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The Effectiveness of Multisystemic Therapy With the Native Hawaiian/Pacific Islander Population

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This is to certify that the doctoral dissertation by

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Dissertation Submitted in Partial Fulfillment

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Abstract

The goal of this study was to provide a greater understanding of the effectiveness multisystemic therapy (MST) with those who identify as Native Hawaiian/Pacific Islander (NHPI). As explained further in this study, the NHPI population is largely understudied and, like other minority populations, underrepresented in literature. With the growing number of NHPIs in the juvenile justice systems for mental health issues and criminal offenses, the need for culturally appropriate practice is warranted. MST is based on Bronfenbrenner's social-ecological and Bowen's family systems theories as these theories focus on how various systems (family, community, school, etc.) interact and influence the individual client. This quantitative study explored specific variables of therapeutic alliance, treatment adherence and treatment outcomes to determine whether the identified variables are correlated. The study explored these variables through data gathered from individuals who identify as NHPI participating in MST services over a 5-year period (January 2015 to December 2020). While results were not statistically significant the results of this study could create a greater awareness of how therapy, specifically MST, conducted on the NHPI population would fill the gap of a critical need for a more culturally appropriate practice and therefore influence positive social change.

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Dedication

To my grandfather, the late Alexander Faisca, for always supporting my educational journey and for whom I made a promise to be the first doctor in the family, I hope I made you proud.

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I would like to thank the following people, without whom I would not have been able to complete this dissertation or make it through my PhD.

To my mom, thank you for the strength in which I anchored on to push through and complete this process. I love and miss you every day.

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To my three children, Adrian, Alexia, and Aria. I hope you know that I did all of this for you. I wanted you to have a good role model and know what hard work and dedication looked like. Be kind and love one another, simply do your best with whatever life gives you and give back whenever you can.

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Chapter 1: Introduction to the Study

For over 30 years, multisystemic therapy (MST) has proven its mission to change the lives of at-risk youth and their families. Extensive research throughout 15 countries and 34 states has shown favorable outcomes in reducing the rate of incarceration, arrests, and out-of-home placements while preserving families and improving family functioning (MST Institute [MSTI], 2017). Research in MST over the years has made the treatment one of the most widely evaluated programs servicing youth and their families (Henggeler & Schaeffer, 2016).

As extensive as MST research has been, research on both MST and the Native Hawaiian/Pacific Islander (NHPI) population is limited and outdated. Research dating back to the early 2000s discussed how MST services with NHPI youth was successful in reducing high rates of arrest and juvenile offenses (Rowland et al., 2005). Rowland et al. (2005) found that this evidenced-based practice was successful because MST's approach to families was strengths-based, supportive, and included a family's ecology. Additional research conducted with NHPIs identified a need for understanding specific therapist factors, cultural barriers, and various stigmas in therapy (Davis et al., 2015). Due to the limitations mentioned above, a review of research where MST was implemented with other native or minority populations around the world was warranted. It was hoped that the results of this study would create greater awareness of how therapy, with the NHPI can be effective and influence positive social change.

This chapter will introduce gaps in the existing literature. The problem statement will show the justification for this study. I will then state the purpose of the study section

and describe my two research questions and hypotheses. The theoretical foundation will be provided to explain an understanding of the basis of this study. A list of operational definitions will explain the terms used in this study. Finally, I describe the assumptions of the study, the scope, delimitations, limitations, and the significance of the study.

Background of the Study

Decades of research in MST have shown its effectiveness in working with high-risk youth and their families. MST views the youth's identified problems from a systemic perspective (Henggeler & Schaeffer, 2016) and looks at how these various systems work together or against one another. Systems such as individual, family, school, peer, and community are assessed, and interventions are implemented. In order to effect change, MST works with the youth's family to instill resources and skills to address the problematic behavior. Once the behaviors have improved and the family's skills have increased, the final role of MST is to ensure that the family has supports in place to sustain these changes. Treatment services are intensive with multiple contacts within a week and brief, with therapists providing services for 3-6 months (Henggeler & Schaeffer, 2016).

Research conducted on the NHPI population show that this group experiences a great deal of mental health issues but refuse to seek help for their problems (Subica et al., 2019). The lack of seeking help behaviors is also seen in other minority cultures; however individuals who identify as NHPI may have different reasons for this. Stigma, social and moral issues, along with thinking that the problem will go away on its own have been reasons for not requesting help (Subica et al., 2019). Subica et al. (2019)

recommend future research that focuses on engaging members of the NHPI population in interventions that align with their beliefs and attitudes. By tailoring interventions that are more culturally appropriate, it is believed that individuals from this population will be served at a greater number, thus reducing stigma and unresolved mental health issues (Subica et al., 2019). In this study, I examined how a well-researched and empirically sound service such as MST can be effective with the NHPI population.

Problem Statement

Historically, NHPI youth have shown to be at a higher risk for problematic behaviors as compared to youth in other cultures. Despite the closeness of the community in relation to their family ties and religion, contributing factors to these high-risk behaviors include economic disadvantages, language barriers and access to services in the community (Davis et al., 2015). Davis et al. (2015) conducted a study that included 530 Pacific Islander youth comprised of Native Hawaiians, Samoans, and Tongans. The researchers sought to gain an understanding of the large number of juvenile offences being reported and hypothesized that identifying and addressing the root cause of the high-risk behaviors would not only benefit the individual, but the family and community. The authors proved their hypothesis in this critical need for a more culturally appropriate practice. Unfortunately, the limited amount of research conducted with the Pacific Islander population, coupled with acculturation and language barriers, has made this task a difficult one. Future recommendations include several therapist factors, such as having therapists who understand the various family dynamics specific to NHPIs, work to engage families from a cultural perspective and connect them back to their community.

Those who focus on strengthening protective factors, religion, community, role of elders, etc. can also be effective using this approach (Davis et al., 2015).

Purpose

The aim of this study was to evaluate the effectiveness of MST with those who identify as NHPI. This study looked at specific variables of therapeutic alliance, treatment adherence, and treatment outcomes. *Therapeutic alliance* is defined as a working relationship formed between a client and therapist, while *therapeutic adherence* occurs when a therapist follows protocol of the model. Both alliance and adherence support one another during treatment (Lange et al., 2017). Treatment outcomes (also known as instrumental and ultimate outcomes) are scored by the therapist at the end of treatment to determine whether the youth/family met certain criteria set by MST. These outcomes are standardized by MST Services to ensure quality assurance (MSTI, 2017). These criteria include evidence that the primary caregiver(s) has improved the parenting skills necessary for handling subsequent problems, improved family relations and improved network of social supports. Additionally, specific youth factors include evidence of success in an educational or vocational setting, involvement with prosocial peers and activities, minimal involvement with problem peers, and sustained changes in behavior of the youth and in the systems contributing to the referral problems (MSTI, 2017). To separate the effect of therapeutic alliance and treatment adherence on outcome, this study focused on outcomes related to families who have successfully completed MST, specifically the treatment outcomes of youth living at home at the end of treatment. The examination of these variables is particularly important because it could help

treatment providers further support if this type of therapy is effective with individuals who identify as NHPI.

Research Questions and Hypotheses

The following research questions were formulated based on the hypotheses that there is a relationship between therapeutic alliance, treatment adherence, and treatment outcomes of MST services within the NHPI population.

Research Question 1: How does the rating of Therapist Adherence Measures (TAM-R), which includes measures of therapeutic alliance and treatment adherence, correlate with treatment outcomes of MST services within the NHPI population?

$H_0$1: There is no correlation between treatment outcomes of MST services and treatment adherence measures as measured on the TAM-R.

$H_1$1: There is a correlation between treatment outcomes of MST services and treatment adherence measures as measured on the TAM-R.

Research Question 2: To what extent do therapeutic alliance, and treatment adherence explain the variance in treatment outcomes of MST services within NHPI population?

