aimed to better understand both the perceptions of key

stakeholders in Klamath County and the process of carrying out an RPP in youth suicide prevention.

2.6.4 Research questions

The research program was guided by four main research questions, highlighting specific areas of focus:

1. What are the limitations of current youth suicide prevention services in Klamath County?
2. What are the strengths of current youth suicide prevention services in Klamath County?
3. What are the main factors affecting youth mental health in Klamath County?
4. What are the strengths and limitations of using RPPs as a means by which to address youth suicide prevention?

CHAPTER III: METHODS

In this chapter, the methodology used in the present research is explained in detail, including the methods that were utilized to collect the research data. Firstly, the establishment of the RPP is detailed, including the co-design and stakeholder engagement processes which were used to inform the research design. This then leads to the specification of three individual research studies to be carried out as part of the RPP, as well as the overall approach to research which guided the process. Next, each of the three research studies are separately described in more detail, including descriptions of the process for data collection, the samples for the studies (including the characteristics of the participants, the inclusion and exclusion criteria for the participants, and the sample size), and the approach to data analysis. Finally, the ethical procedure employed throughout the research is elucidated.

3.1 Establishing the Research-Practice Partnership in Klamath County

To enable these research questions to be addressed, and to support the implementation of more effective youth suicide prevention programs in schools within Klamath County, an RPP was set up between the UO Suicide Prevention Lab (a research group within the College of Education, whose main purpose is to implement and evaluate a statewide suicide prevention initiative) and the Klamath County Suicide Prevention Coalition (a community-led coalition of practitioners engaged in a variety of suicide prevention work in Klamath County). In this section, the purpose and formation of the RPP will be described in more detail.

3.1.1 The formation of the research-practice partnership

In the AI/AN population, community engagement, capacity building, and collaboration are vital for successful intervention and prevention strategies (Rasmus et al., 2019; Wexler et al., 2015; Whitesell et al., 2018). Furthermore, strategies that increase both cultural engagement (Allen et al., 2018; Rasmus et al., 2019) and network factors, such as connectedness with caring adults and elders in the community, are protective for youth at risk of suicide and alcohol use disorder (Philip et al., 2016). As such, it was crucial to ensure that we engaged with the Klamath Tribes in order to understand the local context, and how any interventions we selected might need to be tailored to be culturally relevant and appropriate.

The idea for a research partnership with AI/AN community members and education and mental health practitioners first arose during a session to brainstorm ideas and present current work within our UO Suicide Prevention Lab research group, when a doctoral student of Native heritage mentioned that a youth in her tribe had died by suicide, and that there had been several similar cases recently too. I was brought into this conversation as a fellow doctoral student and evaluation team member who had good prior experience with community-focused work, and who was therefore able to offer useful suggestions on working collaboratively with partners from outside academia. Specifically, I have prior experience in conducting RPPs and DBIR, and suggested to the others that these would be suitable mechanisms through which to conduct research seeking to both learn from, and have a lasting impact upon, practice.

Therefore, we decided to contact the Klamath Suicide Prevention Coalition, who we were already aware of through our work in the UO Suicide Prevention Lab, and who we knew included numerous youth suicide practitioners in the county, as well as professionals who were particularly focused on AI/AN community work. We contacted them and asked about the

possibility of setting up an RPP which would focus on better understanding the context of youth suicide in the county, so that a more comprehensive action plan could be developed to tackle the issue. We suggested that the RPP should have a particular focus on AI/AN youth given that this group are at the highest risk, but also proposed that other youth should not be excluded from the research. Fortunately, the Coalition saw the value in the proposal and agreed to assume the role of partner practice organization in the RPP.

In addition to the core membership of the partnership, colleagues from the Alliance to Prevent Suicide and the OHA were also informally invited to support the partnership activities at certain decision points.

3.1.2 Purpose of the research-practice partnership

Once the RPP had been established, an important first step for partnership members was to clearly define the purpose and goals of the RPP. Specifically, it was agreed that the overarching purpose of the RPP would be to identify and address gaps in programs and services for suicide prevention, suicide postvention, and mental health promotion at the school level within Klamath County. The insight gained through the practice-oriented research program could be used to directly inform the YSIPP, thereby improving the capability of community partners to support youth development and suicide prevention. In this way, the RPP would achieve its key outcome of developing an action plan to support the implementation of more effective youth suicide prevention programs in the county.

Two broad priorities were kept in mind when determining the key areas of focus for the RPP. The first priority was to consider how research could be used more routinely and constructively in youth suicide interventions and planning within Klamath County, focusing on

the implementation strategies and networks required by policy and practice organizations. In particular, a key aim of the RPP was to develop understanding into the context of youth suicide prevention services in Klamath County by surveying the perceptions of key stakeholders, and then embedding this research into practice.

The second priority was to focus on tailoring interventions to the local context, with a particular emphasis on ensuring that the services would be accessible to and effective for the AI/AN community. This was to be achieved in two ways. First, the researcher would work closely with AI/AN community members when designing the research, ensuring that the surveys will help to identify the challenges faced by the community. Second, following the completion of the research, the findings would be shared at a gathering of AI/AN community members to ensure that influential members of the community understood the context of youth suicide prevention services within the county including the strengths and limitations of existing approaches, thus enabling the group to co-develop solutions for improving locally-tailored services and strategies.

3.1.3 Taking stock of current practice

Having defined the purpose of the partnership, an important next step was to take stock of current youth suicide prevention practice in Klamath County. At this stage it was important that I (as a researcher within the partnership) became immersed in the ecosystems in which the educational interventions would be delivered. In other words, I needed to understand the day-to-day working patterns of suicide prevention staff and educators, including the resources they used and the challenges they faced in their roles. Additionally, as per Objective 6.1a of the Oregon YSIPP, it was also important for me to identify and understand "gaps and opportunities for staff

training and protocol development on suicide prevention and postvention" in schools (YSIPP, 2015, p. 48). To achieve these objectives, I worked alongside Suicide Prevention Coordinators (SPCs) from the Klamath Basin Behavioral Health and Klamath Tribal Health and Family Services, Native Youth Suicide Prevention division. The role of the SPCs was to provide proactive, solution-focused technical assistance related to program adoption, implementation, and sustainability for local YSIPP teams in Klamath County, and to liaise regularly between the university prevention team and local teams.

By working alongside the SPCs and conducting informal interviews with stakeholders during my working day, I was able to get a better understanding of the context in which the youth suicide prevention initiatives will be delivered. Specifically, I was able to learn more about the work they conducted in Klamath County, including what they thought the key challenges to their work were, and the barriers to making even more of a positive impact. I recorded my observations from my community and public-school work in detailed field notes, which I returned to when designing the research studies.

3.1.4 Stakeholder engagement

To build and maintain our RPP, informal meetings were held with members of the Klamath Tribal Council to discuss their role in the partnership. The Tribes were a member of the Coalition, and had a particular interest in strengthening their network, and improving the relationship-building which had historically been lacking. As such, we decided that it would be valuable to hold a meeting with them to describe RPPs as an implementation strategy, to gain their input into the proposed research and answer any questions they had, and to seek buy-in for the partnership.

These meetings were valuable for ensuring that we were able to harness the expertise and knowledge of Klamath Tribal community members throughout the research. For example, feedback from one these meetings helped us to find a suitable site for one of the research studies and hosted in-person meetings. Moreover, establishing this relationship with the Klamath Tribes helped to mitigate the risk of a lack of trust within the host community, as we were able to demonstrate the likely benefits of the project and address concerns, they may have had by meeting with community members directly and discussing the research with them.

We also conducted stakeholder engagement activities with the Klamath Tribal Health and Family Services, Native Youth Suicide Program, and the Alliance to Prevent Suicide, to gain wider stakeholder approval and feedback for the project by holding meetings with each group. In these sessions, we described the purpose of the research, together proposed and discussed ideas for carrying out the project and invited feedback on different aspects of our plans.

3.1.5 Adhering to principles for design-based implementation research

It was important for the RPP's work in Klamath County to be grounded in the core elements of DBIR, as described by Penuel and colleagues (2011). These included: (a) a focus on persistent problems of practice from multiple stakeholder perspectives; (b) a commitment to iterative, collaborative design; (c) a concern with developing theory related to both classroom learning and implementation through systematic inquiry; and (d) a concern with developing capacities for sustainable change in systems. These principles were reviewed at the onset of the RPP, and various strategies were then used to ensure that they were adhered to.

To acknowledge the vital role of relationship-building and recognizing multiple stakeholder perspectives during the DBIR process, numerous patchwork efforts were made so

that the research could align as seamlessly as possible with existing practices in the tribal context. In addition to the stakeholder engagement strategies, a literature review of tribal best practices, a cultural connectedness survey measure, a cultural connectedness program evaluation measure, and relevant historical data with a focus on the Klamath Termination Act (1954) and the Restoration of Federal Recognition (1986) were developed. Moreover, taking the time to work alongside the SPCs and educators in Klamath County helped to prioritize "situated" design and build foundational knowledge about the conditions that would support the crafting of coherent state-level school activities and systems, rather than relying solely on previous practices.

3.1.6 Incorporating best practices for research-practice partnerships

Finally, it was also important to adhere to best practices for the use of RPPs in education. At the onset of the RPP we reviewed and discussed the three principles for successful RPPs in education put forward by Tseng and colleagues (2017): (a) mutual beneficence, (b) ongoing research in the practice area, and (c) trust between researchers and practitioners. Again, a series of strategies were used to ensure that these principles were incorporated to the maximum extent possible.

First, **mutual beneficence** was promoted through continual engagement with the practice organizations who had an interest in the research. Specifically, efforts were made to ensure that the planned research would help to yield valuable insight for the practice organizations, that the research would help to shape more effective interventions for the practice organization, and that any feedback offered by the practice organization was adopted. Early RPP meetings helped to ensure that the Coalition agreed that the research would be beneficial for them, and stakeholder

engagement activities helped to ensure that the same was achieved with the other organizations affected by the research.

Second, **ongoing research** in the practice area was addressed by the proposed research itself, which is described in more detail in the following section. Briefly, we put forward a plan of research that would help us address the research questions specified in Section 4.2 and the purpose of the RPP specified in Section 4.3.3. Again, this was agreed upon by both the research and the practice representatives of the partnership, reinforcing the criterion of mutual beneficence. The research was specifically designed to identify persistent problems of practice, so that an action plan might be formulated to address these problems.

Third, **mutual trust** was addressed by the way in which the RPP was structured. By immersing myself in the practical context and leading different stakeholder engagement activities, I was able to establish trusting relationships with partners in the RPP and non-members who were also interested in the research. To reinforce this trust and further develop effective relationships between partnership members, certain strategies were used within the RPP meetings themselves. Evaluating these strategies is a focus of one of the research studies in the RPP and will therefore be discussed in more detail later on.

3.2 Individual Research Studies

The previous sections have described the formation of the RPP and the key activities that were undertaken to better understand the needs and requirements of the partner practice organization, and other groups who might also be affected by the research. This helped us to establish a clear plan for research which would enable us to address our four broad research questions, concerning the strengths and limitations of current youth suicide prevention services

in Klamath County, the main factors affecting youth mental health in the county, and the strengths and limitations of the RPP method itself. Specifically, to address these questions, two questionnaires were created to survey the insights of key stakeholders, and a plan to qualitatively assess the effectiveness of the RPP was developed.

With respect to the survey research, the first questionnaire (the "Klamath County Community Needs Assessment" was designed to survey the perceptions of professionals who worked directly or indirectly in youth suicide prevention in Klamath County, and the second questionnaire (the "Klamath County Youth Survey") was designed to survey the perceptions of a sample of young people in Klamath County. Each questionnaire had its own specific aims and research questions. In both studies, the research questions were designed to first yield descriptive statistics regarding respondents' perceptions about specific aspects of youth suicide prevention in Klamath County, and then follow-up inferential statistics to determine whether responses differed significantly between specific groups of respondents.

For the qualitative research, the plan was to use Henrick et al.'s (2017) indicators of effectiveness for RPPs in education as a tool to evaluate the present RPP, once the key partnership activities had been completed. Specifically, the plan was to use Henrick et al.'s (2017) indicators as a coding framework, which could then be applied to the written notes and agendas of the meetings that were held by the RPP. This would enable the successes and areas of improvement of the RPP to be identified, and also provide insight into the strengths and limitations of RPPs in the context of youth suicide prevention more generally.

3.2.1 The Klamath County Community Needs Assessment

The aim of the Klamath County Community Needs Assessment was to survey individuals across Klamath County who are already engaged with, or could provide insight into, the youth suicide prevention services in the area. The questionnaire was therefore designed to collect information on professionals' awareness of suicide prevention training, interventions, and resources; on their perceptions about the barriers to effective youth suicide prevention and the key needs which should be addressed; and, also, on the suicide prevention or mental health training that they had personally received. An additional aim of this survey was to determine whether responses varied between respondents in different occupational sectors and in different county locations.

In total, seven specific research questions were formulated to guide the needs assessment, so that professionals' perceptions on a broad range of issues relating to youth suicide prevention in Klamath County could be better understood:

1. In which areas of Klamath County do respondents interact with the population(s) who are at risk for suicide?
2. Which suicide prevention resources within Klamath County are respondents aware of?
3. Which training programs related to suicide prevention, suicide postvention, mental health awareness, and/or mental health promotion had respondents within Klamath County received?
4. What do respondents perceive to be the most urgent needs to better address suicidal ideation and prevent suicide in Klamath County?

5. What do respondents perceive to be the greatest barriers to suicide prevention in Klamath County?
6. What method of training delivery do respondents prefer for suicide prevention training?
7. What type of information do respondents want to be included in suicide prevention training?

Additionally, two follow-up research questions sought to determine whether responses differed between particular groups:

8. Do professionals in different locations respond to the survey differently?
9. Do professionals in different occupational sectors respond to the survey differently?

3.2.2 The Klamath County Youth Survey

The aim of the Klamath County Youth Survey was to survey the perceptions of young people across Klamath County, who are after all the principal targets of youth suicide prevention services in the area. The questionnaire was designed to elicit an understanding of the youth voice, by capturing perceptions about the accessibility and effectiveness of mental health services available through their school, as well as perceptions about mental health more generally. Additional aims of the survey were to determine whether responses varied between younger and older students, between male and female students, and between students with AI/AN heritage and those without AI/AN heritage.

In total, therefore, four main research questions were used to guide the research, and improve understanding of youth perception of mental health issues:

1. To what extent do youth engage with mental health services at school?
2. Do youth believe that their mental health needs are being met by their school?
3. How comfortable are youth in seeking support for mental health issues?
4. Do youth believe that their mental health is affected by environmental disasters?

Additionally, three follow-up research questions sought to determine whether responses differed between particular groups:

5. Do younger students (at the elementary school) respond to the survey differently to older students (at the high school)?
6. Do male and female students respond to the survey differently?
7. Do students with AI/AN heritage respond to the survey differently to students without AI/AN heritage?

3.2.3 Content analysis of the RPP

Finally, the aim of the third piece of research was to assess the effectiveness of the present RPP by conducting a content analysis of the meeting minutes and agendas from the RPP. Strategic partnerships between researchers and practitioners can be highly valuable for both parties, helping researchers to understand the practical context around their subject matter in considerably greater detail, and helping practitioners to develop, test, and refine interventions to address persistent problems of practice. However, whether or not these aims are successfully achieved is highly dependent on the way in which the RPP is structured, and in particular the degree to which best-practice recommendations for effective RPPs are adhered to.

As such, for the purposes of the present research project it was decided that it would be helpful to perform a *post hoc* qualitative analysis of the written agendas and minutes from the

meetings of the RPP. In total, agendas and/or meeting minutes had been recorded for 23 meetings of the RPP. Each meeting had lasted for approximately 90 minutes and had been attended by 10-17 people. The written agendas and minutes therefore provided a rich source of data for analysis.

The purpose of the analysis was to determine the extent to which best practices for effective RPPs had been followed across the course of the project, and to identify any opportunities for improvement in future work. To do this, the indicators of effectiveness for RPPs in education which were developed by Henrick et al. (2017) were turned into a coding framework, allowing me to determine the key strengths of the RPP work and to identify opportunities for future improvement.

The first five research questions here focused on each of the core dimensions of effectiveness from this framework, before the sixth turns to a more general evaluation of RPPs in the context of youth suicide prevention:

1. To what extent did the RPP effectively build trust and cultivate partnerships?
2. To what extent did the RPP conduct rigorous research to inform action?
3. To what extent did the RPP support the partner practice organization in achieving its goals?
4. To what extent did the RPP produce knowledge that can inform broad educational efforts?
5. To what extent did the RPP build the capacity of partnership members?
6. What are the key strengths and limitations of RPPs to address the growing issue of youth suicide?

3.3 Research Design

3.3.1 Overall research design

The research design is a critical part of the research process because it largely determines how the research will be established and implemented. It is directly informed by the theoretical basis for collecting and analyzing data (Hussey & Hussey, 1997), and essentially describes the overall method that will be undertaken during the research. For this RPP, prior to the design of the questionnaires themselves, it was important to determine exactly which type of research should be employed to best address the research questions.

Overall, it was decided that a mixed approach, including both quantitative and qualitative data collection and analysis methods, would be appropriate here. Quantitative methods were suitable for the two survey-based studies, where the key phenomena under investigation were quantifiable, and able to be assessed through both descriptive and inferential statistical methods. A qualitative approach was suitable for the content analysis, enabling a richer evaluation of the written text collected as part of the ordinary practices of the RPP, and allowing a judgment to be made on the effectiveness of the RPP.