$H_0$1: Therapeutic alliance and treatment adherence do not explain the variance in treatment outcomes of MST services within the NHPI population.

$H_1$1: Therapeutic alliance and treatment adherence do explain some of the variance in treatment outcomes of MST services within the NHPI population.

Theoretical Foundation

The theoretical foundation of the current study was based on Urie Bronfenbrenner's social-ecological theory and Murray Bowen's family systems theory (see Ryan et al., 2013). In the late 1970s, Bronfenbrenner changed the way professionals studied a child's development, stating that a child learns from their daily interactions with families, schools, and community settings (Ferguson & Evans, 2019). Bowen expanded on Bronfenbrenner's theory, looking at how the family unit operates amongst various systems such as family, work, and social systems (Palombi, 2016). Bronfenbrenner's and Bowen's theories influenced the development of MST as it focused on how the various systems interact and influence the individual client. Both theories align with the goals of MST in decreasing antisocial behavior of at-risk youth and their families (Deaton & Ohrt, 2019). A more detailed explanation of the theoretical foundation will be explained in Chapter 2.

Nature of the Study

This study was quantitative in nature as the aim was to examine whether two independent variables (therapeutic alliance and therapist adherence) and dependent variables (treatment outcomes) are associated. The sample of participants included individuals selected from the MSTI website who participated in MST services for a 5-year period (January 2015 through December 2020) and self-identify as NHPI. In order to test my hypotheses, I used the Therapist Adherence Measure Revised (TAM-R) to measure both constructs of therapeutic alliance and treatment adherence, while treatment outcomes were measured by the outcome of the youth living at home at discharge.

Archival data was used to test the hypotheses. Prior to data collection, I received approval from the Walden University Institutional Review Board (IRB). A more detailed discussion of the methodology can be found in Chapter 3.

Definition of Terms

Family systems theory: This theory looks at the self and how the thoughts and feelings of the individual are affected by each family member and society at large (Nichols & Schwartz, 2004).

Multisystemic therapy: Therapy that is based on evidence that was developed to address youth with high-risk behaviors in various systems (Henggeler & Schaeffer, 2016).

Native Hawaiian/Pacific Islander population: A group of individuals inhabiting the thousands of islands that comprise Polynesia, Micronesia, and Melanesia (Subica et al., 2019).

Social ecological theory: A theory that provides a greater understanding of how risky behaviors of adolescents are influenced and experienced in the environment by looking at protective and risk factors (Deaton & Ohrt, 2019).

Therapeutic alliance: Therapeutic alliance between a client and therapist is defined as a highly valued and strengths-based relationship filled with mutual trust, liking and respect (Yon et al., 2018).

Therapist adherence: Therapist adherence is a dynamic process that occurs throughout treatment services and can facilitate behavioral change in therapy (Lange, van der Rijken et al., 2018).

Therapist Adherence Measure Revised (TAM-R): The TAM-R is a part of a quality assurance system developed to assess therapist adherence (Lange, Desling, et al., 2018).

Treatment outcomes: Treatment outcomes, labeled as instrumental and ultimate outcomes are measured at the end of services (Lange, van der Rijken et al., 2018). These outcomes measure several important factors, including caregiver and youth outcomes separated by the youth living at home at discharge, youth attending school or working at discharge and no new arrest or rearrest during treatment services (Henggeler & Schaeffer, 2016; MSTI, 2017). For the purpose of this study, I focused on the outcome of youth living at home.

Assumptions

It is assumed that the participants in the study answered the TAM-R questions truthfully and honestly to the best of their ability. Participants of MST services are informed at the start of treatment that the information they provide will be used for quality assurance and research purposes (MSTI, 2017). Participants also provide written consent of this at the start of treatment in alignment with Health Insurance Portability and Accountability Act (HIPAA) regulations. These assumptions are necessary to the study because it is important that the data are not biased or influenced by the researcher. Prior to conducting the study, all statistical assumptions were explored and remedied prior to conducting the final analyses.

Scope and Delimitations

The delimitations of the study included participants in MST services, ethnic background, and size of the participant population. For this study, participants included caregivers of youth who participated and successfully completed MST services over a 5-year period (January 2015–December 2020) and self-identify as NHPI.

Limitations

This study used a quantitative, correlational design. A major limitation of quantitative research is the lack of specific details that a qualitative or mixed methods approach provides (Creswell, 2014). Another limitation of the study is the potential perception of bias on my part due to my previous role as an MST Supervisor in Hawaii. In order to avoid this bias, data were not collected from the MST Oahu Team that I supervised but were gathered from the other MST teams in Hawaii. Lastly, generalizability was a concern in this study as the results may not have generalized to all NHPI populations.

Significance of the Study

The goal of this study was to provide a greater understanding of the effectiveness of MST with the NHPI population. It was hoped that the results of this study would speak to specific therapist factors (alliance and adherence) that are effective in working with the identified population. This study was designed to add to the limited literature on therapeutic services with NHPI population and create positive social change.

Summary and Transition

This chapter introduced the background and purpose of the study. In the problem statement section, I explained the relevance of the study and presented the two research questions. Key definitions were provided, the assumptions and limitations of the study were described, and the significance of this study was introduced. In Chapter 2, I will present the existing research regarding the relationships among therapeutic alliance, therapist adherence and how it relates to discharge outcomes in MST services.

Chapter 2: Literature Review

MST is rooted in years of research that has made the treatment to be one of the most widely evaluated programs servicing youth and their families (Henggeler & Schaeffer, 2016). Since the program's first published study in 1986 (Henggeler et al., 1986), MST's proven success in research adapted to address other target areas such as substance use, child abuse and neglect. These adaptations were developed to expand on traditional MST practices and address the needs of specific populations (Schoenwald et al., 2003). In order for MST to continue its success in community settings, Henggeler and Schaeffer (2016) suggested that future research adopt, sustain, and adhere to quality assurance practices designed to create change in community settings.

Due to the limited research conducted on MST with the NHPI population, I also included a review of research where MST was implemented with other native or minority populations around the world. In this chapter, I provide information about the literature search strategy and theoretical foundation of the proposed study, followed by a literature review of key variables and concepts. The chapter ends with a summary and conclusions.

Literature Search Strategy

In order to gain a comprehensive scope of the current literature conducted in the field between 2012 and 2020, I conducted a web-based search through two University library systems, Walden University and University of Phoenix, using a subject search in psychology databases. The subject search included PsycArticles and PsycINFO via EBSCO host. Key search terms included *multisystemic therapy*, *MST*, *therapeutic alliance*, *therapeutic adherence*, *culture*, *pacific islander*, *evidenced-based*, and *Hawaii.*

After obtaining the results of the key word search, I reviewed and selected each article for the study based on relevancy and content. An additional review of the references in the selected articles was conducted to determine its appropriateness to the study.

Theoretical Foundation

The theoretical foundation of the study was based on Bronfenbrenner's social-ecological theory and Bowen's family systems theory (see Ryan et al., 2013). These theories influenced the development of MST as it focused on how the various systems interact and influence the individual client. Both theories align with the goals of MST in decreasing antisocial behavior of at-risk youth and support MST's theory of change (Deaton & Ohrt, 2019).

Social Ecological Theory

Bronfenbrenner dedicated his life's work to developing, expanding, and applying his social ecological theory with individuals and their families (Farineau, 2016). His initial work in the late 1970s focused on various systems and their effect on development. His later work included the process-person-context-time model (PPCT), which expanded on human development through these concepts (Farineu, 2016). Bronfenbrenner's theory comprised of two key elements, including developmental and cultural psychology. His work examined a child's development within their daily interactions with families, schools, and community settings within the four dimensions of process, person, context, and time (Ferguson & Evans, 2019). The process dimension looks at how both stable and unstable experiences affect the child's development, while the person dimension looks at how parents or caregivers have varied expectations of a male child versus a female child.

In the context component of the model, the child is looked at from four different systems, including the macrosystem, exosystem, mesosystem and microsystem that occur over time (Ferguson & Evans, 2019). For the purpose of this study, I focused on the context component, as MST is most interested in how these ecological systems interact, directly and indirectly with the at-risk youth and their families (Deaton & Ohrt, 2019).

The macrosystem is the largest system that interacts with all other systems. Within the macrosystem are societal and cultural beliefs. These beliefs are particularly important for at-risk youth to understand how they interact and influence other systems (Farineau, 2016). The microsystem includes family, peers, schools, and communities, while the mesosystem looks at the interactions between them. The exosystem is a system not directly involved with the developing child, but still may have an influence, such as a parent's work environment. Taking all of this information together, theorists can look a child's developmental influences and infer causations of behavioral successes or problems throughout their lives (Ferguson & Evans, 2019).

Clinical implications of social ecological theory in its work with adolescents was found to build resilience of individuals (microsystem) that are tied to a larger system (macrosystem; Ungar, 2013). From this perspective, social ecological theory provides a greater understanding of how risky behaviors of adolescents are influenced and experienced in the environment by looking at protective and risk factors (Deaton & Ohrt, 2019). Taking all of this into account, MST looks at each of the systems, identifying its strengths and providing support to its weaknesses.

MST uses Bronfenbrenner's social ecological model as a framework to understand behavior from an ecological perspective (Henggeler & Schaeffer, 2016). Behavioral interventions, for example, are addressed in real-world settings from key participants in a youth's ecology. Key participants include family, peers, teachers, and community members. Although MST is primarily a home-based service, therapists meet families where they feel most comfortable which in turn breaks the barrier of access to services, thus increases family engagement (Henggeler & Schaeffer, 2016).

Family Systems Theory

Bowen's research into family systems began in the late 1960s with his work with schizophrenic individuals in a psychiatric setting (Palombi, 2016). In developing his own theory of human behavior, Bowen hypothesized that individual behavior is driven by an emotional system and viewed the family as an "emotionally connected unit" (Kerr, 2003). Bowen expanded on Bronfenbrenner's theory, looking at how the family unit operates amongst various systems such as family, work, and social systems. He noticed that when an individual experiences behavior difficulty or dysfunction, it is more than an individual issue, but a family one (Palombi, 2016). Based on these observations, Bowen believed that one can determine new and more effective options for solving identified problems (Kerr, 2003).

The goal of Bowen's family systems theory is to look at the self and how the thoughts and feelings of the individual are affected by each family member and society at large (Nichols & Schwartz, 2004). In assessing families, Bowen looked at how well the individual differentiates him or herself from the problems in the family and is able to gain

independence in spite of the pressures of the family. Bowen incorporated different techniques into his practice, including the use of genograms, the therapy triangle, process questions, use of relationship experts, coaching and use of the "I" statements. Along with these techniques, Bowen developed various concepts that described human behavior including differentiation of self, the triangle, nuclear family emotional process, family projection, multigenerational transmission, sibling position, emotional cut-off and emotional process in society (Kott, 2014). Through these techniques and concepts, Bowen was able to understand the family functioning and help families help themselves (Nichols & Schwartz, 2004).

One of the most fundamental concepts of Bowen's theory is differentiation. Differentiation promotes autonomy along with connectedness between family members (Palombi, 2016). This type of separation happens despite various pressures from family members to "join" or take sides. Bowen believed that individuals who are able to think for themselves and act based on their own values are well differentiated (Kott, 2014).

Developing a triangle is the process of involving a third person into a dyad in hopes of building a stronger foundation. Bowen felt that by introducing a third person, decreased the level of anxiety and regulated emotion in the family system. Triangulation in contrast, occurs when a third person is introduced into a dyad in hopes of siding with one individual against the other (Kott, 2014).

The nuclear family emotional process manages the intensity of relationships, such as in family conflict, anger, resentment, or isolation (Kott, 2014). Unresolved issues of parental figures are placed on children, consciously or unconsciously. This type of

projection is often associated with the terms scapegoating or blaming, creating an unhealthy environment for those involved (Kott, 2014).

Bowen looked at how generational and current life events contribute to presenting problems within an individual and family. Such beliefs often derive from the family of origin and are passed down throughout generations. By looking at specific patterns that develop, family systems therapy works to help members understand why certain anxieties are present and how to reduce them (Palombi, 2016). This process changes how the current and future generations look at problems in hopes of fostering change.

Birth order and gender also have an impact on family therapy. Bowen looked at how a person's rank in the family influenced their functioning in relation to their siblings (Kott, 2014). The eldest child, for example tends to seek leadership positions and is often expected to display responsible behavior for the younger siblings.

Emotional cut off occurs when an individual emotionally or physically distances themselves from the family system in times of high anxiety. An individual might seek to fulfil the unmet needs from their family of origin by immersing themselves into a newly developed family, further avoiding the root of the problem. Societal changes also affect the emotional process of individuals and families (Kott, 2014). Bowen looked at the link between both familial and societal emotional functioning, wanting to make a change. He saw that the more changes occurring in society (war, crime, and violence), the further regressed those struggling to adapt became (Palombi, 2016).

Theoretical Alignment

Clients in MST display behaviors that exist over multiple systems, making both Bronfenbrenner's social ecological theory and Bowen's family system's theory a good fit for their program and this study. MST's ecological perspective mirrors the various systems described by both theorists, with a focus on the individual, family, peers, school, and community. The therapist works to engage and align the caregivers on promoting positive interactions that are present in the systems and strengthen the needs that contribute to delinquent behaviors (Henggeler & Schaeffer, 2016).

MST uses a variety of empirically supported methods (e.g., cognitive behavioral therapy, parent training, etc.) to create and sustain change in the various systems (Ryan et al., 2013). The therapist works to empower caregivers, who are seen as central to behavior change. The therapist also works to increase the caregiver's skills in areas such as peer knowledge, monitoring of youth's activities, and eliciting supports within their natural ecology (Henggeler & Schaeffer, 2016).

Aligned with the theoretical models discussed, MST works to target behaviors that exist within and between systems (Henggeler & Schaeffer, 2016). This is done by following MST's analytical process, also known as the MST Do-Loop. This process addresses the problematic behaviors displayed by youth in their natural ecology, with key participants (e.g., caregivers, extended family members, school officials, etc.). The analytical process begins with the identified referral behavior, including a discussion on the frequency, intensity, and duration of the behavior. The therapist then gathers desired outcomes from family and other key participants which is developed into overarching

goals that is measured during treatment. The therapist works to find the fit of the specific behavior being addressed and looks to determine which behavior would be prioritized. The therapist works with the family to create intermediary goals for targeted intervention and implements the intervention, assessing any barriers or advances in treatment. This process is repeated, looking at both what worked and what did not work (MSTI, 2017).

The theories were used as a foundation to answer the research questions of how the rating of the TAM-R, which includes measures of therapeutic alliance and treatment adherence, correlates with treatment outcomes of MST services within the NHPI population, and how much of the variance therapeutic alliance and treatment adherence account for in treatment outcomes of MST services within the NHPI population.

Literature Review of Key Variables and Concepts

MST was developed in the late 1970s to address a need to treat criminal behavior in youth. Researchers began implementing treatment from a social ecological perspective but at the time, failed to create change from this perspective alone. Pioneers in the field came together and developed the family ecological systems approach, which highlighted the need to incorporate the family along with community factors (peers, school environment, etc.), such as those discussed in Bronfenbrenner's and Bowen's theories. This approach contributed to positive outcomes within the family and a reduction of juvenile offenses in the community (Henggeler et al., 2009).