3.3.2 Quantitative survey approach

It was determined that the needs assessment and youth survey should both utilize a cross-sectional survey design, collecting quantitative data about the phenomena under investigation. Questionnaires would be designed to enable Klamath County professionals to report their recent experiences with youth suicide prevention services and mental health more generally (for the needs assessment), and to enable students in Klamath County to report their experiences with school mental health services (for the youth survey).

By collecting quantitative data, the key topics can be described using descriptive numeric statistics (e.g., frequency counts, percentages), which is advantageous because it allows researchers to answer the 'who, what, when, where, and how' questions related to their research problems. Specifically, descriptive statistics are useful for presenting information about people's current circumstances in order to illustrate and explain findings (Aggarwal, 2016). The descriptive approach is also advantageous because it can be used to collect a large amount of data for comprehensive analysis (Labaree, 2021), typically by collecting data from a representative sample so that conclusions can be made about the overall population (Oppenheim, 1992). For the purposes of this study, the descriptive approach was therefore appropriate for elucidating the context around youth suicide prevention in Klamath County.

Additionally, the quantitative approach also enables the use of inferential tests, so that the researcher can make inferences about the wider population, based upon observations from the sample (Jupp, 2006). For the purposes of the present research, it is important to determine whether differences between groups are statistically significant and therefore reflected a real difference in the population, or whether they are more likely to have arisen due to chance. Hence, inferential statistics is appropriate for testing whether respondents to both surveys tended to respond to the questionnaire differently, based on particular group characteristics.

Finally, the cross-sectional design, which involves gathering data from many participants at a single moment in time, was selected because it quickens the research process when time and budget are limited. In the context of descriptive research, the use of the cross-sectional design is appropriate for both describing the current situation at a particular moment in time (Stangor, 2014), and for enabling inferences to be made about the wider population based on the observed associations between different variables at a particular moment in time (Labaree, 2021).

3.3.3 Qualitative evaluation approach

Because the data to be analyzed from the RPP meetings was in written format, it was appropriate to use a qualitative approach. In particular, the research aimed to understand how the partnership members of the RPP constructed their social reality during group meetings, through their interactions and discussions with one another. The process of analysis was more subjective and necessitated the interpretation of the written text. The key aim of this process was to identify and map the key themes and sub-themes that emerge from the data.

The mixed method approach enabled a richer and more comprehensive understanding of the overall RPP process than could be derived through quantitative research alone. This process of combining quantitative and qualitative research approaches aligns with the mixed-methods approach to research, grounded in the research paradigm of pragmatism, which argues that different types of research are appropriate for addressing different types of research questions (Morgan, 2014).

3.4 The Klamath County Community Needs Assessment Methodology

3.4.1 Design of the Klamath County Community Needs Assessment

At this stage, I was able to use the insight gained to create the Klamath County Community Needs Assessment. Specifically, the needs assessment was developed to understand respondents' roles in suicide prevention, and to understand the strengths and weaknesses of the current approach to suicide prevention in Klamath County, the perceived needs of service users, perceptions regarding the suicide prevention resources, interventions, and training opportunities currently available, and the barriers affecting improvements to the service (see Appendix A for the full questionnaire).

Specifically, within the questionnaire, the first group of questions asked respondents to provide more information about their profession. The first question asked, "What is your primary profession or community role?", with a list of 13 possible options (e.g., "Child protection/family services", "Mental healthcare provider", "Social worker"). For the purpose of the analyses, these responses were then re-coded into three occupational sectors: Community, Education, or Healthcare. Next, respondents were asked "What age group do you regularly work with? Select all that apply", with five possible options (Age 0-11; Age 12-18; Age 19-24; Age 25-54; Age 55+). Finally, respondents were asked "Where are the population(s) who are at risk of suicide that you predominantly interact with based? Select all that apply". Here, 11 possible locations within Klamath County were provided as response options. To reflect the purpose of the analysis, these responses were subsequently re-coded as "Chiloquin" (any response that included Chiloquin) or "Not Chiloquin" (any response that did not include Chiloquin).

The next two questions were designed to assess practitioners' awareness of existing services in Klamath County. Specifically, they were asked "What suicide prevention resources are you aware of in Klamath County? Select all that apply" and "What are the interventions and training opportunities that you are aware of in Klamath County? Select all that apply". In both cases, respondents were shown a pre-compiled list of options that they could choose from and had the option of selecting "Other" and writing in their own response.

Then, two questions were designed to elicit an understanding of the most urgent youth suicide prevention needs and barriers in the county. Respondents were asked "In your primary profession or community role, what are the most urgent **needs** to better address suicidal ideation and prevent suicide in Klamath County? Select all that apply" and "In your primary profession or community role, what are the greatest **barriers** to preventing suicide in Klamath County? Select

all that apply". Again, respondents could select options from a pre-compiled list, and/or enter their own response by selecting the "Other" option.

The following two questions captured perceptions around training needs and preferences for practitioners. First, they were asked to "Please rate your preferences for the following information or resources that you and your community need to address suicide prevention and intervention" and presented with a list of five different types of information/resource (e.g., "Information about substance abuse and suicide", "Tips for talking to youth about suicide"). Next, respondents were asked "How should the training to address suicide in your community be delivered? (Please list your preference)", with a list of five training delivery options (e.g., "Fact sheets/articles", "In-person", "Webinar"). Both of these questions were scored on a four-point Likert scale, ranging from 1 ("Least preferred") to 4 ("Most preferred").

Finally, personal and demographic information was collected at the end of the survey. Participants were asked "Would you like to provide your contact information so that we may follow up with you" and, if they selected "Yes", were then prompted to provide their name, email address, and phone number. Participants were requested to provide their "Gender" (Male; Female; Transgender; Other) and "Race/ethnicity (select all that apply" (Asian; Caucasian; African American; Hispanic; Native American; Other), and were also asked "Which category below includes your age?" (17 or younger; 18-24 years old; 25-34 years old; 35-44 years old; 45-54 years old; 55-64 years old; 65-74 years old; 75 years or older).

3.4.2 Administering the Klamath County Community Needs Assessment

In collaboration with the Klamath Tribes RPP members, the decision was made to disseminate the needs assessment via an online survey platform. This was because the alternative

option that had been considered (paper survey collection activities during school personnel trainings and at Klamath County tourism bureau venues) had been discontinued due to the COVID-19 pandemic.

As such, the survey letter and anonymous survey link were distributed by RPP members' networks via email and posted on social media sites with an option to leave contact information for follow-up. Potential participants had 12 weeks to complete the needs assessment, before I closed the survey completion window and downloaded the data (as a spreadsheet containing both text and numeric entries) so that it could be analyzed. The overall procedure for this part of the research is shown in Figure 3.

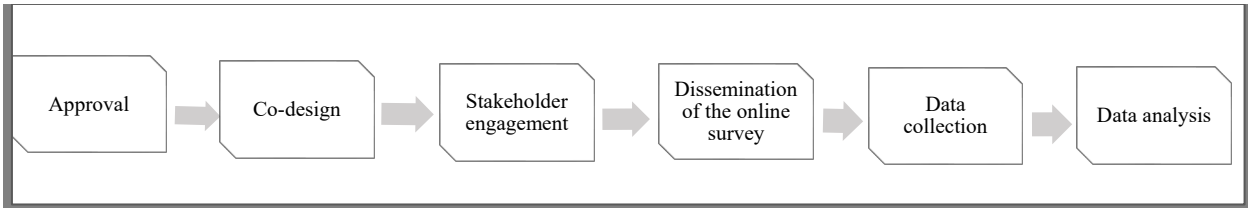

Figure 3. **Data collection process and procedure**

3.4.3 Sampling approach for the Klamath County Community Needs Assessment

Participants were recruited using the convenience sampling technique, which is a non-random sampling method (i.e., members of the population do not have an equal probability of being selected), based on collecting data from people who are readily available for the research (Emerson, 2015).

Specifically, the social networks of RPP members were utilized to identify and contact potential respondents from within Klamath County who were engaged within, or could provide an insight into, suicide prevention services within the local area. I then contacted RPP members

through Klamath Tribes RPP meetings at the Klamath Tribal Health and Family Services and the Youth and Family Guidance Center in Chiloquin and Klamath Falls, Oregon. These meetings had been formulated to identify problems in existing practice, and to establish a commitment towards improving services within the area. The research program was granted approval as part of this broader program, and the RPP members agreed to distribute the Klamath County Needs Assessment through their personal networks by email and social media. The aim was to capture data from as many respondents who met the inclusion criteria (of working directly or indirectly in youth suicide prevention in Klamath County) as possible.

3.4.4 Sample for the Klamath County Community Needs Assessment

In total, 186 valid survey responses were returned from professionals who worked directly or indirectly with at-risk youth in Klamath County. Descriptive statistics for the demographic characteristics (gender, age, and ethnicity) were calculated, and are shown in Table 1 (all percentages reported to one decimal place). However, responses to the demographic questions were optional, and it transpired that more than three-quarters of respondents declined to answer these questions. Possible reasons for the low rate of response to these questions are discussed in the next section, alongside an exploration of any differences between those who provided demographic information and those who did not.

From the responses we do have, the table indicates that the most common age group was 45-54 years old, and the most common ethnicities were Caucasian and Native American, but this should be viewed cautiously due to the high rate of non-response.

Table 1. **Demographic characteristics of the Klamath County Community Needs Assessment**

		Frequency	Percent
Gender	Male	28	15.1
	Female	13	7
	Total (valid)	41	22.1
	Missing	145	78
Age	18-24 years old	2	1.1
	25-34 years old	4	2.2
	35-44 years old	8	4.3
	45-54 years old	15	8.1
	55-64 years old	11	5.9
	65-74 years old	1	0.5
	Total (valid)	41	22.1
	Missing	145	78
Ethnicity	Caucasian	27	14.5
	Caucasian/Native American	2	1.1
	Hispanic	1	0.5
	Native American	7	3.8
	Other	3	1.6
	Total (valid)	40	21.5
	Missing	146	78.5

Unfortunately, the high rate of non-response to these questions made it impossible to test for between-group differences based on demographic variables (e.g., between male and female respondents, between Native and non-Native respondents). However, for the purpose of this

survey, it was more important to test whether responses differed between respondents from different occupational sectors and between respondents who worked in different locations. Fortunately, responding to these questions was mandatory on the questionnaire, so there is a full set of data to work from.

Specifically, the survey asked respondents to indicate their primary profession or community role, which I then later grouped into one of three categories to derive the occupational sector variable. In total, 88 respondents worked in healthcare (47.3%), 60 respondents worked in education (32.3%), and 38 respondents worked in community roles (20.4%).

Respondents were also asked to report the location(s) within Klamath County of the at-risk youth that they worked with. There was a particular ambition within the RPP to assess service delivery in the city of Chiloquin, as it has a higher percentage of Natives than other areas of Klamath County and is also where the tribal government is based. As such, for the purposes of the inferential tests, it was particularly important to compare the responses of those who worked in the city of Chiloquin with those who worked elsewhere in Klamath County. Therefore, responses to the location(s) question were re-coded as either "Chiloquin" (any response including the location of Chiloquin) and "Not Chiloquin" (any response which did not include the location of Chiloquin). In total, 105 respondents worked within Chiloquin for at least part of their time (56.5%), and 81 respondents worked only in other locations within Klamath County (43.5%).

3.4.5 Exploring low response rate to demographic questions

The low rate of response to demographic questions was an unexpected result and may be attributed to the various causes. One possibility is the fact that the sample likely consisted of a relatively high proportion of AI/AN individuals (as the sampling strategy intentionally sought to reach members of this community), who may have experienced historically-grounded mistrust with public health organizations and therefore been reticent to share personal data which could be used to identify them. To address this in future, it would be valuable to even more clearly re-assure participants that all data will be kept private and confidential.

Another possibility is the fact that the wording of the questionnaire instructed participants to report these characteristics if they would like to be contacted for a follow-up study, leading them to avoid these questions if they did not want to be involved in the follow-up. In future iterations of the questionnaire, it will be important to re-phrase the demographic questions, to avoid this sort of confusion.

As a precautionary measure before the main analyses, a series of tests were conducted to explore potential between-group differences in those who provided demographic information or did not provide demographic information. Specifically, *t*-tests and chi-square tests were used to contrast the mean responses to each outcome variable on the questionnaire. In total, five of these tests were statistically significant (p-values < 0.05). A comparison of group means revealed that those who had provided demographic information were more likely to be aware of Rise Up and Youth Line/Text Line than those who had not provided demographic information and were also more likely to select access to substance abuse prevention/treatment programs as an urgent suicide prevention need. Those who provided demographic information also gave higher preference ratings for information/resources on tools for parents to talk to youth about suicide

and on warning signs and symptoms of suicide. The fact that it was those who provided demographic information who had the higher score in each of these cases may suggest that this group had particularly strong feelings about certain aspects of youth suicide prevention and were therefore happier to be contacted in a follow-up study to potentially discuss these further.

The rest of the between-group analyses were not statistically significant, indicating that responses did not significantly differ between those who provided demographic information and those who did not (p-values > 0.05). Of particular note is the fact that there were no significant differences in either occupational sector nor in the location of the at-risk youths worked with between those who provided demographic information and those who did not provide demographic information. As such, although it was unfortunate that there was a low rate of response to the demographic questions, it was judged that the results of the other between group-analyses would not be confounded.

3.4.6 Data analysis approach for the Klamath County Community Needs Assessment

For the quantitative analysis as a whole, the first step was to extract the datasets from the online survey software and store them as a Microsoft Excel spreadsheet. Within Excel, the dataset was properly defined (i.e., ensuring that each column is given a label which clearly reflects the question or variable it relates to), cleaned (i.e., identifying and removing missing data and outliers, where appropriate), and transformed (i.e., re-coding of existing variables and deriving new variables based on combinations of existing variables, where appropriate).

Once these steps were performed, the analysis itself was performed using the Statistical Package for Social Sciences (SPSS). SPSS is a window-based program for data entry, data analysis, and creating tables and graphs (Field, 2009). To address each of the research questions

associated with the survey data, SPSS was used to produce descriptive statistics to summarize the results to each question across the sample as a whole. Specifically, descriptive statistics were calculated for each response variable, to summarize the results to each question across the sample as a whole (e.g., levels of awareness, levels of endorsement, preference ratings).

Then, inferential tests were performed to test for between-group differences on each of the responses. Specifically, two grouping variables were used: occupational sector (community, education, or healthcare) and location of at-risk youth that the professional worked with (Chiloquin or Not Chiloquin). The inferential tests enable determinations to be made about whether the observed differences reflect true differences between groups or simply occurred due to chance (e.g., Mehta & Patel, 2010). An alpha (p) of 0.05 was used as the cut-off point for statistical significance (i.e., effects with $p < 0.05$ will be judged as statistically significant).

Two types of inferential test were used. For the binary response variables, a series of logistic regression analyses were used to test for between-group differences. The binary variable (e.g., awareness of particular suicide prevention resource [Aware/Not Aware], selection of particular suicide prevention need [Selected/Not Selected]) was entered as a dependent variable in the model. The binary location variable (0=Not Chiloquin, 1=Chiloquin) was entered into the model as the first predictor. Because the variable for occupational sector has three categories, it was not suitable for regression analysis in its original format. Instead, it needed to be transformed into two dummy variables: one for education profession (0=Not education, 1=Education) and one for healthcare profession (0=Not healthcare, 1=Healthcare). Therefore, each logistic regression analysis tested three predictors: location, dummy variable for education, and dummy variable for healthcare. The odds ratio (OR) was used to describe the strength of these predictors in each model. To provide a more straightforward interpretation, the significant

effects was explored by highlighting the percentages of respondents from different groups who had selected one option rather than the other (e.g., "Aware" rather than "Not aware").

For the scale response variables (e.g., preference ratings for particular types of information, preference ratings for particular modes of training delivery), the intention was to use 2 (Location: Chiloquin or Not Chiloquin) x 3 (Occupational sector: Community, Education, or Healthcare) factorial ANOVAs. However, ANOVAs are reliant upon the assumptions of homogeneity of variance and normality of residuals, so tests were performed to check these assumptions (Levene's test or homogeneity of variance, and visual scans of histograms and Q-Q plots for normality of residuals). In the cases where the assumptions were not met, the Kruskal-Wallis test was used instead, as this is the non-parametric equivalent to the ANOVA. Grouping variables with more than two levels can be accommodated in both the ANOVA and the Kruskal-Wallis test, so it was not necessary to use dummy variables for occupational sector in this case. Marginal means (M_M) were used when reporting and comparing the descriptive statistics between groups, rather than using the original unadjusted means.

3.5 The Klamath County Youth Survey Methodology

3.5.1 Design of the Klamath County Youth Survey

Once the co-design and stakeholder engagement processes had been completed, it was also possible to commence the more detailed design of the Klamath County Youth Survey. I co-designed the survey with two Klamath County school principals who were members of the RPP. In particular, the youth survey was designed to elicit the youth voice regarding mental health and suicide prevention services in the area, enabling respondents to report their perceptions regarding the accessibility of mental health services in their school, as well as more general perceptions

regarding the stigma associated with mental health issues in their community (see Appendix B for the full questionnaire).

Specifically, the first group of questions measured demographic characteristics. Respondents were asked “What is your grade level currently?”, “What is your gender?”, and “Race/ethnicity (select all that apply)”. These items were re-coded into binary responses for the purpose of the analyses. The question on school grade was re-coded as either “elementary school” (Grades 5 and 6) or “high school” (Grades 7 to 12). For the question on gender, only the responses “male” and “female” were compared, as the number of other responses in other groups were too low to be included in the analyses. Finally, the question on race/ethnicity was re-coded as either Native identity (if the student selected the Native American option, either with or without another racial/ethnic group) or “no Native identity” (if the student did not select the Native American option).