Researchers have continued to prove the fidelity of MST through effectiveness studies with juvenile offenders who were at risk of being placed out-of-home. MST therapists helped to improve family and peer relationships with the support of a clinical

team. Similar studies, both quantitative and qualitative, have been replicated to include outcome studies and randomized clinical trials in 30 years from teams all over the world (Henggeler & Schaeffer, 2016). The model is supported by "champions" in the mental health community, including National Institutes on Health (NIH) and the U.S. Surgeon General's reports on mental health and youth violence (MSTI, 2017).

It is important to note that not all studies in MST have shown successful outcomes. The research in MST efficacy varies in positive outcomes for reduction of severe antisocial behaviors and youth displaying conduct like behaviors, however lack in showing efficacy in cultural relevance. Tan and Fajardo (2017) suggested that future research include a comparison of cultural relevance to MST and other countries, including an updated review of efficacy. This finding, coupled with the lack of research showing the effectiveness of MST services with the NHPI population, justifies a need for this current study.

NHPI Youth

NHPI youth have shown to be at a higher risk for problematic behaviors as compared to youth in other cultures (Davis et al., 2015). To gain a better understanding of the population and the barriers to treatment, Davis et al. (2015) looked at various risk and protective factors being measured with a survey given to its participants. Participants included 30,000 youth, 530 of which identified as NHPI. The authors used a comprehensive approach similar to MST in that they involved individuals from a family's ecology. These individuals included family members, school officials, peer, and community members, with the hope of creating a more culturally appropriate approach

that would reduce the disproportionate amounts of delinquent behavior (Davis et al., 2015).

Davis et al. (2015) looked at various states where NHPI youth were incarcerated. Hawaii, California, and Utah were ranked the highest in the nation. In their research, the authors identified both risk factors (drug use, crime, access to services and lower socioeconomic status) and protective factors (positive family connection, respect for elders, and communal responsibility). As a result, the authors felt a need to develop culturally appropriate interventions that would enhance the protective factors, thus reducing the high-risk factors. It was also suggested that future research in this area include preventative work with children and their families at an early age prior to the problematic behaviors developing. This includes services that provide culturally appropriate interventions based on understanding the dynamics of the Pacific Islander family system (Davis et al., 2015). Reviewing the therapist factors and the effectiveness of MST services with NHPI families could inform this need of a more culturally relevant approach.

Youth with significant mental health problems are more likely found in juvenile justice system settings due to criminal offenses (Heaton, 2018). More astounding is the number of individuals from ethnic minorities who are offending, including American Indian, Alaskan Native, Asian, and the focus population of this study, NHPI. According to Heaton (2018) NHPIs have the highest rate of suicidal ideations in the group of minorities, which brought about the author's research interest on whether there are racial/ethnic differences in mental health. Heaton surveyed 7,073 youth from various

detention and correctional facilities across the United States. The author found that NHPI youth experienced the highest level of anger, anxiety/depression, and suicidal ideations in comparison to other ethnic minority groups. Additionally, it was found that NHPI youth were not screened for suicide risk due to unqualified and untrained staffing procedures (Heaton, 2018). This study contributed to a greater understanding of racial and ethnic differences amongst subpopulations that include NHPI. The findings implicate a need for improved mental health services, staff qualifications, and screening practices for minority subpopulations such as NHPI. Recommendations for further study include enhanced training (specifically suicide screening) for non-clinical staff and higher samples of subpopulations to increase the probability of identifying statistically significant differences between the minority groups (Heaton, 2018).

Research in MST historically focused on data conducted with European Americans (Sayegh et al., 2019). However, it was soon found that studies incorporating various ethnic differences were warranted. MST began looking at ethnic differences through comparison studies between European Americans and other cultures. The goal was to gain an understanding of how to engage clients in services, and also understand how specific ethnic differences play a role in treatment (Sayegh et. al, 2019). The authors were also interested in the concept of resistance in therapy, specifically between participants of MST who identified as either European American or African American (Sayegh et al., 2019).

Resistance in therapy can be defined in many ways, including refusal to participate in services, communicating negatively or ineffectively and faltering from

treatment goals (Sayegh et al., 2019). Resistance is normalized as a common occurrence in treatment that often results from past negative experiences, fear, or uncertainty. Resistance, when looked at from a cultural perspective can also be viewed as a result of stigmas related to counseling, pride or lack of trust/faith that change will occur (Sayegh et al., 2019). Similar to the findings with the NHPI population, participants were found to be more resistant at the start of therapy, but later were found to make changes when trust and rapport were established. Other factors include the influence of power dynamic between therapist and client and cultural expectations that the mental health professional knows best (Sayegh et al., 2019).

Sayegh et al. (2019) were interested in whether resistance was linked to treatment outcomes in various ethnicities. The author's studied 161 youth participating in MST services. Caregiver responses were coded to include various types of resistance, including confrontational language, defensive language or not answering a question. It was found that resistance to treatment differs by ethnicity. Recommendations for further study include research with a larger sample to better understand how therapy is perceived across various populations. Additionally, the authors wish to examine resistance in therapy throughout treatment, by looking at factors such as therapeutic alliance, treatment fidelity and the correlation between adolescent and caregiver resistance. This study added to the limited research available noting that ethnicity and culture are important factors that need to be considered in therapy (Sayegh et al., 2019).

Ethnic Identity was hypothesized to have a relationship with violence amongst Asian American and Pacific Islander (AAPI) youth in Hawaii. Affirmation and

belonging, ethnic identity achievement, and other group orientation are three identified dimensions of ethnic identity explored in this study on violence with adolescents (Irwin et al., 2017). The study compared previous research with African American and Latino youth to AAPIs. Studies on African American and Latino minorities historically were used to generalize to other minority groups; however, researchers grew to understand the importance of looking at other minorities, finding that experiences, such as with NHPI youth are much different (Irwin et al., 2017). The study showed AAPI youth that have a strong sense of ethnic identity have a lower risk of violence, thus improving their sense of psychosocial well-being. Further research should include a larger sample size and include longitudinal data to distinguish between ethnic identity and violence. Additionally, researchers should address ethnic identity in other minority groups that experience high levels of violence, in hopes of creating effective prevention programs (Irwin et al., 2017).

Ethnic identity is a part of an individual's self-concept that is developed during adolescence. Various experiences during this period of development include a sense of pride for one's culture, knowledge of their culture and participation in various cultural practices (food preparation, song/music, and dance). However, research has lacked in understanding what role ethnic identity plays in violence amongst adolescents. The study hypothesized that a higher level of ethnic identity was linked to lower levels of violence amongst adolescents (Irwin et al., 2017). The study distributed a survey on risk-protective factors to 298 adolescents in three Hawaii public school systems. Multiple linear regression was used to compare variables of gender, ethnic identity, generation, family cohesion, gang membership, and peer violence on overall violence. It was found that of

the variables to be statistically significant, peer violence, gang membership and ethnic identity were associated with overall violence. This speaks to the author's hypothesis that an individual's environment shapes their ethnic identity, specifically when the adolescent has interactions with social networks that share information about their culture (Irwin et al., 2017). This finding was consistent to MST's approach to working with a youth and caregiver in their natural ecology.

One problem identified was that researchers historically grouped NHPI participants with Asian Americans, leading to misconceptions of the attitudes and stigmas of the population (Allen, Kim, Smith & Hafoka, 2016). As a result, the authors suggested that mental health providers take into consideration the specific needs, experiences, and cultural views of NHPI and conduct future research with a more diverse sample of the population (Allen, Kim, Smith & Hafoka, 2016; Fang, 2018). This error failed to recognize the need to understand the individual differences between the two large groups (Fang, 2018). It was not until the 1990s that the U.S. Census began to separate this racial grouping. With the population of Polynesian Americans growing at an exponential rate of 1.2 million (U.S. Census Bureau, 2010), it is important to consider their individual needs, views, and experiences. Unfortunately, the past overgeneralization in grouping different cultures together failed to provide an accurate depiction of how NHPI view mental health, including what specific therapist factors contribute to successful outcomes (Allen et al., 2016).

Consistent with other research on this population, Fang (2018) labeled the need to identify individual cultural factors of the NHPI population as a "mental health crisis."

The author suggests future research include information on cultural stigmas, cultural awareness, and access to mental health services. With the NHPI population being comprised of multiple subgroups (i.e., Native Hawaiian, Samoan, Guamanian, Tongan, Fijian, Marshallese, and other Pacific Islander), it is surely a daunting but critical task yet to explore.

Factors including self-stigma, coping strategies, counseling attitudes, psychological distress, economic disadvantages, and limited access to treatment have been shown to contribute to racial and ethnic disparities in seeking help (Allen, Kim, Smith & Hafoka, 2016). Polynesian Americans, who also fall into the NHPI population, were the focus of a study examining the stigma of seeking professional psychological help. In this study, 638 Polynesian Americans across the United States were asked to complete five different measures examining attitudes towards seeking help, self-stigma, coping strategies, and psychological distress. Results stressed the importance that mental health professionals consider specific needs, views, and experiences of Polynesian Americans in future studies. Additional recommendations include working to diminish cultural stigmas and enhance cultural values, including religion/spirituality and familial support. These results have also been consistent amongst Hispanic/Latino, Asian and African American populations (Allen, Kim, Smith & Hafoka, 2016).

In a continued effort to understand the mental illness stigma experienced by the NHPI population, Subica et al. (2019) provided their hypothesis as to why engagement in treatment has been such a barrier with this population. The authors state that the NHPI population experienced similar adverse experiences as the American Indian and Native

Alaskan populations had when the U.S. colonized their land. These experiences include the introduction of deadly diseases that killed a large portion of their population, a loss of rights to land ownership, a loss of language and cultural practices. The impact of these experiences has caused "historical traumatization" that still presents as a barrier to treatment years later. The authors recommend future studies include interventions that target cultural stigma, including validation of the psychometric tools used to measure stigma amongst NHPIs. Additionally, engaging mental health professionals in developing a partnership with NHPI communities could help ensure that the interventions developed address the attitudes and beliefs of the culture (Subica et al., 2019).

Research in historical trauma amongst the NHPI population largely focused on substance use, specifically with college-aged students (Pokhrel & Herzog, 2014). In surveying 128 NHPI students, it was concluded that increased use of substances was associated with an individual's thoughts, knowledge or experience that led to perceived discrimination. Individuals with a lower amount of substance use was related to pride associated with an individual's cultural heritage (Pokhrel & Herzog, 2014).

Ethnic minorities are at a higher risk for trauma as compared to White Americans (Gomez, 2019). Poor outcomes in treatment have been linked to these traumatic experiences as a result of societal victimization, oppression, and socioeconomic disadvantages. Cultural Betrayal Trauma Theory (CBTT) is a theoretical framework that describes an individual's traumatic experience of within-group trauma. This cultural betrayal occurs when an individual experiences trauma from someone of their own culture (intraracial) as opposed to someone who experiences trauma outside of their

culture (interracial). It is important to note that these experiences also present barriers to seeking treatment (Gomez, 2019).

Gomez (2019) sampled Asian-Asian American Pacific Islanders and intraracial trauma. Of the 296 participants that were studied, 5.7% identified as NHPI. The participants were given a number of surveys and questionnaires related to interracial and intraracial trauma. It was found that intraracial trauma was linked to symptoms of dissociation, hallucination, PTSD and hypervigilance. The author hoped to provide a minority's perspective with her study of intraracial trauma and provided several recommendations for future studies. These recommendations include defining specific experiences of cultural betrayal trauma amongst diverse individuals and a comparison of interpersonal betrayal and cultural betrayal in hopes of understanding how trauma affects victims of diverse backgrounds. This study contributed to the importance of culturally competent therapists working with ethnic minorities, specifically ethnic minorities who experienced cultural betrayal trauma (Gomez, 2019).

Subica et al., (2019) conducted a survey with 160 individuals who identify as NHPI in hopes of gaining a better understanding of how this population views mental health and help-seeking behaviors. The study found that the percentage of NHPI individuals attribute mental health disorders as a result of a person's bad character or related their upbringing was about 20-30 % higher than those compared to the U.S. Additionally, individuals surveyed believed that mental health disorders are not a serious problem and that these disorders could improve on its own without seeking help from professionals (Subica et al., 2019). In taking these findings into account, the authors

proposed a culturally appropriate, stigma reducing approach that includes viewing mental disorders as spiritual in nature, hence reducing blame. Similar programs that have incorporated this approach use storytelling and testimonials of other NHPIs and have been shown to be successful. The authors suggest that future research focus on providers responding from a cultural perspective, which includes an understanding of specific cultural factors like stigma and historical trauma (Subica et al., 2019).

Evidenced-Based Services (EBS), such as MST has shown to be effective in working to engage families of various cultures in addressing and improving youth's problematic behaviors (Fox et al., 2017). Hawaii was one of the five states that were shown to be successful in the implementation of EBS. MST was one of three programs studied by Welsh and Greenwood (2015). The authors were interested in the impact of EBS with juveniles in residential facilities. Although specific cultural factors were not identified as part of the study, several qualities were highlighted that included highly involved stakeholders, leadership that supported the program financially and programmatically, which included technical assistance for the piloting of these EBP's. The authors recommend that these qualities remain consistent in order to sustain the progress the five states are making. Implications for future research include a need to implement research from a longitudinal perspective in other states practicing evidenced-based programs (Welsh & Greenwood, 2015).

Fox et al. (2017) conducted qualitative interviews with participants in MST of various gender and age groups, including seven groups of ethnic minority caregivers. The study highlighted difficulties that therapists experience when approaching change with

families of various backgrounds. Using existing studies conducted on MST, the authors sought to understand specific processes that lead to change with its participants. This change was found to be brought about by the therapeutic alliance experienced between a therapist and a family. As explained previously, majority of the cultural studies were conducted with the Hispanic/Latino, Asian and African American population. This posed a problem as minority groups vary in their life experiences, specifically how they view culture and therapy. In rationalizing a need for their study, Fox et al., (2017) looked at various factors and processes that affect engagement with ethnic minority participants of MST. The authors also looked at ways a therapist could incorporate this understanding to their work with families. Interview data were collected, analyzed, and translated which described that culture plays a significant role in the process of engagement, including if the client feels understood by the therapist. This was found to occur when a therapist comes from a place of curiosity, shared similar values, and validated the client's feelings (Fox et al., 2017). Research on race and ethnicity over the years have found similar therapist factors such as therapist experience (Lange et al., 2017), cultural competence (Ryan et al., 2013), and perspective taking (Henggeler & Schaffer, 2016). These factors have been deemed necessary for treatment engagement and successful treatment outcomes, such as in MST (Henggeler & Schaeffer, 2016). Recommendations for further study include a need to involve youth along with the caregiver's perspectives, non-English speakers through use of interpreters and generalizing the knowledge gained from the study to other family therapy methodologies (Fox et al., 2017). This lack of research

lead to the author's pursuit of a greater understanding of the effectiveness that MST services can have with the NHPI population.

Lange et al., (2017) replicated a previous study with participants of the MST program in other countries. The authors were interested in how therapist experiences relate to therapeutic adherence and treatment outcomes. Data collected throughout a 10-year period looked at these variables and found that experienced therapists working with an experienced team was shown to relate to therapeutic adherence, thus gaining successful treatment outcomes. These findings, however, lacked specific information on ethnicity and cultural factors, stressing the importance that findings in one country cannot be generalized to other countries. The authors suggest further research look at another factor, adolescent-therapist alliance in better understanding how an adolescent experiences alliance and adherence in therapy. The authors believe that the exploration of these factors can add to the understanding of alliance and adherence in other family therapies (Lange et al., 2017).