The second group of questions was designed to capture students’ perceptions about mental health support services at their school. First, they were asked “Do you know how to access mental health support services at your school?”. Then, they were asked “Have you accessed mental health services at your school?”. Both of these questions had a binary (yes/no) response option. Finally, they were asked “Since COVID-19 began, how useful have mental health support services in your school been for promoting student well-being?”. This was scored on a four-point rating scale, ranging from 1 (“Not useful”) to 4 (“Very useful”).

The third group of questions were designed to capture more general perceptions around mental health at school. Students were asked “How confident are you that your voice is being heard on issues related to youth mental health and suicide prevention?”, which was scored on a four-point rating scale, ranging from 1 (“Not at all confident”) to 4 (“Very confident”). Then,

students were asked “How comfortable are you and other students with talking to each other about mental health issues?”, “How comfortable are you and other students with seeking school support for mental health issues?”, and “How comfortable are school faculty and staff with talking to youth about suicide?”. These three questions were each scored on a four-point rating scale, ranging from 1 (“Not comfortable”) to 4 (“Very comfortable”).

Related to this group of questions, there was also one binary (yes/no) question reflecting a specific event in Oregon which may have negatively impacted student’s mental health. That is, the survey was conducted only a few months after devastating wildfires had burned more than 1,000,000 acres of land and destroyed thousands of homes in Oregon, including in some areas of Klamath County, in the summer of 2020. To capture the potential impact of this, students were asked “Would you describe environmental disasters related to climate change (e.g., wildfires) as having a negative impact on your mental health?”.

Finally, one additional binary (yes/no) question asked students “Are there other issues/obstacles that students encounter in seeking support for mental health issues?”. If they answered “Yes”, there were given the follow-up “Please list up to two other issues/obstacles here", with a space for free text entry to write about those issues or obstacles.

3.5.2 Administering the Klamath County Youth Survey

The RPP also collaborated on a plan for the administration of the Klamath County Youth Survey. The two members of the RPP who were principals at local public schools (one high school, one elementary school) were particularly influential in assisting with the design of the survey and assisting with its administration. There was a major concern at these schools that current youth mental health needs were not being sufficiently met, as there was only one

counselor at the high school and no counselors at the elementary school, and no psychologists at either school. As such, these schools were judged to be important locations for the survey to be administered.

With the support of the principals, a plan was devised for sending out the youth survey at the two schools. First, the principal devoted a regular school assembly to the subject of youth mental health and suicide prevention. During this assembly, the principal introduced the youth survey, discussed the importance in understanding the youth perspective, and re-iterated the importance of participation. Following the assembly, the school's e-mail list was used to send out a link to the survey to all the eligible students (i.e., those in Grades 5 and 6 at the elementary school, and all of the students at the high school). Finally, teachers were asked to remind and encourage students to complete the survey.

3.5.3 Sampling approach for the Klamath County Youth Survey

The convenience sampling method was also used for the youth survey. With the support of the two principals, it became possible to send out the questionnaire to a relatively large number of Klamath County youths at the two schools, to better capture the youth voice on mental health and suicide prevention in the county. One of these schools was a high school (Grades 7 to 12), and the other was an elementary school (Grades 5 and 6 represented only, as the subject matter of the survey was deemed inappropriate for younger children). The aim was to capture responses from as many of these students as possible.

3.5.4 Sample for the Klamath County Youth Survey

In total, there were 156 valid responses to the survey across the two schools, which represented an overall response rate of 94%. From the elementary school there were 36 respondents (23.1%), and from the high school there were 120 respondents (76.9%). This is unsurprising, given that the survey was restricted to Grades 5 and 6 only at the elementary school.

Demographic information about the sample was collected as part of the survey and is shown in Table 2. Specifically, students were able to describe their gender identity, choosing from pre-selected options or entering their own description. Next, students were asked to indicate their current grade. Finally, students were asked to indicate their ethnic identity. In the subsequent analyses, the aim was to test whether responses differed between AI/AN students and students who were not AI/AN. For this reason, the ethnicity response was re-coded into a binary response, with the options "Native" (students with solely Native identity, or mixed identity including Native) and "No Native identity" (students who did not have Native identity).

Table 2. **Demographic characteristics of the Klamath County Youth Survey sample**

		Frequency	Percent
Gender	Male	78	50
	Female	68	43.6
	Non-binary / Third gender	1	0.6
	Prefer to self-describe	6	3.8
	Prefer not to say	3	1.9
Grade	Grade 5 (Elementary)	15	9.6
	Grade 6 (Elementary school)	21	13.4
	Grade 7 (High school)	29	18.6

	Grade 8 (High school)	26	16.7
	Grade 9 (High school)	14	9
	Grade 10 (High school)	19	12.2
	Grade 11 (High school)	20	12.8
	Grade 12 (High school)	12	7.7
Ethnicity	Native heritage	82	52.6
	No Native heritage	74	47.4

3.5.5 Data analysis approach for the Klamath County Youth Survey

The approach to data analysis for the youth survey replicated the approach that had been taken in the needs assessment. The dataset was first cleaned, defined, and transformed in Excel, before SPSS was used to answer each of the research questions by generating descriptive and inferential statistics. Once more, logistic regression analyses were used to test for between-group differences on binary response variables, and either factorial ANOVAs or Kruskal-Wallis tests (depending on whether the assumptions for ANOVA were met) were used to test for between-group differences on scale response variables. Again, a *p*-value of 0.05 was used as the cut-off point for statistical significance.

Three grouping variables were tested for the youth survey: school, Native identity, and gender. For gender in particular, the analysis was restricted only to those respondents who said that they were “male” or “female”, because the 10 students who described their gender differently used various terms, and it was deemed improper to group these individuals together in an “Other” category. For this reason, the responses from these 10 individuals were omitted from the inferential analyses, which were therefore conducted on a sample of 146 responses.

3.6 The Content Analysis Methodology

3.6.1 Approach to the content analysis

The content analysis was conducted in accordance with the principles outlined by Braun and Clarke (2012). The analysis used a deductive coding strategy, in which an initial set of codes and sub-codes was developed and then applied to the data in a top-down manner. Specifically, a coding scheme was developed to mirror the framework which was developed by Henrick et al. (2007) for assessing effective RPPs. This framework was described earlier in Section 3.1.6, and its translation to a coding scheme is described in the following section.

To perform the qualitative analysis, the document containing the meeting agendas and minutes was printed out and read in detail, so that I was able to develop a good baseline understanding of the content. Next, I re-read the document and assigned different codes and sub-codes to the data, based upon the coding scheme that had been developed. To assist with the interpretation, different colors were used for different codes. The next step was to extract the passages of text associated with each sub-code and then to organize all of the passages for each sub-code together, within broader groups for each code. Finally, I reviewed the content for each code and sub-code, enabling determinations to be made about the extent to which each criterion for effective RPPs had been achieved across the course of the project.

3.6.2 Development of the coding scheme

The coding scheme used for the textual analysis was designed to mirror the guidelines for assessing the effectiveness of RPPs, which was previously developed by Henrick et al. (2017). This was described in more detail in Section 3.1.6. For the purposes of describing the translation of this framework into a coding scheme, it is important to note that Henrick and colleagues

proposed five higher-order "dimensions" for effective RPPs (translated into the higher-order codes in the present coding scheme), as well as three to seven lower-order "indicators" describing even more specific criteria which should be met within each dimension (translated into lower-order sub-codes in the present coding scheme).

These dimensions and indicator (including the labels for the codes and sub-codes) are listed below and summarized in Table 3 at the end of the section. For a more detailed description, see the original paper by Hendrick et al. (2017).

The first dimension is "building trust and cultivating partnership relationships" (*relationship formation*). To achieve this, researchers and practitioners should routinely work together (*work_together*) and establish both organizational routines (*collaborative_routines*) and norms of interaction (*norms_of_interaction)* which support collaborative decision-making and equitable participation. Members should recognize and respect one another's perspectives and diverse forms of expertise (*mutual_respect*) and establish goals which take into account team members' work demands (*acknowledge_demands*).

The second dimension is "conducting rigorous research to inform action" (*rigorous research*). Here, members should conduct initial research to clarify and further specify problems of practice (*identifying_problems)*, before ensuring ensure that the subsequent research addresses those problems of practice (*relevant_research)*. The research methods which are used should balance rigor and feasibility (*feasible_research).* Processes for the collection, organization, analysis, and synthesis of data should established (*data_processes*). Finally, findings should be shared in a way that considers the needs of the practice organization (*acknowledge_needs).*

The third dimension is "supporting the partner practice organization in achieving its goals" (*supporting partner organization)*. To do so, the RPP should aim to support specific,

actionable improvements in the practice organization. It can do this by providing research and evidence to support improvements (*research_provision_specific)*, helping to identify productive strategies for addressing specific problems (*strategy_identification_specific*), or by informing the practice organization's implementation and ongoing adjustment of improvement strategies (*research_application_specific).*

The fourth dimension is "producing knowledge that can inform educational improvement efforts more broadly" (*supporting practice generally*). To do this, the RPP should develop and share knowledge and theory that contributes to the research base (*research_provision_broad) or* develop and share new tools and/or routines that can be adapted to support improvement work in other settings (*strategy_identification_broad*). Additionally, the RPP should develop two dissemination plans, one which supports specific partnership goals and one which can be used for broader dissemination (*dissemination_plan*).

The fifth and final dimension is "building the capacity of participating researchers, practitioners, practice organizations, and research organizations to engage in partnership work" (*capacity building*). Here, the RPP should help team members to develop new roles (*new_roles*) and professional identities (*identity_development*) for conducting partnership activities to address problems of practice. Wherever possible, capacity-building opportunities should be provided for team members (*capacity_building*), helping to ensure that conditions are established for sustained impact beyond the life of the partnership (*establishing_impact)*. The work of the RPP should help to change the practice organization's culture around research and evidence use (*cultural_change*), and their expectations around the benefits from participation in partnership activities (*expectation_shift).* Finally, the research and practice organization should work together to allocate resources to support partnership work (*resource_allocation)*.

Table 3. **The coding scheme used for the content analysis**

Relationship formation	Rigorous research	Supporting partner organization	Supporting practice generally	Capacity building
work_together	relevant_research	research_provision_specific	research_provision_broad	identity_development
collaborative_routines	data_processes	strategy_identification_specific	strategy_identification_broad	new_roles
norms_of_interaction	feasible_research	research_application_specific	dissemination_plans	capacity_building
mutual_respect	identifying_problems			cultural_change
acknowledge_demands	acknowledge_needs			expectation_shift
				establishing_impact
				resource_allocation

3.6.3 Data collection and synthesis

I had saved the agendas and minutes for each RPP meeting to the hard drive of my personal laptop, and therefore already had access to the content that needed to be analyzed. The meetings covered an approximate 18-month period, between January 31st 2020 and July 16th 2021. Overall, nine meeting agendas and 20 meeting minutes from 23 separate meetings were incorporated into the analysis. The meetings had lasted approximately 90 minutes on average, and were each attended by between 10 and 17 members of the RPP. The agendas and minutes were combined into a single document, which was 44 pages and slightly higher than 8,000 words long in total.

3.6.4 Evaluation approach for the content analysis

The qualitative content data analysis was performed within Microsoft Word. The various meeting minutes and agendas from across the RPP were arranged chronologically, and then combined into a single document. Then, I read and re-read the document carefully, assigning labels to different portions of text based upon the developed coding scheme. As described in the previous sections, the dimensions of effectiveness from Henrick et al.'s (2017) framework were used as the main codes, and the more specific indicators of effectiveness were used as sub-codes.

Once labels had been assigned to the entire text, all of the pieces of text corresponding to each sub-code were extracted separately and grouped together by both sub-code and code. To assist with this process, different colors were used for different codes. The interpretation of the text against each code enabled the qualitative research questions to be answered.

3.7 Ethical Procedure

Various ethical considerations were considered at different stages of the design of the research and the data collection process. The ethics application process aims to guarantee that the research is done under sound scientific principles, and to ensure that principles for good ethical practice and transparency are adhered to throughout the research (including the data collection process, the research instruments, the selection of participants and analysis of data).

Overall, the RPP (incorporating both the needs assessment and the youth survey) was conducted as part of a contract with the OHA, which had been set up to inform on the implementation of the YSIPP within Klamath County. The project involved the collection of anonymous data, and therefore it is anticipated that it will not require ongoing institutional review board oversight, based on Exemption 4 of the 45 Code of Federal Regulations Part 46: "involves the collection or study of data or specimens if publicly available or recorded such that subjects cannot be identified". As such, it will simply be necessary to attain ethical approval at the onset of the project, based on the study materials and proposed actions.

Ethical approval for the studies within the RPP was sought from the University of Oregon's Institutional Review Board. I created a plan for adherence to ethical principles at all stages of the research process. This plan demonstrated that the respondents' rights to consent, confidentiality, and anonymity would be always respected. In both studies, the participants would be fully informed about the research purpose and the study procedures. Furthermore, the participants would be informed that participation was entirely voluntary and that their personal information would be kept confidential.

The University of Oregon's Institutional Review Board approved this plan, and duly endorsed both studies. Once I had obtained verification of approval, I then began the recruitment

extant data review process so that data could be collected for both phases of the RPP evaluation. The plan was frequently referred to during the data collection, storage, and analysis process, in order to ensure continued adherence to ethical research practice.

CHAPTER IV: RESULTS

In this chapter, the results of the research conducted as part of the RPP will be presented. Firstly, the results of the Klamath County Community Needs Assessment are presented, revealing the views of professionals in Klamath County on various issues related to youth suicide prevention work. Secondly, the results of the Klamath County Youth Survey are presented, revealing the perceptions of the youth of the county themselves. Finally, the results of the content analysis of the agendas and minutes from RPP meetings is presented, helping to highlight both the strengths of the work that has been conducted and the opportunities for future improvement.

4.1 The Klamath County Community Needs Assessment

4.1.1 Awareness of suicide prevention resources

Descriptive statistics. First, respondents were asked to report whether or not they were aware of different resources (community-based organizations, programs or interventions, or training opportunities) that support suicide prevention and mental health promotion in Klamath County. Descriptive statistics, showing the results across the entire sample are shown below in Table 4. As shown, the resources which the greatest proportion of respondents were aware of included the Crisis Response Team / KBBH (84.4%) and the Crisis Text Line (741741) (65%). By contrast, the resources which the fewest respondents were aware of included Rise Up Project (21.5%) and Transformations Wellness Center (26.9%).

Table 4. **Awareness of suicide prevention resources**

Suicide Prevention Resource	Yes (Aware)	No (Not Aware)	% Aware
Crisis Response Team / KBBH	157	29	84.4%
Crisis Text Line (741741)	121	65	65%
Klamath Tribal Health Youth and Family Guidance Center	118	68	63.4%
Lutheran Community Services	116	70	62.4%
You Matter 2 Klamath – Klamath County Suicide Prevention Coalition	105	81	56.4%
Youth Rising	96	90	51.6%
Klamath Open Door	77	109	41.3%
Just Talk	71	115	38.2%
Cascade Health Alliance	70	116	37.6%
Phoenix Place	70	116	37.6%
Veterans Affairs	68	118	36.6%
Best Care	63	123	33.9%
Lines for Life/Lifeline 1.800.273.TALK (8255)	63	123	33.9%
NAMI	56	130	30.1%
Transformations Wellness Center (TWC)	40	146	26.9%
Rise Up Project	50	136	21.5%

Tests for between-group differences. Logistic regression analyses were used to test whether responses varied significantly between different occupational sectors (Community, Education, and Healthcare) and different locations of at-risk youth that the professional worked with (Chiloquin or Not Chiloquin). Overall, the results of the analyses for awareness of suicide prevention resources showed that there were between-group differences on seven of the responses, and no between-group differences on nine of the responses. Specifically, the responses for which there were no between-group differences included Cascade Health Alliance, Crisis Text Line, Klamath Open Door, Lines for Life/Lifeline, Lutheran Community Services, Rise Up Project, Veterans Affairs, You Matter 2 Klamath, and Youth Rising were all above the criteria for statistical significance (p-values > 0.05).

The models which were statistically significant generally showed that the likelihood of awareness was highest amongst healthcare workers and lowest amongst education workers. For example, the overall model for Best Care was significant ($X^2(182) = 16.34$, $p < 0.001$). The coefficient for the education profession was statistically significant ($OR = 0.26$, $p = 0.007$), but the other predictors were not significant (p-values > 0.05). Descriptive statistics for the different occupational sectors showed that awareness of Best Care was considerably lower in education workers (15%) than it was in community (42.1%) or healthcare workers (43.2%).

Similarly, the overall model for Crisis Response Team / KBBH was significant ($X^2(182) = 12.45$, $p = 0.006$), and the only significant predictor was the dummy variable for the healthcare profession ($OR = 4.76$, $p = 0.006$). Here, a comparison of the descriptive statistics revealed that awareness of Crisis Response Team / KBBH was considerably higher in healthcare workers (93.2%) than it was in education (78.3%) or community workers (73.7%).

The same trend was displayed in the significant model for Phoenix Place ($X^2(182) = 24.56$, $p < 0.001$), which also had the dummy variable for the healthcare profession ($OR = 3.51$, $p = 0.003$) as the only significant predictor. Again, comparing the descriptive statistics for each group showed that awareness of Phoenix Place was much higher amongst healthcare workers (57%) than it was for community (27%) or education workers (18.3%).