In alignment with previous studies, cultural competence, and the ability to join with a family were found to correlate with positive outcomes in treatment (Ryan et al., 2013). In this 2013 study, 185 youth and their families participated and identified as either Caucasian, African American or Hispanic/Latino. The study explored therapeutic techniques used to engage youth and their families, including responding to clients differently based on race and family-therapist race-match (Ryan et al., 2013). Results of this study showed that race/ethnicity predicted both therapist adherence and working (therapeutic) alliance. Both factors of adherence and alliance were directly correlated to

engagement with ethnic minorities and client participation throughout treatment services (Ryan et al., 2013). Several limitations and recommendations were identified in this study including a need for a larger diverse sample of ethnic minorities and therapists. The authors believed that larger sample sizes of both diverse clients and therapists would make it easier to generalize to minority populations (Ryan et al., 2013).

In addition to therapist experience and cultural competence, taking multiple perspectives at the start of treatment is another way therapists' attempt to understand problematic behaviors of youth. By looking at the youth from an ecological perspective and gaining the perspectives of key stakeholders, the therapist will be able to develop a plan to address and reduce referral behaviors. Key stakeholders in MST include family, peers, school officials, and community members. The input from this team of individuals is vital for successful outcomes. Each stakeholder identifies both strengths and needs of the youth. The therapist then identifies a role each member can play in an effort to shift problematic behaviors (Henggeler & Schaeffer, 2016). Being that the NHPI population is very communal (Allen et al., 2015), this culturally sensitive approach is hypothesized to work over a traditional individualized approach.

Previous research has identified a need for future research that explores the importance of therapeutic alliance, treatment outcomes and various contextual factors related to community factors (Robinson et al., 2015). The authors studied 185 youth referred to MST for delinquent behaviors. The group of participants ranged in age from 12-17 and identified as Caucasian, Hispanic/Latino, African American and "other." Robinson et al., (2015) hypothesized that contextual factors of social economic status

(SES) and neighborhood factors (neighborhood quality) affect treatment outcomes. The authors found no significant relationship between SES and treatment outcomes. They did, however, find a relationship between neighborhood factors where parents exhibited more involvement in monitoring in better neighborhoods (Robinson et al., 2015).

The current study was hoped to fill the gaps identified by previous researchers that examined therapeutic alliance and treatment adherence with families completing MST services, specifically with those who identify as a NHPI. Research conducted with the Polynesian culture, which include NHPI, is considered minimal. However, studies on this cultural group have shown that psychological professionals need to consider the stigma that seeking help has on this culture as well as the influence of involving family members, and other community members in this collectivistic group (Allen et al., 2016).

Cultural Adaptations in MST

International implementation of MST with different cultures have modified services to meet cultural norms. In New Zealand, for example, MST incorporated cultural practices such as Maori song and prayer as a way to engage a family in services and build trust (Curtis et al., 2009). Family therapists and mental health service providers in New Zealand are limited due to educational and training opportunities, therefore majority of the work is learned in the field. Therapists must take into consideration traditional Maori practices, which are holistic in nature and incorporate non-traditional practices in mental health (Kumar et al., 2012). Kumar et al. (2012) used a Maori metaphor as a way to connect both traditional and non-traditional approaches. “Whare tapa wha,” translates to mean a four-sided house and refers to a balance between the four sides: physical,

mental/emotional, spiritual, and family well-being. Transportability studies of MST in New Zealand suggest that further research be conducted to address stress in the family system, considering the unique characteristics of the culture, including social and ethnic factors (Curtis et al., 2009).

In Australia, similar results were achieved with MST families engaging in services as a result of the flexibility of therapists and their client-centered approaches (Porter & Nuntavisit, 2016). Data collected over a six-year period with 153 MST families were studied. The study compared MST outcomes in Australia to MST outcomes in the United States. Findings were congruent with previous studies. Specific to working with Australian clients, the study highlighted that Australians have a history of low engagement with mental health services. Australians tend to avoid seeking help due to its stigma; therefore, therapists need to be flexible in their outreach attempts. MST was shown to be successful with this population because of their flexibility to provide services in the home, based on the family's convenience (working non-traditional hours) and providing on call support 24/7 (Porter & Nuntavisit, 2016). Further research is recommended to confirm the preliminary results of this study. The authors recommend a longer follow-up period and a more comprehensive evaluation which include family history and environmental factors that contribute to MST's successful outcomes with the Australian population (Porter & Nuntavisit, 2016).

An example of a culture that has embraced the shift from traditional practices and beliefs to a more modern culturally appropriate approach is the Chinese culture (Sim & Chao, 2017). The authors discuss the need to look at how changes in socioeconomic and

political influences effect Chinese families. By looking at these factors, therapists were able to better engage families and have better outcomes. The therapist's role was also expected to help Chinese separate themselves from their culture, and at the same time abide by the traditional expectations. This balance was challenging, but a successful one (Sim & Chao, 2017). Following the research by Fox et al., (2017), Sim and Chao (2017) agreed that a therapist need not be of the same culture or have knowledge about the culture, instead having an open and curious approach to the family was important in creating change in the family system.

Davis et al. (2015) discussed the prevalence of Pacific Islander youth in the juvenile justice system. Due to the limited research of problematic behaviors displayed by this population, the authors set out to understand this phenomenon. Similar to studies in the past conducted by Allen et al., (2016) and Lowe (2003) studied the NHPI population and found that the absence of specific protective factors, such as a sense of community, family, and school involvement were linked to risk of behavioral problems. The lack of current research suggests a need for future research to include ways to effectively navigate the risk factors of language barriers, poverty, lack of education and acculturation that led to this cultures involvement with the juvenile justice system. The authors provided specific recommendations for both prevention and intervention programs that are geared at understanding specific family dynamics (Davis et al., 2015).

Research in MST has attempted to overcome some of these cultural barriers in treatment. One study looked at how MST can be used to address language barriers in treatment. This study was conducted with 91 individuals and family members in the

Netherlands (van der Rijken, Bijilsma, Wilpert, van Horn, van Geffen & van Busschbach, 2016). The study found that by using an interpreter, both professional and family member interpreters, produced positive treatment outcomes. However, the quality of translations was unclear. The authors recommend that further research focus on the quality of translations, incorporating both therapist and interpreter experience, accuracy, and consistency (van der Rijken et al., 2016).

In addition to protective and risk factors, the role of cultural factors was also explored by Fox et al., (2017). The study explored specific cultural factors that increase engagement of families in MST. Of the major themes discussed is the role of a positive therapeutic alliance in working with families. Similar to previous studies of culturally competent practices, therapists who are open, ask questions and are non-judgmental are seen to have the most success in engaging families of different cultures, with the NHPI population being no different. The authors found that a therapist was able to engage a family, regardless of their own cultural background. In addition to curiosity and openness, the most important factor affecting change in the family system is gaining a family's perspective and story related to the identified problem (Fox et al., 2017). As mentioned previously, Fox et al., (2017) hope that their findings of cultural factors in MST can be generalized to other family therapies.

Therapeutic Alliance

Therapeutic alliance between a client and therapist is defined as a highly valued and strengths-based relationship filled with mutual trust, liking and respect (Yon et al., 2018). Kaur et al., (2017) were interested in how positive outcomes in MST are sustained

by caregivers after services ended. The authors conducted a qualitative study with 12 caregivers for a period of 5-21 months following treatment. The study discussed the importance of therapeutic alliance while a family is engaged in therapy and following the case closure. Several themes emerged from their study, including relational improvements, not only with their child, but with others in their family and community, increased beliefs in the ability to handle new challenging situations, and resilience (Kaur et al., 2017). The authors recommend further research incorporating caregiver perspectives, such as fathers and young people involved in treatment. Additionally, MST could develop a formal measure of therapeutic alliance to strengthen the understanding of the therapeutic relationship (Kaur et al., 2017).