For three responses, the overall regression model was statistically significant, but none of the predictor variables emerged as significant. Specifically, this was the case for the models for Just Talk ($X^2(182) = 8.02$, $p = 0.046$), NAMI ($X^2(182) = 9.99$, $p = 0.019$), and Transformations Wellness Center (TWC) ($X^2(182) = 9.99$, $p = 0.019$). In each case, the descriptive statistics for each group mirrored the general pattern of awareness being highest in the healthcare sector. Indeed, in each case, awareness was higher among healthcare workers (46.6% for Just Talk,

38.6% for NAMI, 30.7% for TWC) than community (39.5%, 26.3%, 21) or education workers (25%, 20%, 8.3%). This supports the general trend evident in the models for Best Care and Crisis Team / KBBH, however because the models were not statistically significant the possibility that the between-group differences emerged due to chance cannot be ruled out.

Finally, there were significant differences by location in one case. This was in the significant model for Klamath Tribal Health Youth and Family Guidance Center ($X^2(182) = 12.86$, $p = 0.005$), where location emerged as the only significant predictor ($OR = 0.37$, $p = 0.002$). Here, a comparison of the descriptive statistics showed that awareness of Klamath Tribal Health Youth and Family Guidance Center was higher amongst professionals who worked in Chiloquin (72.4%) than those who did not work in Chiloquin (51.9%).

4.1.2 Awareness of suicide prevention interventions and training opportunities

Descriptive statistics. Next, respondents were asked whether or not they were aware of a series of suicide prevention interventions and training opportunities within Klamath County. The results for the entire sample are shown in Table 5. The options which the greatest proportion of respondents were aware of included Klamath Crisis Line (59.7%) and Citizens for Safe Schools (57%). By contrast, the options which the fewest respondents were aware of included Zero Suicide (5.9%) and ASIST (8.1%).

Table 5. **Awareness of suicide prevention interventions and training opportunities**

Suicide prevention intervention or training	**Yes (Aware)**	**No (Not Aware)**	**% Aware**
Klamath Crisis Line	111	75	59.7%
Citizens for Safe Schools	106	80	57%
QPR	85	101	45.7%
Lines for Life/Lifeline	53	133	28.5%
Mental Health First Aid	49	137	26.3%
Youth Line/Text Line	42	144	22.6%
Connect	22	164	11.8%
ASIST	15	171	8.1%
Zero Suicide	11	175	5.9%

Tests for between-group differences. Again, a series of logistic regression analyses were conducted to test whether the likelihood of awareness in each case differed by occupational sector and/or location. For five responses (ASIST, Citizens for Safe Schools, Connect, Lines for Life/Lifeline, Youth Line/Text Line), the logistic regression models were not statistically significant (p-values > 0.05), and so it was concluded that neither occupational sector nor location had a significant impact upon the likelihood of awareness.

Two of the significant models mirrored the trend of healthcare workers having the highest levels of awareness. Firstly, in the significant model for Klamath Crisis Line ($X^2(182) = 12.51$, $p = 0.006$), the dummy variable for healthcare profession emerged as the only significant predictor ($OR = 2.64$, $p = 0.016$). The comparison of descriptive statistics confirmed that awareness of Klamath Crisis Line was higher in healthcare workers (72.7%) than it was in community (50%) or education (46.7%) workers. Similarly, in the significant model for Mental Health First Aid ($X^2(182) = 29.98$, $p < 0.001$), the dummy variable for healthcare profession was again the only significant predictor ($OR = 5.35$, $p = 0.001$). Once more, awareness of Mental Health First Aid was considerably higher in healthcare workers (44%) than in community (13.2%) or education workers (8.3%).

The model for Zero Suicide was also significant ($X^2(182) = 11.9$, $p = 0.008$), but all of the individual predictors were above the cut-off point for statistical significance (p-values > 0.05). None of the sample of education workers were aware of Zero Suicide (0%), whereas awareness was slightly higher amongst community workers (5.3%) and healthcare workers (10.2%). The lack of statistical significance is likely due to the high margin of error caused by all education workers having the same response, so this effect should be interpreted with caution.

Finally, there was one response where there was an indication that the general pattern was reversed. This was the case for QPR Gatekeeper Training, for which the overall model was significant ($X^2(182) = 10.5$, $p = 0.015$). None of the individual predictors were significant (p-values > 0.05), however a comparison of descriptive statistics showed that awareness of QPR Gatekeeper Training was highest amongst education workers (61.7%), lower in community workers (44.7%), and lowest in healthcare workers (35.2%).

4.1.3 Selection of most urgent youth suicide prevention needs

Descriptive statistics. The following question asked respondents to report which were the most urgent youth suicide prevention needs in Klamath County, choosing "Yes" or "No" from a series of possible options. These responses are shown in Table 6. The results show that greater access to mental health services (77.4%) and more mental healthcare services/providers (65.1%) were generally considered to be the most urgent youth suicide prevention needs in Klamath County by the respondents. The option which the fewest respondents rated as an urgent need was suicide postvention training (38.2%).

Table 6. **Endorsement of suicide prevention needs**

Suicide Prevention Needs	**Yes (Selected)**	**No (Not Selected)**	**% Selected**
Greater access to mental health services	144	42	77.4%
More mental healthcare services/providers	121	65	65.1%
Mental health awareness training	119	67	64%
Suicide prevention training	111	75	59.7%
Anti-bullying campaigns	108	78	58.1%
Greater access to substance abuse prevention/treatment programs	105	81	56.4%
Peer support programs	105	81	56.4%
Strategic plan for suicide prevention efforts	89	97	47.8%
Suicide postvention training	71	115	38.2%

Tests for between-group differences. A series of logistic regression models were again fitted to test whether the likelihood of selecting each response differed as a function of occupational sector and/or location. Seven out of the nine models did not meet the criteria for statistical significance. Specifically, the non-significant models were those for anti-bullying campaigns, greater access to mental health services, mental health awareness training, more mental healthcare services/providers, peer support programs, strategic plans for suicide prevention efforts, and suicide prevention training (p-values > 0.05). As such, it was concluded that there were no between-group differences for any of these responses.

The model for suicide postvention training was statistically significant ($X^2(182) = 12.55$, $p = 0.006$), and both the location variable ($OR = 0.47$, $p = 0.021$) and the dummy variable for education profession ($OR = 0.38$, $p = 0.029$) emerged as significant predictors. The comparison by location showed that suicide postvention training was selected as an urgent need by a higher proportion of those who worked in Chiloquin (46.7%) than those who did not work in Chiloquin (28.6%). The comparison by profession showed that selection of suicide postvention training as

an urgent need was particularly high amongst community workers (55.3%), and lower for healthcare (37.5%) and education workers (28.3%).

The other significant model was for greater access to substance abuse prevention/treatment programs ($X^2(182) = 15.11$, $p = 0.002$). In this model, only the location variable was a significant predictor ($OR = 0.31$, $p < 0.001$). A comparison of the descriptive statistics by location shows that those who worked in Chiloquin (68.6%) were considerably more likely than those who did not work in Chiloquin (42.9%) to select greater access to substance abuse prevention/treatment programs as an urgent suicide prevention need.

4.1.4 Selection of greatest barriers in preventing youth suicide

Descriptive statistics. After this, respondents were then asked about the greatest barriers in preventing youth suicide in Klamath County. Again, they were shown a series of possible options, and then asked to answer "Yes" or "No" to whether this was one of the greatest barriers in preventing youth suicide (shown in Table 7). Here, the options chosen as the greatest barriers included a lack of knowledge about resources and interventions (71%) and resource availability (lack of funds for training, staff, etc.) (55.9%). The option which the fewest respondents endorsed was a lack of support in their organization for prevention efforts (21%).

Table 7. **Endorsement of barriers in preventing youth suicide**

Barriers in Preventing Youth Suicide	**Yes (Selected)**	**No (Not Selected)**	**% Selected**
Lack of knowledge about resources and interventions	132	54	71%
Resource availability (lack of funds for training, staff, etc.)	104	82	55.9%
Stigma among community members	91	95	48.9%
Lack of insurance coverage for mental healthcare	79	107	42.5%
Transportation to services	78	108	41.9%
Obtaining consent for services for youth under the age of 14	54	132	29%
Lack of support in your organization for prevention efforts	39	147	21%

Tests for between-group differences. Once more, a series of logistic regression analyses were fitted to test for between-group differences on the likelihood of endorsing each option as one of the greatest barriers in preventing youth suicide in Klamath County. Four of the regression models (those for mental healthcare, lack of organizational support for prevention efforts, obtaining consent for services for youth under the age of 14, and lack of knowledge about resources and interventions) were not statistically significant (p-values > 0.05), and so it was determined that there were no between-group differences on these responses.

In the significant model for predicting the likelihood of endorsing stigma among community members as a barrier was significant ($X^2(182) = 17.15$, $p < 0.001$), both the location variable ($OR = 0.39$, $p = 0.003$) and the dummy variable for education profession ($OR = 0.37$, $p = 0.025$) emerged as significant predictors. Comparing the descriptive statistics by location showed that there a higher proportion of those who worked in Chiloquin (60%) endorsed stigma among community members as a barrier than those who did not work in Chiloquin (36.4%). In

terms of occupational sector, endorsement of stigma among community members as a barrier was higher in community workers (65.8%) than it was in healthcare (50%) or education workers (36.7%).

Two other models also revealed significant differences by location. The first of these was the model for resource availability ($X^2(182) = 11.24$, $p = 0.011$), within which location was the only significant predictor ($OR = 0.37$, $p = 0.002$). The comparison showed that a higher proportion of those who worked in Chiloquin (65.7%) endorsed resource availability as a barrier than those who did not work in Chiloquin (44.2%). Similarly, in the model for transportation to services ($X^2(182) = 12.35$, $p = 0.006$), location was the only significant predictor ($OR = 0.45$, $p = 0.012$). Again, the proportion of those who selected transportation to services as a barrier was higher for those who worked in Chiloquin (67.9%) than those who did not work in Chiloquin (50%).

4.1.5 Preference ratings for types of youth suicide prevention information and resources

Descriptive statistics. The fifth question asked respondents to use a 4-point scale (1=Least preferred, 4=Most preferred) to rate different options for types of information and resources needed to address youth suicide prevention and intervention. The mean and standard deviation for each option is shown below, in Table 8. As shown, the types of information or resource which were most positively rated included tips for talking to youth about suicide ($M = 3.63$) and help to identify warning signs and symptoms ($M = 3.56$). The option which was rated least positively was tools for parents to talk to youth about suicide ($M = 2.46$).

Table 8. **Preference ratings for types of youth suicide prevention information and resources**

Type of information or resource	Mean	Standard Deviation
Tips for talking to youth about suicide	3.63	0.69
Warning signs and symptoms	3.56	0.67
Tips for talking to adults about suicide	3.46	0.75
How to develop a suicide safe community	3.45	0.73
Information about substance abuse and suicide	3.31	0.73
Tools for parents to talk to youth about suicide	2.46	0.98

Tests for between-group differences. Levene's test was used for each response to test for homogeneity of variance. The test was significant for ratings of tools for parents to talk to youth about suicide ($p = 0.05$), indicating that the assumption of homogeneity of variance had been violated. In other cases, Levene's test was not significant (p-values > 0.05), so the assumption of homogeneity of variance was met. To assess for normality, visual scans of Q-Q plots and histograms were conducted. In every case, this showed that the distribution of the response was non-normal (highly negatively-skewed for all responses except for ratings of tools for parents to talk to youth about suicide, which was highly positively-skewed). Overall, these tests showed that the assumptions for ANOVA were not met for any of the response variables. As such, the non-parametric Kruskal-Wallis test was used in each case instead.

In five of the six Kruskal-Wallis tests, neither the main effect of occupational sector nor the main effect of location were significant (p-values > 0.05). This was the case in the models for tips for talking to youth about suicide, information on warning signs and symptoms, information on developing a suicide safe community, information about suicide abuse and suicide, and tool for parents to talk to youth about suicide. As such, it was concluded that neither occupational sector nor location had a significant impact on these responses.

In the model for tips for talking to adults about suicide, occupational sector emerged as the only significant predictor ($p = 0.005$). A post-hoc test was computed using Tukey's method,

which revealed that the significant contrast was between community workers (M_M = 3.64) and education workers (M_M =3.16) (p = 0.046). The average rating from healthcare workers (M_M =3.23) was slightly higher than that of education workers.

4.1.6 Preference ratings for modes of training delivery

Descriptive statistics. Finally, respondents were asked to use the same 4-point scale (1=Least preferred, 4=Most preferred) to rate different options for types of training delivery (shown in Table 9). The results here show that the favored options for training delivery included pre-made materials (M = 2.18) and webinar sessions (M = 2.16). The least favored option was in-person training (M = 1.43).

Table 9. **Preference ratings for mode of training delivery**

Mode of training delivery	Mean	Standard Deviation
Pre-made	2.18	0.83
Webinar	2.16	1.00
Fact sheets/Articles	2.05	0.93
Videos	1.72	0.86
In-person	1.43	0.76

Tests for between-group differences. Again, before conducting the main analyses, I used Levene's test, Q-Q plots, and histograms to assess the assumptions of homogeneity of variance and normality of residuals. For the ratings of fact sheets/articles and pre-made trainings, the Levene's tests were not significant (p-values > 0.05), and a scan of the QQ-plots and histograms revealed an approximately normal distribution. Therefore, in these cases it was appropriate to use the factorial ANOVA. Levene's test was significant for ratings of in-person training (p = 0.007) and for ratings of videos (p = 0.006), and in both cases the distributions were

highly negatively-skewed. The distribution was also negatively-skewed for ratings of webinars, although in this case Levene's test was not significant ($p = 0.513$). Because the assumptions for ANOVA were not fully met for ratings of in-person training, videos, or webinars, the non-parametric Kruskal-Wallis test was used to assess between-group differences in these cases.

For four of the five between-group tests (pre-made training, fact sheets/articles, videos, in-person training), the main effects for occupational sector and location, and the interaction term between the two (in ANOVA models only), did not meet the criteria for statistical significance (p-values > 0.05). As such, it was concluded that there were no between-group differences for any of these responses.

In the Kruskal-Wallis test for training delivered by webinars, occupational sector emerged as a significant predictor ($p = 0.028$). The post-hoc comparison test using Tukey's method revealed that there was a significant difference between the ratings of education workers ($M_M = 2.34$) and healthcare workers ($M_M = 1.85$) ($p = 0.012$). The ratings of community workers ($M_M = 1.94$) were slightly higher than those of healthcare workers.

4.1.7 Summary of results

The Klamath County Community Needs Assessment surveyed the perceptions of professionals within Klamath County, so that the most important youth suicide prevention needs and opportunities could be identified. Overall, the results show that awareness of different suicide prevention resources and interventions varied considerably amongst the sample. Greater access to mental health services and more mental health services were rated as the most urgent youth suicide prevention needs, and a lack of knowledge about resources and interventions plus a general issue of resource availability were highlighted as the greatest barriers to youth suicide

prevention in the county. The professionals expressed the desire for more information to help them talk to youth about suicide and to help them identify warning signs and symptoms, and had a preference for pre-made training rather than in-person training.

The between-group difference tests showed that, in several cases, responses to the survey differed by occupational sector or by the location of the at-risk youth that the professional worked with. Most typically, the tests showed that awareness of certain resources or interventions was highest amongst healthcare workers and lowest amongst education workers. Additionally, there was evidence that community workers were more likely to endorse the need for suicide postvention training, and the barrier of community stigma, than the other groups.

4.2 The Klamath County Youth Survey

4.2.1 Perceived impact of environmental disasters on mental health

Descriptive statistics. As with the needs assessment, descriptive statistics were also calculated for each outcome variable on the youth survey. Firstly, the students were asked whether they would describe environmental disasters related to climate change (e.g., wildfires) as having a negative impact on their mental health. In total, 65 students (41.7%) believed that their mental health had been negatively affected by environmental disasters, whereas 91 students (58.3%) reported that their mental health was not negatively affected by environmental disasters.

Tests for between-group differences. The logistic regression model for the perceived impact of environmental disasters on mental health was not significant ($X^2(142) = 1.02$, $p = 0.8$). Therefore, it was concluded that nether school, gender, nor Native identity significantly affected the likelihood of a student believing that environmental disasters such as wildfires were having a negative impact on their mental health.

4.2.2 Awareness of school mental health services

Descriptive statistics. Next, students were asked whether they knew how to access mental health support services at their school. In total, 92 students (59%) reported that they did know how to access mental health services at school, whereas 64 students (41%) did not how to access mental health services at school.

Test for between-group differences. The logistic regression model for knowing how to access school mental health support services was not significant ($X^2(142) = 3.3$, $p = 0.35$). Therefore, it was concluded that neither school, gender, nor Native identity affected the likelihood of knowing how to access mental health support services at school.

4.2.3 Past usage of school mental health services

Descriptive statistics. The next question asked students whether they had previously accessed mental health services at their school. The results here showed that 35 students (22.4%) had accessed their school's mental health services, whereas 121 students (77.6%) had not accessed their school's mental health services.

Test for between-group differences. The logistic regression model for past usage of school mental health services was not significant ($X^2(142) = 3.3$, $p = 0.35$). Therefore, it was concluded that the likelihood of having previously accessed mental health support services at school was not significantly affected by school, gender, or Native identity.

4.2.4 Ratings of the extent to which voice is heard on mental health issues

Descriptive statistics. Students were next asked to rate how confident they were that their voice was being heard on youth mental health issues, which they were asked to answer on a 4-point scale (1=Not confident, 4=Very confident). As Figure 4 shows, the most popular

response was “somewhat confident” (38.5%). Converted onto the numeric scale, the mean average across the sample was 2.37.