In a related study, Glebova et al. (2018) were interested in the emotional bond created between the therapist and the caregiver outcomes at the end of treatment. This therapeutic alliance was comprised of two areas: task and goal-oriented measures and emotional bond. Task and goal-oriented measures were defined as an agreement on goals during therapy, while emotional bond was defined as the emotional connection between a client and a therapist. Both areas are seen as an important, but challenging part of the therapist-client relationship (Glebova et al., 2018).

Researchers conducted a longitudinal study at four different points in time during treatment. 164 caregivers and 52 therapists participated in this study. Participants were given various scales on bonding and therapist perception to see whether the strength of a therapist-client bond predicted outcomes at the end of treatment using the case discharge summary. The authors hypothesized that this bond would predict an improvement in

treatment outcomes following case closure. The study found that the therapist's perception of bond was higher than the caregiver's perception of bond, therefore therapists were positively associated with treatment outcome. These results suggest that the outcomes differ depending on who is reporting the bond (therapist or client) and speak to the importance of a strong therapeutic alliance throughout treatment. The authors suggest further research focus on several identified limitations to their study. It is recommended that MST supervisors and therapists focus on perceived caregiver bond throughout treatment by attuning to alliance. This can be done by training therapists on the importance of reflecting on their own perceptions of alliance with family members. Supervisors can also strengthen this by helping therapists develop this skill, specifically when progress in treatment is not going well (Glebova et al., 2018).

Anderson, Bautista, and Hope (2019) were interested in how client and therapist variables affect premature termination of therapy, specifically amongst minorities. The authors studied 278 participants of mixed backgrounds in an online survey and found both client and therapist variables affecting treatment. For clients, these variables included ethnicity, lower socioeconomic status, substance use, age, and education level. For therapists, these variables included gender, age, experience, and training. Premature termination was best predicted by a weak therapeutic alliance. Future recommendations include a need for a larger diverse sample from those seeking treatment over a longer timeframe. Additionally, the authors identified a need for developing interventions that address and reduce premature termination (Anderson, Bautista & Hope, 2019).

Therapeutic alliance is seen to motivate and encourage a client to successfully engage in treatment with the therapist acting as a change agent. Therapists do this by creating a strong working relationship with a client and developing goals that determine positive treatment outcomes. In alignment with the MST model of treatment, therapeutic alliance begins at the start of treatment with the development of goals and continue as they address specific interventions in hopes of improving the referral behaviors (Lange et al., 2017).

Research studying the impact of therapeutic alliance suggests that a client-therapist relationship is strengthened when a therapist adheres to the MST model, therefore achieving desired treatment outcomes (Lange et al., 2017). The significant and long-term impact on families following the succession of MST changed the way families viewed dysfunction in their children and further strengthened their relationship (Kaur et al. 2017). As in the study conducted by Welsh and Greenwood (2015), sustaining change is often the focus of EBS such as MST. It is important to note that research on therapeutic alliance alone was scarce. However, research on therapeutic alliance and therapist adherence were found more prevalent.

Therapist Adherence

Adherence is a dynamic process that occurs throughout treatment services and can facilitate behavioral change in therapy (Lange et al., 2018). Adherence is measured by how well a therapist is able to establish a working relationship (engage) with a family and develop goals in treatment. Measures of therapeutic adherence looks at how the therapist adheres to a specific model or treatment (Lange et al., 2017). Therapist adherence (used

interchangeably with therapeutic adherence) is also associated with therapist competence, related to experience and skill (Lange et al., 2016).

In EBS like MST, adherence is measured through the TAM-R. The TAM-R is a part of a quality assurance system developed to assess therapist adherence (Lange, Desling et al., 2018). The TAM-R is a 28-item scale with scores ranging from 1 to 5, with higher scores indicative of better model adherence. Therapist adherence is considered present with a score of .61 (61%) or greater. Families enrolled in treatment are asked to complete TAM-R's at various points in treatment (at least one for every month of treatment) either via phone or in paper form (Connell et al., 2016). The validity and reliability of TAM-R measures have shown that engagement and alliance are important aspects of MST (Lange et al., 2018). Tools such as the TAM-R are used as a way of ensuring quality of services, monitored by a therapist's supervisor and MST expert consultant on an on-going basis (Lange et al., 2016). In this study, the TAM-R will be used to understand the variables of therapeutic alliance and therapist adherence on outcomes with the NHPI population. This tool and its application to the study will be discussed further in Chapter 3.

Treatment Outcomes

As of January 2020, 58,000 families have participated in over 79 outcome studies published in more than 150 peer-reviewed journals (MSTI, n.d.). Lange et al., (2017) highlights the point that therapeutic alliance helps to predict therapist adherence and are essential at each stage of therapy to facilitate successful treatment outcomes. In an evidenced-based program like MST, the intention is that perceived high adherence to

treatment leads to positive outcomes. Treatment outcomes, labeled as instrumental and ultimate outcomes are measured at the end of services (Lange et al., 2018). These outcomes measure several important factors, including how the primary caregiver(s) has improved the parenting skills necessary for handling subsequent problems, improved family relations and improved network of social supports. Additionally, specific youth factors include evidence of success in an educational or vocational setting, involvement with prosocial peers and activities and is minimally involved with problem peers and changes in behavior of the youth and in the systems contributing to the referral problems have been sustained (Henggeler & Schaeffer, 2016; MSTI, 2017). MST is also rooted in nine principles that is based on adherence and is linked to treatment outcomes. The nine principles include: finding the fit, positive and strengths focused, increased responsibility, present focused, action oriented and well defined, targeting sequences, developmentally appropriate, continuous effort, evaluation and accountability and generalization (Lange et al., 2018).

Research in the past has struggled to show how adherence alone is linked to treatment outcomes (Lange et al., 2018). However, in recent years, adherence is seen to largely be related to therapist factors of therapeutic alliance. This is seen with the more experienced therapists showing a higher level of adherence (Lange et al., 2018).

Treatment outcome measures are standardized by MST Services for quality assurance via the MSTI website (www.mstinstitute.org). MSTI includes information related to specific caseloads, outcomes (discharge data), TAM-R measures, therapist, and supervisor resources. This website is monitored consistently and updated by therapists,

supervisors, and MST experts for treatment fidelity (MSTI, 2017). Upon approval, data from the MSTI website was utilized in hopes of gaining a better understanding of the research questions proposed in this study.

Case Discharge Summary (CDS) looks at both successful and unsuccessful treatment outcomes at the end of services. For termination success to occur, the family and therapist mutually agree to have met treatment goals. This valid measure is also associated with therapeutic adherence during treatment (Glebova et al., 2018).

Clinical Staff

Qualifications for MST therapists include completion of a bachelor's or master's degree, including experience working in the field (at least 2 years). Once hired, the therapist completes a 5-day MST training and participates in required weekly and quarterly activities. Supervision and consultation are conducted on a weekly basis, while boosters on various topics are presented to ensure fidelity to the model (Lange, Desling, Scholte & van der Rijken, 2018).

Schoenwald (2016) conducted a study showing the link between supervision, therapeutic adherence, and treatment outcomes. Supervisors, as master's level professionals, support therapists in the implementation of MST. Supervisors are responsible for ensuring therapeutic adherence to the nine principles, including engaging, implementing services, and evaluating outcomes (Schoenwald, 2016).

Supervisors also play an important role in assuring the Quality Assurance and Quality Improvement (QA/QI) measures in MST. The QA/QI program involves a process necessary for training and support of the model. This process displays how MST is

implemented in an organization from a therapist's work with the youth and family to the supervisor, MST expert and coach. The data collected can provide information as to how effective the program is. Research of this process has indicated that when the major players adhere closely to the model (therapeutic adherence), the greater the treatment outcomes (MSTI, 2017).