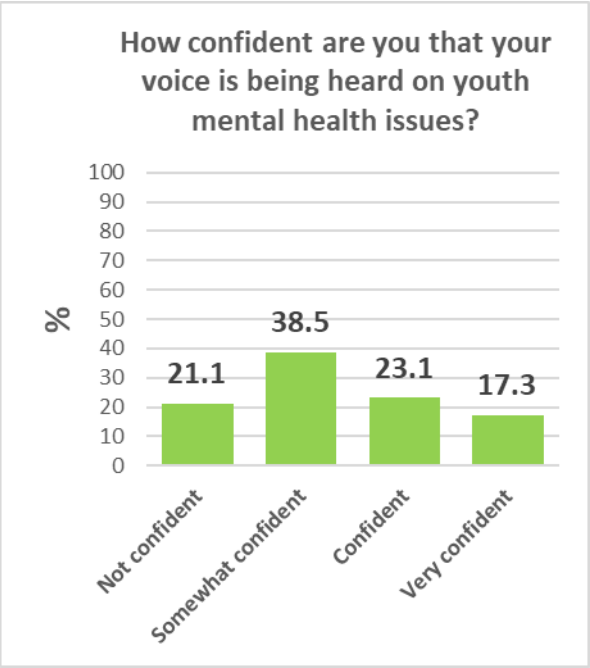

Figure 4. **Ratings of the extent to which voice is heard on mental health issues**

Test for between-group differences. Levene’s test was not significant ($p = 0.12$), indicating that the assumption for homogeneity of variance had been met. A scan of the QQ-plot and histogram for the response showed that an approximately normal distribution had been met. As such, a factorial ANOVA was used to test for between-group differences. In the model, the main effect of school was the only significant predictor ($p = 0.035$). A comparison of the marginal means showed that ratings of confidence that their voice was being heard on mental health issues were higher at the elementary school ($M_M = 2.73$) than at the high school ($M_M = 2.31$).

4.2.5 Ratings of the usefulness of school mental health services for promoting student well-being since COVID-19

Descriptive statistics. The next question asked participants to rate how useful their school's mental health support services had been for promoting student well-being since the onset of the COVID-19 pandemic. Again, a 4-point scale was used, ranging from 1=Not useful to 4=Very useful. As Figure 5 shows, the most common response was "somewhat useful" (38.5%). The mean average across the sample for this response was 2.26.

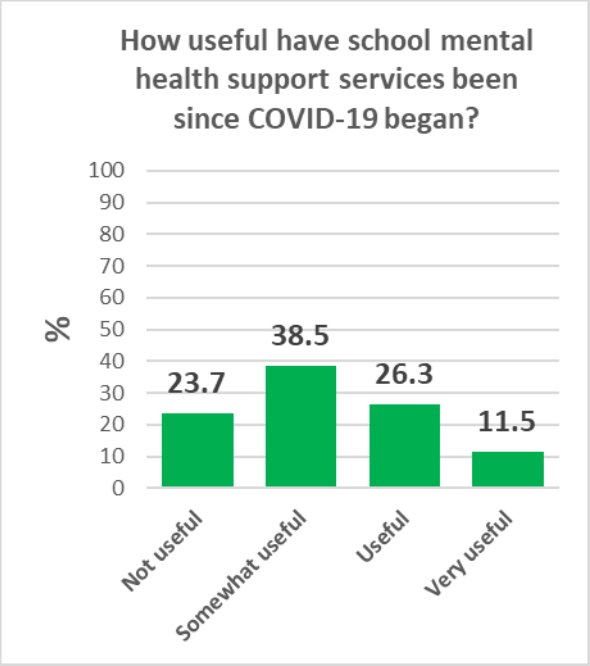

Figure 5. **Ratings of the usefulness of school mental health services for promoting student well-being since COVID-19**

Test for between-group differences. Levene's test was not significant ($p = 0.26$), indicating homogeneity of variance. A scan of the QQ-plot and histogram for the response revealed an approximately normal distribution, so the assumptions for ANOVA were met. In the factorial ANOVA model, all of the main effects and interaction terms were above the threshold

for statistical significance (p-values > 0.05). As such, it was concluded that ratings of how useful school mental health support services had been for promoting student well-being since the onset of COVID-19 were not significantly affected by school, Native identity, or gender.

4.2.6 Ratings of comfort in talking to one another about mental health issues

Descriptive statistics. The third of the questions about school support concerned students' perceptions on the extent to which school faculty and staff are comfortable with talking to youth about suicide. Once more, a 4-point scale was used for the response, ranging from 1=Not comfortable to 4=Very comfortable. Here, the most common response was "somewhat comfortable" (37.2%), and the least common response was "very comfortable" (10.3%) (Figure 6). The mean average score across the sample was 2.18.

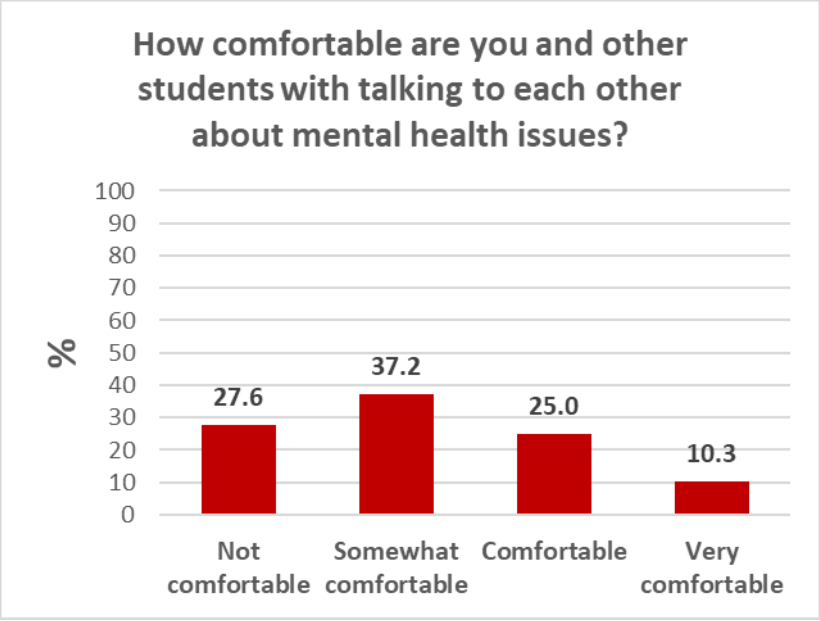

Figure 6. **Ratings of comfort in talking to one another about mental health issues**

Test for between-group differences. Visual scans of the QQ-plot and histogram confirmed that ratings of comfort in talking to one another about mental health issues followed an approximately normal distribution. However, Levene's test was significant (p = 0.03), indicating that the assumption of homogeneity of variance was not met. As such, Kruskal-Wallis test was used to assess between-group differences. The test revealed that there was a significant effect of gender (p = 0.003) on ratings of students' comfort in talking to one another about mental health issues, whilst the other main effects and interaction terms were not statistically significant (p-values > 0.05). A comparison of the marginal means revealed that male students tended to rate students' comfort in talking to one another about mental health issues higher (M_M = 2.33) than did female students (M_M = 1.89).

4.2.7 Ratings of comfort in seeking school support for mental health issues

Descriptive statistics. The following question asked students to rate how comfortable they and other students are in seeking school support for mental health issues, on a 4-point scale ranging from 1=Not comfortable to 4=Very comfortable. The most common response was "somewhat comfortable" (39.7%), and the least common response was "very comfortable" (7.7%) (Figure 7). There was a mean average score of 2.23 across the sample.

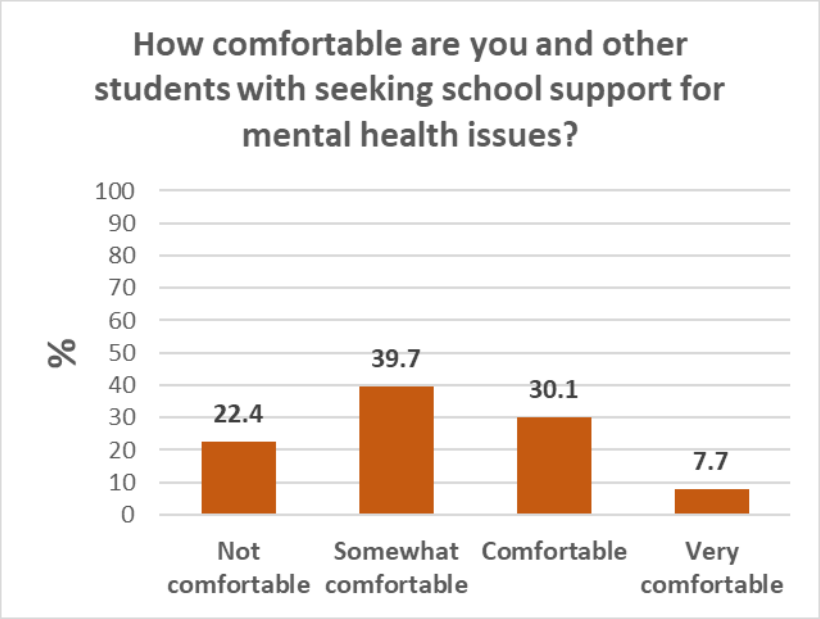

Figure 7. **Ratings of comfort in seeking school support for mental health issues**

Test for between-group differences. Levene's test was not significant ($p = 0.33$), and the scan of the QQ-plot and histogram revealed an approximately normal distribution. As such, the factorial ANOVA was used. The test showed that all of the main effects and interaction terms were not statistically significant (p-values > 0.05). This suggests that ratings of comfort in seeking school support for mental health issues were not significantly affected by school, Native identity, or gender.

4.2.8 Ratings of perceived comfort of school staff in talking to youth about suicide

Descriptive statistics. The next question asked students how comfortable they felt that school staff and faculty were in talking to youth about suicide. Again, a 4-point scale ranging from 1=Not comfortable to 4=Very comfortable was used in the response. The majority of

students chose either “somewhat comfortable” (32.1%) or “comfortable” (31.4%) (Figure 8). The mean average score across the sample was 2.31.

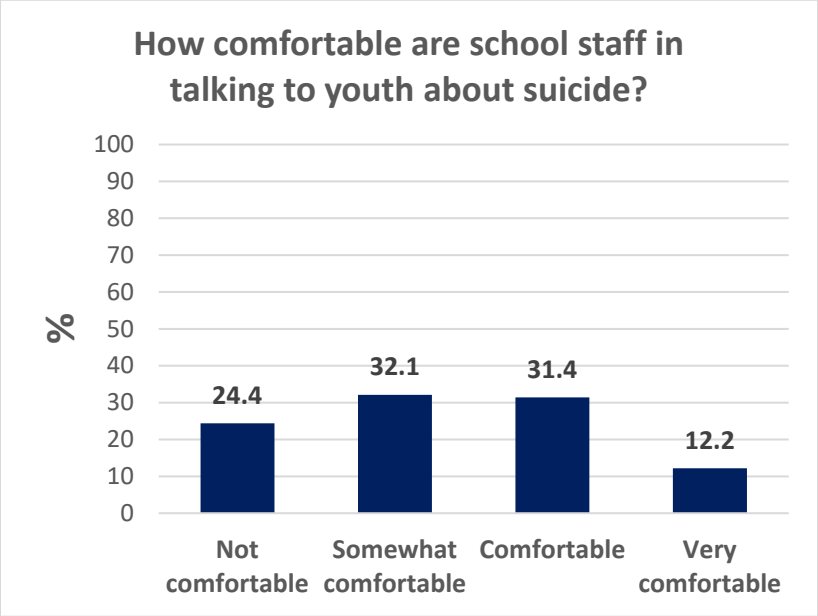

Figure 8. **Ratings of perceived comfort of school staff in talking to youth about suicide**

Test for between-group differences. Levene’s test was not significant ($p = 0.18$), and the QQ-plot and histogram showed that responses followed an approximately normal distribution, and so the assumptions for ANOVA were met. The factorial ANOVA for ratings of the perceived comfort of school staff or faculty in talking to youth about suicide revealed that the main effect of school was significant ($p = 0.002$), whereas the other main effects and interaction terms were not significant (p-values > 0.05). A comparison of the marginal means revealed that students at the high school tended to give higher ratings to the perceived comfort of school faculty and staff in talking to youth about suicide ($M_M = 2.45$) than did students at the elementary School ($M_M = 1.89$).

4.2.9 Any other issues related to seeking support for mental health issues

Descriptive statistics. The final question on the survey asked students "Are there other issues/obstacles that students encounter in seeking support for mental health issues?". Overall, 68 students (43.6%) decided to report additional issues, whereas 88 (56.4%) did not.

Test for between-group differences. The logistic regression model was not significant ($X^2(142) = 4.12$, $p = 0.25$), indicating that neither school, gender, nor Native identity affected the likelihood of reporting additional issues or obstacles related to seeking support for mental health issues.

Qualitative analysis of written responses. I conducted a brief content analysis on the additional responses that were given, by identifying recurring themes and grouping the responses into categories. The results here showed that 17 responses (25%) concerned factors relating to the students themselves, particularly about anxiety they might feel in coming forward (e.g., "Being uncomfortable talking to others about personal stuff", "not use [sic] to talking to people about my issues"). Fourteen responses (20.6%) concerned the students' families (e.g., "People have a hard time speaking to… their parents") and 10 responses (14.7%) concerned the school (e.g. "teachers being to busy [sic] to notice you"). Interestingly, 6 responses (8.8%) concerned the recent COVID-19 pandemic (e.g. "Some people find the coronavirus really disturbing with all this 6 feet distance", "Frustrated about long distance learning and staying at home can make people depressed").

4.2.10 Summary of results

The Klamath County Youth Survey surveyed the perceptions of schoolchildren within Klamath County, to directly understand the youth voice on issues related to mental health and

suicide prevention. The results showed that slightly more than half of students were aware of the mental health services at their school, and slightly less than one quarter of students had accessed those services previously. The students had mixed views on the extent to which their schools have useful mental health services or capture the youth voice on mental health issues, on their own comfort in talking to one another about mental health issues or seeking school support for mental health issues, on the extent to which their mental health had been affected by environmental disasters, and on their perceptions of teachers' comfort in talking to youth about suicide. Factors which prevented youth from seeking support for mental health issues included the anxiety they might feel in coming forward and family issues.

The results of the inferential tests showed that students from the two schools differed on two responses. Compared with those at the elementary school, those at the high school rated their school faculty and staff as being more comfortable in talking to students about suicide. However, they were less positive than students at the elementary school that their voice was being heard on mental health issues.

In terms of the other grouping variables, there was just one significant effect of gender. It was shown that male students tended to rate students' comfort talking to one another about mental health issues higher than female students did. There were no significant effects of Native identity.

4.3 Content Analysis of the Research-Practice Partnership Meeting Agendas and Minutes

4.3.1 Building trust and cultivating partnership relationships

Overall, there was clear evidence to show that the "building trust and cultivating partnership relationships" dimension was at the forefront of the group's activities. There was clear evidence of this throughout the meeting agendas and minutes.

Working together. The very act of setting up meetings and inviting a diverse group of participants from both the UO Suicide Prevention Lab and the Klamath Suicide Prevention Coalition, demonstrates a clear commitment to bringing together researchers and practitioners for routine partnership. Hence, each of the 20 meetings that were held can be considered as evidence that this indicator was achieved. There was also evidence to show that attendees understood the importance of collaborating beyond the partnership itself. For example, in several sessions they discussed the necessity of engaging with different practice organizations, particularly schools and primacy care providers. Likewise, the need to liaise regularly with and learn from tribal representatives was acknowledged.

Collaborative routines. Within each meeting, there were clear routines established to promote collaborative decision-making between researchers and practitioners. The agenda, which was e-mailed to all meeting attendees in advance, clearly listed the most important items to discuss. This foreshadowed the decisions that would need to be made and allowed the attendees to arrive at the meeting having first considered the decision personally. The meetings were conducted online using the Zoom videoconferencing platform, which supported enhanced communication by enabling private chats to be conducted alongside the main meeting, and by enabling members to share and discuss online resources and documentation. To further support collaboration, sub-committees were set up to focus on specific tasks. Finally, efforts to guard

against power imbalances were made by ensuring that each meeting was formally facilitated, where the facilitator paid attention to the contributions made by less senior members of the RPP and encouraged them to speak up if they seemed nervous.

Norms of interaction. Whilst enacting these collaborative routines, there was some evidence to show that meeting attendees were able to establish norms of interaction supporting collaborative decision-making and equitable participation. For example, in each meeting a member of the Klamath Tribes facilitated meetings and sub-committee meetings with either an ice-breaker activity and/or a grounding exercise or question. This helped to ease any nervousness that group members may have been feeling, creating an environment in which everybody felt comfortable with one another and confident in discussing issues openly and without fear of judgment. In future, it will be useful to explore whether and how this open and trusting environment may be further supported by specific strategies designed to establish norms of interaction.

Mutual respect. There was evidence to show that the researchers and practitioners involved in the RPP respected one another, and also respected the expertise of stakeholders who were not formally members of the partnership. For example, the notes show that there were frequent discussions between researchers and practitioners, where both parties were able to offer their own specific expertise and learn from others. Additionally, by acknowledging the need to involve experts beyond the UO Suicide Prevention Lab and the Klamath Suicide Prevention Coalition (e.g., primary care providers, tribal leaders), the attendees demonstrated respect for diverse forms of expertise extending beyond the partnership itself.

Acknowledging demands. Finally, there was also evidence that team members' work demands were taken into account when partnership goals were specified. For example, on

August 4th 2020 and January 15th 2021, the group discussed how the ongoing coronavirus pandemic had affected school planning and the prevention work carried out within schools. By placing such items on the agenda, the RPP ensured that these types of demands were well understood by all members and provided an opportunity for the group to discuss them and reach a resolution.

4.3.2 Conducting rigorous research to inform action

The most common themes that recurred throughout the content analysis related to the "conducting rigorous research to inform action" dimension. Largely, this related to the fact that the meetings were primarily set up to determine which specific problems within Klamath County should be addressed by the research, what research methods should be used to address those problems, and how the intended research could be successfully carried out.

Research relevancy. Numerous group activities were centered around ensuring that the research tools that were being used (e.g., survey instruments, focus group guides) were fit-for-purpose and suitable for addressing the most salient issues identified by the partner organization. For example, on January 31st 2020, the group reviewed and finalized the survey that had been created, ensuring that it would be suitable for conducting a needs assessment of youth suicide prevention practitioners in Klamath County. Similarly, on July 14th 2020, the group discussed the types of question that should be used within a youth focus group, so that the 'youth voice' on mental health and suicide prevention could be adequately drawn out.

Research feasibility. The feasibility of the intended research was addressed through regular discussions around the extent to which the proposed research methods and designs could actually be carried out, in practice. For example, on eleven separate occasions across the 18-

month period the group discussed the use of incentives as a means of encouraging participation in the research. Other concerns that were discussed around feasibility included methods for the selection of participants, methods for distributing hard copies of surveys, and methods for identifying which participants to target for follow-up sessions.

Identifying problems. Aligned with discussions on research relevancy and feasibility were conversations around ensuring the research adequately helped to identify the most important problems of practice which could be supported by the research activities of the partnership. For example, the need to conduct interviews and focus group sessions with tribal youth, in order to better understand the specific needs and barriers related to mental health and suicide prevention perceived by this group, was discussed on numerous occasions. The problem-identifying activities also extended beyond the work of the RPP and showed awareness of external sources of data. For example, the results of the Student Wellness Survey were shared within the group on January 31st 2020, followed by a discussion on how these results could help to shape the work conducted within the RPP.

Data processes. There were repeated agenda items for the group to review the survey data that had been collected (e.g., on April 7th 2020, on April 17th 2020, on May 1st 2020, on April 17th 2021), demonstrating a collaborative approach to data analysis which drew upon the expertise of different group members. Additionally, on several occasions one attendee would alert the group to a piece of research that had been conducted externally, which it may be beneficial for the group to review together (e.g., on July 14th 2020, the group discussed official data that had been collected on suicide in Klamath County and in Oregon). In this way, the group established effective methods for the identification and analysis of relevant sources of data.

Acknowledging needs. On various occasions, the RPP took into account potential issues within the partner organization which might affect the successful completion of the project. For example, on June 16th 2020 group members discussed the issue of historical distrust of public health organizations within tribal communities, and how that might affect data collection. On July 14th 2020, the group discussed the issue of stigma surrounding mental health within tribal communities, and how this might affect respondents' willingness to complete surveys and their honesty when doing so. The partnership, particularly the involvement of members from the Klamath Tribes, helped to bring these potential issues to the forefront, so that they could be discussed openly by group members until a suitable resolution could be found.

4.3.3 Supporting the partner practice organization in achieving its goals

The content analysis confirmed that significant attention had been paid to the "supporting partner practice organization in achieving its goals" dimension across the course of the RPP. This was particularly evident in the latter meetings, where the focus had shifted from "What sort of research should we be conducting?" to "How can the research we have conducted by effectively applied in the community?"

Specific research provision. Providing research and evidence to support improvements in the partner organization was evidently one of the most important activities of the RPP. For example, group members created the "Klamath Tribes Cultural Connectedness" survey and supporting documentation, so that they would be able to better understand both the strengths and the opportunities for improvement within the target. Additionally, research provision efforts became a particularly important topic of conversation within the meetings once the main research activities of the RPP had been concluded. For example, on April 16th 2021, there were

discussions around how the results of the needs assessment could be leveraged to support and improve youth suicide prevention work in Klamath County.

Specific strategy identification. Directly aligned to the research work were frequent discussions around the identification of productive strategies which could help to address problems of practice known to the Klamath Suicide Prevention Coalition. Indeed, this was one of the most frequently recurring themes throughout the meetings. For example, on February 12th 2020 the group discussed how the work that had been undertaken could be used to support the development of a suicide postvention plan, on June 4th 2020 the group discussed how the work could be used to support the development of a compelling county action plan, and on July 16th 2021 the group discussed the potential benefits of developing training to increase service providers' knowledge of suicide signs and symptoms.

Specific research application. Strategies for translating research findings into practice, and continually improving these implementation efforts, were another recurring focus of the group's discussions. In particular, a proposal was put forward to host a youth Gathering of Native Americans ("youth GONA") within Klamath County. A GONA is a culture-based planning process structured to explicitly reflect AI/AN cultural values, traditions, and spiritual practices, where community members gather to address important issues in a session led by community-based expert facilitators. The proposal for a youth GONA was identified as a particularly valuable means by which important research findings could be shared with adolescents within the Klamath tribes and was discussed on numerous occasions. So too were proposals for sharing research findings more generally within the community, helping practitioners and tribal members understand the nature of the problems experienced by young people within the community, and how these might be effectively addressed.

4.3.4 Producing knowledge that can inform broad educational improvement efforts

Whilst it was highly valuable to identify specific research evidence and practical strategies which might help address the problem of youth suicide within Klamath County, the work of the RPP was not limited to this context. Rather, the content analysis revealed that the "producing knowledge that can inform educational efforts more broadly" dimension was also met, showing that partnership members were also cognizant of the need to consider the broader implications of their work.

Broad research provision. There were numerous examples of group members discussing important research evidence and theoretical frameworks, helping to enhance the overall research base underpinning the project. For example, on February 12th 2020 the group highlighted the importance of identifying research into foraging trust in communities which have historical distrust of public health bodies. In this way, the lessons learned during the partnership with the Klamath tribes might also be applicable and valuable for other RPPs working with other marginalized communities. Similarly, on July 17th 2020, the group agreed that it would be beneficial to identify research into methods for reducing community stigma around mental health and suicide. Again, the results of this research are likely to be applicable beyond just the Klamath tribes and will help researchers and practitioners understand the most effective ways to reduce community stigma in other contexts too.

Broad strategy identification. There were several conversations around the identification and development of tools and routines that could be adapted to support youth suicide prevention work more broadly, beyond just the specific aim of reducing youth suicide within Klamath County. For example, on numerous occasions the group discussed general initiatives that might help with youth suicide prevention, such as the PEACE protocol and QPR

(Question, Persuade, Refer) Gatekeeper training. Whilst the group were primarily interested in exploring the appropriateness of these initiatives for the specific context of Klamath County, the wider discussions around the training also involved consideration of the extent to which these initiatives had proved to be effective more generally.

Dissemination plans. There was some evidence to confirm that the RPP were explicitly developing plans for disseminating the findings of the research, both within the partner organization and more broadly. For example, the creation of a clear dissemination plan was included as an agenda item as early as January 31st 2020, and then reviewed the following month on February 28th 2020. Later, more specific strategies for dissemination were identified. For example, on July 16th 2021 the group discussed disseminating the results of the youth survey through the Youth GONA and the Klamath Tribes Youth Summit. However, whilst dissemination activities that supported the partnership goals were regularly discussed, there was less focus on the plan for broader dissemination. It would be valuable for the RPP to focus on this as well before the partnership comes to an end.

4.3.5 Building the capacity of partnership members

Finally, at numerous times across the course of the meetings, attendees demonstrated a willingness to actively build research and practice capacity, at both the individual and organizational level, so that the benefits of the partnership could continue to be realized in the longer-term future. This was particularly evident for the capacity-building and resource allocation indicators. There was also evidence to suggest that the other indicators had been met, however this was more indirect.

Capacity building. At regular intervals, group members held discussions around the identification of training opportunities for practitioners and tribal community members to gain formal youth suicide prevention qualifications. For example, the Applied Suicide Intervention Skills Training (ASIST) workshop was dissed on June 12th 2020, and the QPR gatekeeper training was discussed on July 17th 2020. By identifying these types of programs and discussing methods for encouraging partnership members to sign up for them, the RPP showed a clear willingness to provide capacity-building opportunities for team members. This is not only beneficial to the development of the team members themselves, but also helps to develop the capability of the organizations they work for and/or the communities they represent.

Identity development. The development of new professional identities, centered around collaborative inquiry and problem-solving, was not explicitly mentioned during the meetings. However, it could be argued that this was achieved indirectly through the very act of introducing regular collaborative meetings in the working lives of group members, and by identifying opportunities for group members to develop professionally. In this way, it can be expected that group members would become better able to address the problems they experienced in their day-to-day work as youth suicide prevention practitioners.

New roles. Likewise, the development of new roles centered around partnership work was not explicitly discussed by meeting attendees, however it was likely that this was achieved more indirectly in numerous ways. For example, the work of the RPP represented a significant departure from the ordinary working activities of group members (e.g., the researchers previously had limited practical experience in youth suicide prevention, and the practitioners and community members had limited experience with formal research methods). In this way, by

participating in the RPP, group members took on new and different roles which left them better equipped to carry out youth suicide prevention work.

Cultural change. Although group members did not directly talk about ambitions for changing the culture around research and evidence use within the Klamath County Suicide Prevention Coalition and the Klamath Tribes, the various times at which the potential benefits of different types of research were highlighted can be interpreted as an ambition to promote the use of research within practice. For example, the potential benefits of the Needs Assessment for identifying the most pressing barriers to youth suicide prevention in Klamath County were highlighted. Likewise, the potential benefits of the Youth Survey for better understanding the feelings of Klamath County youth themselves were also highlighted. In this way, it can be anticipated that the practice organizations involved in the RPP will come to appreciate the benefits of research and use it more regularly in future work.

Shifting expectations. Just as the success of the RPP will help practice organizations appreciate the value of research, so too will it help education researchers to see the value in sustained partnerships with practitioners. For example, by working directly alongside practitioners in the early stages of the RPP, researchers from the UO Suicide Prevention Lab were able to better understand exactly which questions should be included in the surveys, and which evidence-based interventions might be most effective for the local context. In this way, it can be anticipated that participating in the RPP has helped to change expectations over what education research should entail, helping the researchers to embed this new perspective in their future research work.

Establishing impact. There was some evidence that the RPP sought to establish conditions in the practice organization that would help to bring about effective and lasting

change, beyond the life of the partnership. This was addressed through the capacity-building, strategy identification, and research application activities which were discussed in earlier sections. These training and implementation activities will continue to help practitioners and tribal community members in Klamath County to work effectively on youth suicide prevention, even when the RPP has been formally concluded.

Resource allocation. The group frequently discussed practical issues around the allocation of resources to support partnership work. For example, on different occasions the group discussed seeking out funding opportunities such as request or proposals (RFPs), Garrett Lee Smith grants, and PEACE protocol funding. Additionally, on several occasions the group also discussed resource mapping activities, ensuring that the funding which had already been secured was being suitably directed to the most appropriate activities for enabling the RPP to achieve its aims.

4.3.6 Summary of results

The content analysis clearly demonstrates that the RPP met the vast majority of the indicators of effectiveness put forward by Henrick and colleagues (2017). In particular, there was strong evidence to suggest that the group were particularly interested in conducting rigorous research, ensuring that the research activities conducted under the auspices of the RPP were both relevant and feasible. Considerations for research extended beyond just initial research design and data collection, and systematic processes for analyzing data were also taken into account. There were also clear efforts to use research to identify the key issues regarding youth suicide prevention work in Klamath County, and to draw upon group members' expertise when identifying evidence-based interventions that could be used to address these problems.

Certain indicators were met in a relatively indirect way, and in future RPP work it might be beneficial to consider these more explicitly. For example, whilst there was evidence to show that the development of new professional identities and organizational roles was likely achieved through the partnership work, it could have been more productive to include identity and role development as an official agenda item for the group, so that attendees could think in more detail about how this development might be supported. Likewise, the ambition to promote a culture around research and evidence use amongst practitioners and the Klamath tribal community was likely achieved by conducting successful research projects, but it may have been more helpful for the group to openly discuss methods for inspiring this research-centered culture as part of their wider dissemination activities.

4.4 Summary

Overall, the results of the three groups of analyses are very useful in terms of both deriving valuable insights that can be used as part of the RPP, and or evaluating the effectiveness of the RPP and highlighting opportunities for future improvement. The needs assessment surveyed the perceptions of professionals working directly or indirectly on youth suicide prevention in Klamath County, helping to identify the failings of current practice and the most important issues to resolve in future work. The youth survey revealed that students often struggle to access a suitable level of mental health support from their school, which is likely to be one of the contributing factors to the relatively high youth suicide rate in the county. Finally, the content analysis revealed that the RPP had generally adhered to best-practice principles for effectiveness. However, it will still be important to ensure that certain factors, particularly the culture around

research and evidence use by practitioners and tribal community members, continue to be promoted and enhanced even once the partnership has formally ended.

CHAPTER V: DISCUSSION

In the fifth and final chapter, the results of each of the three studies (Klamath County Community Needs Assessment, Klamath County Youth Survey, and content analysis of RPP meeting minutes and agendas) will be discussed in turn. The results of each study will be discussed in relation to previous research and theory, implications for future research and practice will be highlighted, and the limitations of the studies will also be stated. Then, a synthesis of the three studies will follow, discussing the overlapping elements of the studies and the ways in which they each contributed to the same aim. Next, a plan for disseminating the results of the research to key stakeholders will be outlined, and the key lessons learned for both the practice partner organization and the research organization will be outlined. Finally, the chapter will finish with a brief conclusion.

5.1 Evaluating the Klamath County Community Needs Assessment

5.1.1 The results in relation to previous research and theory

The results of the Klamath County Community Needs Assessment show that, in general, greater access to mental health services and more mental health services were rated as the most urgent youth suicide prevention needs, and a lack of knowledge about resources and interventions plus a general issue of resource availability were highlighted as the greatest barriers to youth suicide prevention in the county. Professionals tended to want more information on how to talk to youth about suicide and how to identify the warning signs and symptoms of suicide, and preferred ready-made presentations rather than in-person training. Overall, awareness of particular interventions was highest amongst those who worked in healthcare and lowest amongst those who worked in education. For those who worked in the community, there were

particularly high ratings regarding the barrier of community stigma and the need for suicide postvention training.

Of course, these results are highly specific to the context of Klamath County, and it would therefore be inappropriate to extrapolate beyond this context to make inferences about youth suicide prevention more broadly. Indeed, the ability to capture detailed data on Klamath County specifically was one of the major advantages of the survey. It has enabled the RPP to understand the key needs and barriers to be addressed, to develop a strategic plan to resolve those issues and thereby improve youth mental health services within the county.

Nonetheless, despite the specificity of the research findings, the results can still be discussed in the context of youth suicide prevention theory. It is useful here to revisit the concept of infrastructuring, which is a key aspect of DBIR. This refers to the process of creating reliable working infrastructures (Star, 2010), defined as the network of tools, relationships, standards, and protocols that individuals or groups rely on to carry out daily tasks and accomplish goals (Pipek & Wulf, 2009). In this context, the ultimate goal to be achieved is the reduction of youth suicide prevalence rates, and the infrastructure supporting this goal is the network of different formalized and more indirect forms of mental health support that youth in Klamath County have access to.

This directly and equally implicates the education sector (i.e., the teachers and school staff who work with at-risk youth on a day-to-day basis), the community (i.e., the individuals who live alongside the at-risk youth), and healthcare workers (i.e., the trained professionals responsible for delivering mental health support services to at-risk youth). In this way, therefore, the results of the needs assessment can be interpreted as revealing a poorly functioning infrastructure for youth mental health support in Klamath County. By implementing the various

recommendations that will be made for improving future practice, the RPP will help to transform this infrastructure, enabling professionals to reach and help those young people within the county who have developed symptoms of poor mental health more effectively.

5.1.2 Implications for future research and practice

The results of this study lead very clearly to opportunities for improving existing service delivery within Klamath County, which will be key to the process of infrastructuring. Firstly, the identification of the most pressing needs is naturally very useful for helping to prioritize the most important next steps at improving youth mental health services in the county. The results show that the professionals expressed the need for more mental health services in general, and greater access to the existing mental health services. Given the relatively high proportion of AI/AN respondents within Klamath County, this appears to reflect the general finding that AI/AN individuals have poorer access to suitable health services than other groups (Northwest Tribal Epidemiology Center, 2014).

One way to address this would be to perform an analysis on the ratio of mental health service providers to people across the county, so that the areas with the most limited accessibility to mental health services (likely to be rural areas) can be identified, so that new services can be set up in those areas. Another potentially valuable strategy would be to consider the growing use of psychotherapy delivered via videoconferencing platforms such as Skype or Zoom (e.g., Humer et al., 2020), so that individuals living in remote areas would only need an Internet connection to access mental health support, reducing the need to set up a new service in a geographically proximate location. Here, it will be important to stay cognizant of the growing research base comparing the effectiveness of in-person and videoconferencing forms of

psychotherapy. If the latter transpires to be less effective, it will be important to develop strategies for ensuring those living in areas with limited in-person mental health services are still provided a clear pathway to access in-person care when needed.

Another important finding in terms of prioritizing next steps was the identification of the greatest barriers to effective youth suicide prevention in the county. Here, it was found that a lack of knowledge about resources and interventions was rated as the most prominent barrier, selected by more than 70% of the sample. This suggests that the issue is not only one of accessibility, but also one of awareness. Suitable mental health support may already exist, but the intended beneficiaries are unaware of it or unaware how to access it. This problem could be addressed through a targeted public health awareness campaign, making use of modern methods such as social media advertising to improve the reach of the campaign.

Awareness is not only an issue amongst the public, but also amongst the practitioners themselves. Specifically, the survey showed that awareness of suicide prevention resources and training opportunities tends to be considerably higher for healthcare workers than it is for community or education workers. This points to the need for sector-specific awareness campaigns aimed at practitioners, recognizing that it is not only those working in healthcare who have a part to play in reducing youth suicide. Early intervention is crucially important for preventing the degeneration of mental health disorders (Cross et al., 2014), and so the teachers and community workers who see the at-risk youth on a daily basis therefore have an important role in identifying the early symptoms of poor mental health.

Indeed, advice on how to identify the warning signs and symptoms of suicide emerged as one of the most preferred types of informational content amongst the sample as a whole, as did advice on how to talk to youth about suicide. They preferred for this training to be available in

pre-made formats, possibly due to limited availability for attending in-person seminars. Future collaborations between researchers and practitioners will be essential for creating such resources. For example, content around how to talk to youth about suicide could be created by reviewing the existing academic literature on the topic and by surveying child psychotherapists to understand best practices.

Finally, and more generally, the results of this survey also have important implications for the research component of similar RPPs in the future. Specifically, we have demonstrated the utility of surveying the perceptions of experts, who work on the problems which are to be addressed on a day-to-day basis. We have shown how this insight can then be used to create an action plan which aims to resolve the identified issues, combining best practice from academia and practice, and tailoring the suggested intervention for the local context. Hopefully, this serves as a useful and replicable model for future researchers and practitioners seeking to understand which forms of research should be employed within their own RPPs.

5.1.3 Limitations

The first limitation has already been touched upon briefly in Section 5.1.1 and concerns the low response rate to questions regarding demographic characteristics. Unfortunately, this restricted the ability to test whether responses to the survey differed as a result of gender, age, or ethnicity. These had not been specified as key priorities of the analysis, but nonetheless it would have been interesting to explore whether between-group differences of this sort had emerged. It is likely that the low response to these questions occurred because of concerns about anonymity and that's why questions were included at the end of the survey as optional. Future researchers should take care to ensure that concerns about anonymity are addressed.

More generally, the second limitation concerns the fact that the research used a cross-sectional methodology, which largely sought to generate descriptive statistics on stakeholders' perceptions. This was a crucial first step in the overall process of improving youth mental health services in Klamath County but is also limited with respect to the fact that this was an exploratory methodology which did not enable causality to be determined. For example, we cannot say for sure whether addressing the identified needs and barriers (using strategies suggested in Section 6.1.2) will reduce the prevalence of youth suicide in Klamath County, as causal relationships between the identified factors and youth suicidal ideation and attempts have not been established. For this reason, it will be necessary to continue to employ different forms of research and evaluation across the entire service improvement operation, ensuring that the best available insight is used to guide decisions at each stage of the process. Other limitations include the convenience sample (which is mitigated by the large sample size) and the use of single-item measures rather than validate scales.

5.2 Evaluating the Klamath County Youth Survey

5.2.1 The results in relation to previous research and theory

The results of the Klamath County Youth Survey showed that students had mixed views regarding the accessibility and effectiveness of the mental health services at their school. Slightly more than half were aware of the mental health services at their school, and slightly less than one quarter of students had accessed those services previously. Ratings of the usefulness of those services and the extent to which they incorporated the youth voice tended towards the negative side, as did ratings of their own and of teachers' comfort in talking to youth about suicide. There

was evidence to suggest that the students may have avoided seeking support due to the stigma of mental health, anxiety they felt about coming forward, and because of family issues.

Earlier in the dissertation, the IPTS (Joiner, 2005; Van Orden et al., 2010) was introduced as a framework which described the development of suicidal ideation, through the combination of thwarted belongingness, perceived burdensomeness, and acquired capability. Whilst it was not the intention of the survey to directly measure any of those constructs, it is useful to revisit them to understand how the absence of an effective mental healthcare support system might cause symptoms of depression to degenerate into suicidal ideation, and (when combined with acquired capability) the increased likelihood of suicidal behavior.

For example, a youth may develop depressive symptoms for any number of reasons, sometimes related to lifestyle factors but often completely biological in nature and beyond the control of the individual (Hankin, 2006). They may initially be able to maintain a high level of functioning despite the presence of these symptoms, but eventually they are likely to affect social functioning and damage the individual's relationships (Hirschfeld et al., 2000), causing thwarted belongingness. The more that their functioning is affected, the more likely they are to view themselves as a burden to family members or other close contacts. Without an effective means of dealing with the symptoms that they are experiencing and the way in which their life is being affected, they might turn to self-harm as a maladaptive form of relief (e.g., Harrington, 2001), slowly increasing their tolerance of pain and reducing their fear of death. At this stage, suicidal behavior becomes highly likely.

For these reasons, it is critical that schools have in place effective screening and identification systems, enabling youth to be able to access timely and effective mental health support as and when the symptoms of depression are first manifest. The practitioners responsible

for delivering mental health interventions should be fully aware of the IPTS and be able to recommend strategies aimed at alleviating thwarted belongingness, perceived burdensomeness, and the actions which contribute to acquired capability.

5.2.2 Implications for future research and practice

As with the needs assessments, the results of this survey feed naturally and directly into the action plan for improving the infrastructure supporting youth mental health support in Klamath County, focusing on the services available in schools. Most notably, the results show that there is considerable room for improvement for mental health services in Klamath schools. Four in ten students did not know how to access the mental health services in their school, and more than half were "not confident" or only "somewhat confident" that their voice was being heard on issues related to youth mental health and suicide prevention. Likewise, more than half responded "not useful" or only "somewhat useful" when asked to rate how useful their school's mental health support services had been in promoting student well-being since the onset of the COVID-19 pandemic. Ratings of school staff's comfort in talking to youth about suicide were slightly more positive, but still tended towards the middle of the scale such as a moderate comfort level.

Clearly, schools could be doing more to ensure that their students have access to effective mental health support. Again, this ties into the importance of early intervention (e.g., Cross et al., 2014), and the development of a system which enables students to receive effective help as soon as they first begin to experience symptoms of depression or anxiety, thereby preventing the deterioration of these symptoms into suicidal ideation and behavior. Schools should first use different approaches to understand and resolve the limitations of what they currently offer (e.g.,

collect more information from the youth themselves, seek feedback from youth suicide prevention experts, offer additional training opportunities for existing staff). Then, they should seek to improve the awareness of these services amongst the student body (e.g., announcements in assembly, in-class reminders, information sent through e-mail lists).

When considering the types of service they offer, it will be particularly important for schools to confirm that practitioners are aware of the key theoretical frameworks explaining suicidal behavior in youth. As mentioned in the previous section, practitioners should be aware of the IPTS (Joiner, 2005; Van Orden et al., 2010), and be able to recommend strategies based upon its key concepts. It would also be useful to ensure different strategies are offered across the different tiers within the Institute of Medicine's (1994) continuum of care framework, so that the entire student body receives mental health education and awareness training (universal interventions), slightly more comprehensive support is offered to particular students – such as AI/AN youth with particular risk factors – who are particularly likely to develop depression or anxiety (selective interventions), and one-to-one psychotherapy is offered to any student who is already experiencing symptoms of poor mental health (indicated interventions). At certain schools it may be beneficial to replicate school-based interventions that have been used previously (reviewed in Sections 2.3.2 and 2.3.3), and in others it will be more beneficial to develop new interventions more suited to the local context.

Additionally, it should also be recognized that positive mental health is not merely the absence of negative symptoms. For this reason, practitioners within schools should also be aware of research into youth resilience. In particular, the frameworks of adolescent connectedness (Karcher, 2011) and school connectedness (Whitlock et al., 2014) which were discussed earlier should also be worked into school-based youth mental health promotion activities more

generally. That is, future RPPs should develop and improve interventions explicitly targeted at aspects of adolescent connectedness (i.e., connectedness to self, connectedness to others, and connectedness to society) and school connectedness (i.e., social affiliations, school belonging, attitudes about school importance, and the supportiveness of the school learning environment), as this can be realistically expected to have a positive overall impact on youth mental health, reducing the likelihood of depressive symptoms occurring in the first place, and providing a stronger protective buffer against their deterioration if they do occur.

The responses which pertain to the reasons why students might be reluctant to seek support for mental health will also be important to consider in future research and practice, as these imply that even when the school has got an effective and accessible mental health support system in place, it still may not necessarily have the maximum benefit. There were signs that students were not always comfortable talking with each other about mental health or seeking school support for mental health. Certain written responses explaining reluctance to seek help invoked personal fears or anxieties (e.g., "Being uncomfortable talking to others about personal stuff"), and others concerned anxieties about their family finding about their struggles (e.g., "The fear of your family being told"). Schools must be aware of these sorts of issues and ensure that they have pre-emptively put in place strategies explicitly designed to mitigate them (e.g., reassuring students that the mental health support service is a safe and confidential space, reassuring students that families will not be told about their usage of those services without the student's consent).

5.2.3 Limitations

As with the needs assessment survey, one limitation of the youth survey is the fact that it employed a cross-sectional methodology, in which no causal inferences were able to be made. Again, the use of a cross-sectional approach was deemed to be an important initial step in this process, so that an initial assessment of service delivery from the perspective of the students themselves could be captured. However, it is not yet possible to know whether any interventions that occur as a result of this research will necessarily be effective. As such, it will be important to continue to use research in the evaluation of interventions to improve school mental health services, so that these can be continually refined. For example, if a school decided to implement a new youth suicide prevention approach, this could be tested using a pre-post study design (i.e., measuring the key variables of interest, such as student depressive symptoms and suicidal ideation, before and after the implementation. This could be supported by qualitative approaches (e.g., semi-structured interviews with students, student focus groups) to get an even richer understanding of the strengths and limitations of the new approach in that context.

A second limitation concerns the generalizability of the research findings. The sample consisted of students from two schools only, and because the questions directly asked about conditions at those schools, the extent to which the findings can be generalized more widely is limited. This is especially case with each additional layer of extrapolation (e.g., beyond those specific schools in Klamath County, beyond schools in Klamath County, beyond schools in Oregon, beyond schools in the Pacific Northwest, and so on). For that reason, it should be made clear that the results are an accurate reflection of the youth voice in the schools we worked with, but do not necessarily reflect conditions more generally. As such, future researchers and

practitioners should seek to perform similar assessments at their own schools (or other contexts of interest), rather than using the results here to guide their own action plans.

5.3 Evaluating the Content Analysis of Partnership Meeting Minutes and Agendas

5.3.1 The results in relation to previous research and theory

The results of the content analysis showed that the RPP had met almost all the indicators of effectiveness for RPPs in education, originally developed by Henrick et al. (2017). Most notably, there was clear evidence that group meetings were centered around conducting rigorous research to inform action, with a particular focus on ensuring the research was both feasible and relevant. There were also efforts to review the processes by which data would be analyzed, and to use the results as well as the evidence base more broadly to identify and develop evidence-based strategies that could be used to address the problem of youth suicide in Klamath County.

For obvious reasons, the theoretical framework most directly relevant to this research is the one proposed by Henrick and colleagues (2017), which is of course used to structure the entire analysis and results process. Beyond this, the results can also be interpreted in line with the framework proposed by Farley-Ripple et al. (2018), which was also developed to guide and improve RPPs in education.

Firstly, the content analysis reveals that each of the six components of "depth" proposed by Farley-Ripple et al. (2018) were met across the course of the RPP. For example, the RPP included academic researchers, education and mental healthcare experts, and tribal community members, ensuring that a wide breadth of individuals were involved in the decision-making process (the "participation" component). There was evidence to show that thorough literature reviews were conducted ("search and dissemination"), and that both the identified research and

the primary research findings were regularly evaluated and transformed by decision-makers into opportunities for action ("evidence" and "interpretation"). This process was repeated regularly for different decisions ("frequency") and worked into different stages of the decision-making process ("decision"). As such, we are confident that the RPP met the criteria for effectiveness from Farley-Ripple et al. (2018) as well as Henrick et al. (2017).

However, Farley-Ripple et al. (2018) also proposed five types of "gaps" in the perspectives and assumptions of researcher and practice communities, which may result in "community dissonance". We did not assess those gaps during the RPP, which could be considered a limitation of the research. This is discussed in more detail in Section 6.3.3.

5.3.2 Implications for future research and practice

Firstly, the results of the content analysis directly led to strategies for enhancing the effectiveness of the present RPP. Overall, the results suggested that the RPP had successfully adhered to almost all the best-practice recommendations for RPPs in education which were put forward by Henrick et al. (2017). Nonetheless, there were certain indicators of effectiveness which could have been met more strongly. For example, it was assumed that the RPP successfully inspired a culture of research and evidence use amongst the practitioners and Klamath tribal community members who were involved as partners, however this was not an explicit focus of any of the meetings nor was it directly mentioned by partnership members. In future RPPs, it would be beneficial to make this an even clearer objective of the partnership work. For example, towards the end of the RPP, the researchers involved in the partnership could provide training for the practitioners around how to access and use research in their everyday activities, even when the RPP has come to an end.

Likewise, although it can be reasoned that new professional identities and organization roles emerged simply by virtue of contributing to the partnership, this again was not an explicit focus of any of the meetings. To address this, in future RPPs it would be beneficial for partnership members to openly state the type of role they would like to assume and the new skills they would like to develop, at the onset of the RPP. These could be regularly reviewed during partnership meetings, so that by the end of the RPP each member could more clearly see and understand the professional development they have achieved across the course of the partnership.

A second, broader implication of this research is that it provides an example of how best-practice recommendations for carrying out RPPs in education can be actualized. In the present RPP, Henrick et al.'s (2017) indicators of effectiveness were identified and reviewed early on by partnership members, so that all stakeholders were aware of key criteria for success. These indicators of effectiveness were specifically developed for RPPs in education, but it is likely that they will be applicable to other contexts too. As such, future researchers and practitioners seeking to set up partnerships should also aim to explicitly review best-practice recommendations for effectiveness at the start of their project, so that these can be translated into partnership activities, and so that progress against each indicator of effectiveness can be regularly reviewed.

Similarly, the process by which Henrick et al.'s (2017) indicators of effectiveness were converted into a coding scheme that can be used for the purposes of evaluation also has important implications for future RPPs. We have shown that best-practice recommendations are not only useful at the onset of the project but may also be used at the end to determine what went well and where there are opportunities for improvement in the future. The use of the formal content analysis method, adopted from academic qualitative research, helps to bring rigor to this

evaluation process, and prevents it from simply being a process of unstructured interpretation. Similar methods should be considered in future RPPs, so that any useful strategy that was missed during the partnership work itself can still be identified and worked into plans for future action.

Finally, the more general finding that the RPP was conducted in accordance with best practice has implications for the way in which SB 52 ("Adi's Act") can be rolled out at the statewide level, and for the way in which the Klamath County Suicide Prevention Stakeholder Assessment can continue to be implemented within Klamath County specifically. We have demonstrated that RPPs facilitate the embedding of research evidence in practical decision-making and service delivery, thereby equipping practitioners to better understand and address youth suicide prevention in their specific context. The formation of RPPs, and adherence to best-practice recommendations for their implementation, could provide the structure within with school districts in Oregon meet their obligations to put in place clear suicide prevention, intervention, and postvention plans. Useful strategies derived from RPPs can be put into practice even if RPPs are not set up formally.

5.3.3 Limitations

Overall, the written meeting minutes and agendas collected across the RPP process provided a sizeable body of text which could be usefully passed over to analysis. However, different individual minutes documents consisted of differing levels of detail. Whilst some contained comprehensive details on the discussions that were held at the meeting, others were more limited and contained more basic lists of the topic areas that were discussed at each meeting. This simply reflects the fact that the plan to analyze the content of these documents was only created near the end of the RPP process, and before this different people were responsible

for recording the minutes at different points in time, making their own judgments on the level of detail required. To address this in future, it will be necessary to develop the plan for content analysis at the onset of the RPP and ensure that whoever is responsible for recording the minutes (ideally the same person each time, for consistency) follows a set template in which a good level of detail is recorded. This may include audio recording and transcription of meetings.

A second limitation concerns the fact that the deductive top-down coding process meant that it was not possible for other themes (not specified within the coding scheme) to organically emerge from the data. This was done intentionally, because there was a specific aim to assess the extent to which the RPP adhered to the best-practice recommendations put forward by Henrick et al. (2017). However, in future, it might be beneficial for researchers performing qualitative evaluations of RPPs to combine deductive and inductive coding methods. This will be particularly beneficial if they have an even higher quantity of text to analyze, as this increases the likelihood of new themes emerging.

Finally, as mentioned in Section 6.3.1, the content analysis process did not consider Farley-Ripple et al.'s (2018) proposals for five potential gaps in the perspectives and assumptions of researcher and practice communities: around the perceived usefulness of research products; the nature and quality of the research; the problems that the research should address; the structures, processes, and incentives for producing and using research; and the specific relationship between the research community and the decision-making community. If this had been included in plans for partnership meeting activities, and subsequent analyses of those meetings, it would have enabled a more comprehensive investigation of potential sources of dissonance between researchers and practitioners. These could have then been resolved, further increasing the likelihood of the RPP being effective. Therefore, in future RPPs conducted in

education, it will be useful to formulate the RPP to address the success criteria from both Henrick et al. (2017) and Farley-Ripple et al. (2018).

5.4 Synthesizing the different strands of research

Each of the three pieces of research contributed towards the same purpose of reducing the prevalence of youth suicide within Klamath County. That is, they were all conducted as part of the RPP which had been set up, and all contributed to a body of combined research and practice which was subsequently translated into a series of recommendations aimed at improving the effectiveness and accessibility of youth mental health services in the county.

Although the individual studies had different areas of focus, their results were important for all of those who have a particular interest in improving youth mental health service delivery in the county. For example, whilst the needs assessment was particularly focused on surveying the views of working professionals, the results are also likely to be of interest for community members seeking to understand the strengths and shortcomings of mental health services in their area. Whilst the youth survey was particularly focused on surveying the views of schoolchildren, the results are likely to be of interest for healthcare and community workers wanting to know more about the extent of mental healthcare support already available in schools. Whilst the content analysis was particularly focused on evaluating the present RPP, the results are also likely to be of interest of any practitioner interested in the use of research evidence to support practice.

There are also commonalities across the different strands of research, particularly when comparing the results of the two surveys. Specifically, both surveys revealed that there are shortcomings in existing service delivery. The results from the schools reflected the general

perceptions amongst practitioners that there are problems regarding the accessibility of mental healthcare services, and in the type of information that is available to both the practitioners and to the youth themselves. Finding similar results across both surveys strengthens the overall case that these are key issues which need to be addressed to improve youth mental healthcare service delivery in Klamath County.

5.5 Plan for dissemination

An important step in the latter stages of the RPP was to share the results of the research and the implications for practice to the various stakeholders and community groups who have an interest in the findings. Specifically, plans were made to disseminate the findings within the Klamath tribes, with education and mental health policymakers, and with those seeking to conduct similar RPPs in the future.

5.5.1 Community implementation of the research

The priority was to consider how the results of the needs assessment and the youth survey could be disseminated in the community. To achieve this, plans have been made to host a youth GONA within Klamath County. This is a critically important future step for ensuring the research has the maximum impact for the AI/AN community, who have the greatest need for effective youth suicide prevention strategies.

Specifically, we intend to bring together key stakeholders from the community so that the work of the RPP can be discussed in detail. We will present the results of both the needs assessment and the youth survey, alongside our proposals for future action. Importantly, we will invite community leaders to offer their own thoughts on whether or not our findings align with

their own impressions. We will also invite their recommendations on how the action plan can be effectively integrated into practice in a culturally-relevant way, and then combine this with recommendations from academia. In this way, the youth GONA will be very important for facilitating and furthering the process of community action planning.

5.5.2 Influencing education and mental health policy

The results of the two surveys will also be directly applicable to different aspects of education and mental health policy, and an important part of the dissemination efforts will involve sharing the results with practitioners and helping them to embed the key findings into their day-to-day work. These efforts will be directed towards identifying and addressing the present shortcomings of youth mental healthcare services in Klamath County.

The results of the needs assessment have effectively highlighted practitioners' perceptions on the most important youth suicide prevention needs and barriers to be addressed in Klamath Country, as well as their awareness of existing suicide prevention resources, level of training received, and training delivery preferences. They also show that responses to these questions can differ quite markedly between members of different occupational sectors. Sharing these results with mental health policymakers will help them to make decisions on the most important steps that need to be taken. We hope that they will action our recommendations to increase the availability of mental healthcare services within Klamath County and consider exploring the option of videoconferencing psychotherapy support for at-risk individuals in rural locations.

Similarly, the results of the youth survey have helped to reveal the perceptions of Klamath County youth themselves on the accessibility and effectiveness of the mental health services that are available through their schools. It was demonstrated that ratings of school mental health services tended to be slightly negative, and awareness of how to access those services was also relatively low. Again, it will be important to share these results with education policymakers and school principals, so that our recommendations for action can be considered and hopefully implemented. We will recommend that schools in Klamath County review the level and type of mental health support that they currently offer, as well as their approach for raising the awareness of these services amongst students. Where shortcomings are identified, funding should be allocated to improve existing service delivery. To put this into action, input will be required from both the schools themselves and from the Oregon Department of Education.

5.5.3 Informing future partnerships between research and practice

Finally, it is also important to consider the implications of the present research in terms of recommendations for future RPPs in the context of youth suicide prevention. To do this, the content analysis will assess the degree to which best-practice recommendations for RPPs in education were adhered to across the course of the partnership activities and use this evaluation to make more general inferences about the potential strengths and limitations of RPPs for addressing the growing problem of youth suicide prevention in Oregon

5.6 Lessons Learned

This section summarizes the key lessons that were learned throughout the RPP process, for both the practitioners who will now be tasked with implementing the evidence-based youth suicide prevention initiatives, and the researchers who will continue to develop insight into youth suicide prevention. Additionally, the section finishes with a reflection on the personal qualities which helped the RPP tasks to be completed effectively.

5.6.1 Lessons learned for the partner practice organization

Participation in the RPP has hopefully been advantageous for members of the Klamath County Suicide Prevention Coalition and helped them to learn and develop new youth suicide prevention strategies which they can integrate into their daily work in Klamath County. For example, both the needs assessment and the youth survey yielded important new insight into the specific issues being experienced by practitioners and young people in the county, which prevent existing approaches to youth suicide prevention from being effectively realized. Indeed, members of the coalition were instrumental in the development of the action plan for improving the accessibility and the effectiveness of youth suicide prevention services in Klamath County, which distils the lessons learned about the shortcomings of existing approaches and the most important initiatives to implement in the future.

More generally, it can also be hoped that participation in the RPP has advanced practitioners' understanding of the benefits of research use and evidence-based practice in youth suicide prevention work. Prior to the partnership, most members of the coalition did not directly utilize research within their work. The RPP will have demonstrated to them that an awareness of the existing research literature can help to inform the selection of more appropriate strategies for

addressing particular problems of practice, and that primary data collection can help context-specific issues affecting practice to be more effectively identified, thereby supporting the ongoing refinement and improvement of the approaches taken in practice. In this way, it can be anticipated that members of the coalition will continue to make better use of research evidence.

5.6.2 Lessons learned for the research organization

For those of us who are members of the UO Suicide Prevention Lab, participation in the RPP has been equally beneficial in terms of helping us to better understand the benefits of a collaborative approach to real-world issues. Historically, there has been a tendency for researchers to focus purely on theoretical rather than practical considerations, leading to the development of purportedly evidence-based solutions which are inappropriate or ineffective in practice. To avoid this, we recognized that practitioners have expert insight into the local context and the specific challenges faced in practice, and therefore sought to engage with the coalition at all stages of the RPP, including the design of the research, the collection of the data, and the development of the subsequent action plan. The successful completion of the RPP has proved to us that the involvement of practitioners in the research process was undeniably positive, and that the RPP strategy is one that it would be beneficial to repeat in our own future research work, and one which researchers working in other disciplines should also seek to use if their research problem is significantly linked with practice.

The content analysis which was conducted as part of the RPP has provided valuable insight as to how subsequent partnerships between research and practice should be structured and maintained. Our usage of Henrick et al.'s (2017) framework provided a list of key indicators of effectiveness for RPPs, which future partnership members should seek to explicitly address in a

plan for the RPP at the onset of the project. Using this framework as an evaluative tool has helped us to identify opportunities for improvement in future, and we will integrate these lessons into any RPPs we set up in the future.

5.6.3 Personal qualities

As a final reflection, participation in the RPP has also helped me to identify certain personal qualities that have been particularly advantageous across the course of the partnership, in terms of both its initial formation and its ongoing realization. In particular, the qualities which should be viewed as essential are those which better enable the partners to implement learning mechanisms for more effectively spanning research-practice boundaries during the project: together re-defining their different and complementary roles and tasks (*identification*); sharing means and procedures for cooperative work (*coordination*); valuing and making use of each other's perspectives (*reflection*); and collaboratively defining and addressing a shared problem space (*transformation*) (Akkerman & Bruining, 2016).

The first quality I recognized as being particularly important for achieving this is one's openness to collaborative work, including both the ambition to integrate a cooperative approach across all aspects of the research process and the interpersonal skills to successfully achieve this ambition. Thus, when working alongside the partner practice organization and other researchers across the course of this RPP, I was particularly cognizant of the need to adopt a positive attitude, to communicate clearly and respectfully with others, and to handle any differences of opinion in a constructive and solution-focused manner.

Other important qualities include patience and perseverance, which in the context of conducting an RPP are highly related to one another. It is inevitable in a complex project with

multiple different stakeholders that there will be times when issues arise and progress stalls, and at these junctures it is crucially important to stay calm and continue to work together towards a successful outcome, rather than panicking and reverting to a more ineffective, individualistic approach. For this reason, I took measures to develop and implement a patient approach to my own work during the RPP. For example, during the more stressful periods of the project I made sure that I took regular breaks away from work camping and visiting historical within Klamath County, to ensure that I was able to re-approach any problems with a fresh perspective. I believe this helped me to make valuable contributions to project work.

5.7 Concluding Comments

The RPP was set up to combat the prominent issue of youth suicide in Klamath County. By bringing together research specialists from UO Suicide Prevention Lab and community members and practitioners from Klamath County Suicide Prevention Coalition, a series of research studies were planned and conducted to identify and address the most pressing issues faced in practice. Specifically, the research consisted of a needs assessment of youth suicide prevention practitioners, a school-based survey to assess the perceptions of Klamath County youth themselves, and a content analysis of the written minutes and agendas of the RPP meetings, to evaluate the process.

The results confirmed that there are numerous shortcomings with current youth suicide prevention practices in Klamath County. The needs assessment showed that there were issues with the number and the accessibility of mental healthcare services, suggesting there is a need for increased funding as well as consideration of innovative new forms of Internet psychotherapy. The youth survey highlighted that there was significant room for improving school-based mental

health services, particularly by providing training opportunities to the practitioners delivering the services, increasing overall awareness of the services, and directly addressing reasons for not wanting to use the services. Finally, the content analysis showed that the RPP had followed best practices for collaborations between research and practice, although it would be important to further develop a culture of research and evidence use amongst practitioners even after the partnership has ended, to sustain the benefits of the RPP. It would be helpful to survey members of the RPP about their impressions of best practices. Wentworth and colleagues (2017) argue that participants' self-reported behaviors and perceptions are important elements in examining the influence of RPPs on educators' evidence-based decision-making. Additionally, the paper examines the potential benefits and challenges of attempting to measure the outputs and outcomes of a RPP using a survey measure.

Indeed, the results of these studies have enabled a series of recommendations for improving the accessibility and effectiveness of youth mental health services in Klamath County. Actioning these recommendations will help to ensure that any young person in the county who starts to experience the symptoms of depression and anxiety will be able to access the help that they need, enabling them to develop resilience and preventing the symptoms from worsening into suicidal ideation. In this way, the RPP will play a crucial role in reducing the prevalence of youth suicidality in the county, so that fewer families and communities will experience of losing a child in this way.

APPENDIX A

Klamath County Community Needs Assessment

Everyone has a role in suicide prevention. Please provide the following information to help us better understand our strengths, weaknesses, and needs in Klamath County.

What is your primary profession or community role?

- ○ Child protection/family services
- ○ Community member
- ○ County/local government (non-public health/social services)
- ○ Education: Teacher/administrator/school counselor/athletic coach/paraprofessional
- ○ Juvenile/criminal justice worker
- ○ Medical provider (physician, nurse, nurse practitioner/physician's assistant)
- ○ Mental healthcare provider (social worker, counselor, psychiatrist, psychologist)
- ○ Police/law enforcement/legal services
- ○ Public health worker
- ○ Social worker

○ Student

○ Substance use prevention/treatment provider

○ Other: Please list your occupation (agriculture, food service, retail, etc.)

What age group do you regularly work with? Select all that apply.

○ Age 0-11

○ Age 12-18

○ Age 19-24

○ Young to middle-aged adults (25-54)

○ Older adults (55+)

Where are the population(s) who are at risk for suicide that you predominantly interact with based? Select all that apply.

○ Beatty

○ Bly

○ Bonanza

- ○ Chiloquin
- ○ Fort Klamath
- ○ Gilchrist
- ○ Keno
- ○ Klamath Falls
- ○ Merrill/Malin
- ○ Sprague River
- ○ Other: (please describe) _____

What suicide prevention resources are you aware of in Klamath County? Select all that apply.

- ○ Best Care
- ○ Cascade Health Alliance
- ○ Crisis Response Team/KBBH
- ○ Crisis text line (741741)
- ○ Just Talk

- ○ Klamath Open Door
- ○ Klamath Tribal Health Youth and Family Guidance Center
- ○ Lines for Life/Lifeline 1.800.273.TALK (8255)
- ○ Lutheran Community Services
- ○ NAMI
- ○ Phoenix Place
- ○ Rise Up Project
- ○ Transformations Wellness Center (TWC)
- ○ Veterans Affairs
- ○ You Matter 2 Klamath - Klamath County Suicide Prevention Coalition
- ○ Youth Rising
- ○ Other: (please describe) _____

What are the interventions and training opportunities that you are aware of in Klamath County? Select all that apply.

○ ASIST

○ Citizens for Safe Schools

○ Connect

○ Klamath Crisis Line

○ Lines for Life/Lifeline 1.800.273.TALK (8255)

○ Mental Health First Aid

○ QPR

○ YouthLine/TextLine

○ Zero Suicide

○ Other: (please describe) _____

In your primary profession or community role, what are the most urgent **needs** to better address suicidal ideation and prevent suicide in Klamath County? Select all that apply.

○ Anti-bullying campaigns

○ Greater access to mental health services (example: improved service coordination/referral)

- ○ Greater access to substance abuse prevention/treatment programs
- ○ Mental health awareness training
- ○ More mental healthcare services/providers
- ○ Peer support programs
- ○ Strategic plan for suicide prevention efforts
- ○ Suicide postvention training
- ○ Suicide prevention training
- ○ Other: (please describe) _____

In your primary profession or community role, what are the greatest barriers to preventing suicide in Klamath County? Select all that apply.

- ○ Lack of insurance coverage for mental healthcare
- ○ Lack of knowledge about resources and interventions
- ○ Lack of support in your organization for prevention efforts
- ○ Obtaining consent for services for youth under the age of 14

○ Resource availability (lack of funds for training, staff, etc.)

○ Stigma among community members

○ Transportation to services

○ Other: (please describe) _____

Please rate your preference for the following information or resources that you and your community need to address suicide prevention and intervention.

	Most preferred	Somewhat preferred	Neutral	Least preferred
How to develop a suicide safe community	○	○	○	○
Information about substance abuse and suicide	○	○	○	○
Tips for talking to youth about suicide	○	○	○	○

Tips for talking to adults about suicide	○	○	○	○
Click to write Statement 6	○	○	○	○
Warning signs and symptoms	○	○	○	○

How should the training to address suicide in your community be delivered? (Please list your preference)

	Most preferred	Somewhat preferred	Neutral	Least preferred
Fact sheets/ articles	○	○	○	○
In-person	○	○	○	○
Pre-made	○	○	○	○
Short videos (e.g. YouTube)	○	○	○	○
Webinar	○	○	○	○

Would you like to provide your contact information so that we may follow up with you? Your information will remain confidential.

○ Yes

○ No

Display This Question:

If Would you like to provide your contact information so that we may follow up? Your information wil... = Yes

Your name:

_____

Display This Question:

If Would you like to provide your contact information so that we may follow up? Your information wil... = Yes

*Your email address:

_____

Display This Question:

If Would you like to provide your contact information so that we may follow up? Your information wil... = Yes

Your phone number:

_____

Display This Question:

If Would you like to provide your contact information so that we may follow up? Your information wil... = Yes

Gender:

- ○ Male
- ○ Female
- ○ Transgender
- ○ Other

Display This Question:

If Would you like to provide your contact information so that we may follow up? Your information wil... = Yes

Which category below includes your age?

- ○ 17 or younger
- ○ 18-24 years old
- ○ 25-34 years old
- ○ 35-44 years old
- ○ 45-54 years old

○ 55-64 years old

○ 65-74 years old

○ 75 years or older

Display This Question:

If Would you like to provide your contact information so that we may follow up? Your information wil... = Yes

Race/ethnicity (select all that apply):

○ Asian

○ Caucasian

○ African American

○ Hispanic

○ Native American

○ Other

APPENDIX B

Klamath County Youth Survey

We are asking you to complete this survey because you have insights and opinions that matter to further developing programming that promotes the success of all youth. It is extremely important to us that we hear from youth across the county, especially those who attend public schools.

In the first section we will gather some background information from you, please understand that all information shared with us is confidential and your personal identity and responses will not be shared with anyone (parents, school staff or teachers).

What is your grade level currently (5th, 6th, 7th, 8th, 9th, 10th, 11th, 12th)?

- ○ 5th grade
- ○ 6th grade
- ○ 7th grade
- ○ 8th grade
- ○ 9th grade
- ○ 10th grade
- ○ 11th grade
- ○ 12th grade

What is your gender?

- ○ Female
- ○ Male
- ○ Non-binary/third gender
- ○ Prefer to self-describe _____
- ○ Prefer not to say

Race/ethnicity (select all that apply):

- ○ Asian
- ○ Caucasian
- ○ African American
- ○ Hispanic
- ○ Native American
- ○ Other

Would you describe environmental disasters related to climate change (e.g., wildfires) as having a negative impact on your mental health?

- ○ Yes
- ○ No

Do you know how to access mental health support services at your school?

- ○ Yes
- ○ No

Have you accessed mental health services at your school?

- ○ Yes
- ○ No

How confident are you that your voice is heard on issues related to youth mental health and suicide prevention?

- ○ Very confident
- ○ Confident
- ○ Somewhat confident
- ○ Not confident

Since COVID-19 began, how useful have mental health support services in your school been for promoting student well-being?

- ○ Very useful
- ○ Useful
- ○ Somewhat useful
- ○ Not useful

How comfortable are you and other students with talking to each other about mental health issues?

- ○ Very comfortable
- ○ Comfortable
- ○ Somewhat comfortable
- ○ Not comfortable

How comfortable are you and other students with seeking school support for mental health issues?

- ○ Very comfortable
- ○ Comfortable
- ○ Somewhat comfortable
- ○ Not comfortable

How comfortable are school faculty and staff with talking to youth about suicide?

- ○ Very comfortable
- ○ Comfortable
- ○ Somewhat comfortable
- ○ Not comfortable

Are there other issues/obstacles that students encounter in seeking support for mental health issues?

- ○ Yes
- ○ No

Please list up to two other issues/obstacles here:

_____

_____

_____

_____

_____

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