There is a total of three measures that monitor adherence in MST. The TAM-R, Supervisor Adherence Measure (SAM) and Consultant Adherence Measure (CAM). The TAM-R was the focus of this study as it speaks directly to the relationship between the caregiver and the therapist (MSTI, 2017), however each measure has an equal importance in understanding the model's effectiveness.

Details in trends of the measures are used by supervisors and consultants to strengthen therapist development. These trends are documented in a Clinician Development Plan (CDP). Collaboratively, the supervisor and therapist identify specific strengths and needs in various clinical areas, such as engagement with families, analytical process, adherence, clinical skills, and treatment outcomes. Much like the work with families, the CDP includes an analytical process focused on defining the problem, developing a hypothesis, intervening strategies, and evaluating barriers and/or successes. The CDP specifically informs the way a therapist can improve their therapeutic alliance, treatment adherence and treatment outcomes with families. Once a CDP is developed, the supervisor reviews its progress and conducts individual supervision. The supervisor and therapist ensure the plan developed is updated frequently to reflect the progress/challenges (MSTI, 2017; Schoenwald, 2016).

Summary and Conclusions

This chapter discussed the literature and theoretical framework that informs the proposed study. As discussed, the NHPI youth are at risk for problematic behavior as compared to other cultures (Davis et al., 2015). Research indicates a need for culturally appropriate interventions that address protective factors such as self-stigma, needs, views, and experiences that affect help-seeking behaviors (Allen, Kim, Smith & Hafoka, 2016). These experiences are similar to other minority cultures causing historical trauma linking this trauma to substance abuse, PTSD and depression (Pokhrel & Herzog, 2014).

MST is an EBS service that has shown to be effective with minority cultures. Therapists are trained to engage and address families of youth presenting problematic behaviors (Fox et al., 2017). Therapeutic alliance, including specific therapist factors such as coming from a place of curiosity, shared values and validating client's feelings have shown to be successful. Other factors include therapist experience, cultural competence and perspective taking also increase therapeutic alliance (Henggeler & Schaeffer, 2016).

The next chapter will focus on the proposed methodology that was used to discuss how this study hoped to fill the identified gaps in the literature. The presented variables of therapeutic alliance, therapist adherence and treatment outcomes were analyzed and explained to show their relevance to the study and proposed implications to the field of psychology. Included in this chapter will be a discussion on research design, population, sampling procedures, data collection, threats to validity and ethical considerations that will be used to perform study.

Chapter 3: Research Method

The aim of this study was to evaluate the effectiveness of MST with those who identify as NHPI. This chapter describes the approach to research design. Included in this description is information on the methodology, the sample population, procedures for data collection, with specifics to the use of archival data, instrumentation and operationalization of constructs and a data analysis plan. The data gathered provided a demonstration as to how it was aligned with the research design, including a discussion on potential threats to validity and ethical procedures used to protect participants involved in this study.

Research Design and Rationale

A relationship was hypothesized between treatment outcomes of MST and therapist adherence measures as measured on the TAM-R. It was also hypothesized that there is a difference in variance between variables of therapeutic alliance, and treatment adherence in treatment outcomes of MST services within the NHPI population. This study looked at the specific variables of therapeutic alliance (independent variable), treatment adherence (independent variable), and treatment outcomes (dependent variable) of the specified population. The examination of these variables were particularly important because it was hoped that it would help treatment providers identify if MST is effective with individuals who identify as NHPI. Previous studies have shown that therapeutic alliance and treatment adherence are related to treatment outcome (Lange, van der Rijken et al., 2018); however, it is unknown whether these same variables are statistically significant in working with the NHPI population.

To test this hypothesis, I used a quantitative approach, as this method is the best approach to use when attempting to find an association amongst different variables (Creswell, 2014). The variables in this study were measured using a software designed to analyze statistics so the numerical data can be interpreted, known as the Statistical Package for the Social Sciences (SPSS). I chose to use a statistical design that explored how the variables described in my study are associated, specifically binomial logistic regression analysis was used.

Binomial logistic regression, also known as logistic regression, is a statistical procedure that is used to predict the relationship between independent variables and dependent variables (Laerd, 2017). The independent variables of therapeutic alliance and treatment adherence are continuous variables represented by mean scores collected from the TAM-R ratings and were used to compare against the dichotomous variable of treatment outcomes, youth living at home, represented by two categories of "yes" and "no."

There are no identified time or resource constraints associated with the design choice. Further, the design choice is consistent with research that advances the knowledge of the discipline. The described procedures and data collection were not conducted until the proper approval was received by the IRB from Walden University.

Methodology

Population

Participants in MST include caregivers of the adolescent youth. Caregivers include biological, step, adoptive parents, other family, or nonfamilial members who are

committed to caring for the youth. Although the term “client” in MST refers to the identified youth, those who primarily participate in services are the identified caregivers and will be referred to as participants in this study (MSTI, 2017).

Clients are referred to MST through various sources. In Hawaii, the two primary referral sources are mental health and substance use. MST inclusionary criteria are that the client meet the age requirement of 12 to 17 years of age, be living in a long-term family-like placement, with a primary caregiver who agrees to service and returning from, or at-risk for out-of-home placement due to misconduct. Additionally, clients are those who are exhibiting behaviors of truancy, substance use, runaway, aggression, and various law offending behaviors. While most clients will qualify for services under these criteria, several exclusionary criteria disqualify clients including individuals who are actively homicidal, actively suicidal, autistic, intellectually disabled with an IQ of less than 70 and juvenile offenders without other delinquent behaviors (MSTI, 2017). Age data is not gathered for caregivers as they are not considered the identified “client” in MST.

Participants for this study include caregivers of youth who participated and successfully completed MST services over a 5-year period (January 2015–December 2020) and self-identify as NHPI selected from the MSTI website. MSTI is a website that provides information about the measures and procedures used for quality assurance which supports the fidelity and adherence to the MST treatment model (MSTI, 2017). As a previous MST supervisor and current MST Hawaii expert, I have access to this website; however, I did not access the website or data until gaining approval from MSTI. I also

discussed this prior relationship with the IRB at Walden University to avoid any potential conflicts of interest.

Sampling and Sampling Procedures

Upon approval from MSTI and the IRB, I sampled participants who self-identify as NHPI and participated in MST services over a 5-year period (January 2015–December 2020). Participants of MST services are informed at the start of treatment that the information they provide will be used for quality assurance and research purposes (MSTI, 2017). Participants also provide written consent of this at the start of treatment. Consents differ amongst licensed agencies who provide services. All consents are within required HIPAA standards. There were no incentives offered to participate in this study.

Participants were drawn from MSTI and separated by identified ethnicity. MSTI allows for the following drop-down categories of race/ethnicity: American Indian or Alaskan Native, Asian, Black, or African American, Hispanic, or Latino, Native Hawaiian or Pacific Islander (NHPI), or White. NHPI specifically includes individuals from Hawaii, Guam, and other Pacific Islands (MSTI, 2017).

In determining the appropriate sample size, I conducted a power analysis using G*Power 3.1 (Faul et al., 2009). For logistic regression, I used the recommended guidelines for sample size based on an alpha of .05, a power of .80, and a medium effect size.

The MSTI website provides several reports that collect various information from caseload size to discharge data (MSTI, 2017). To study the proposed variables of therapeutic alliance and treatment adherence on treatment outcomes, the TAM-R was

used. This instrument measures both constructs of therapist adherence and therapeutic alliance (MSTI, 2017). Treatment outcomes were determined by youth who are living at home at discharge and who have successfully completed MST.

Instrumentation and Operationalization of Constructs

The first version of the TAM was developed by MST Services in the early 1990s. Originally a 26-item scale, the TAM was used to show overall adherence to the model. After further examination of the efficacy of the TAM, some items were deleted, whereas other items were added, creating the TAM-R (Henggeler & Schaeffer, 2016). The TAM-R is a 28-item scale with scores ranging from 1 to 5, with higher scores indicative of better model adherence. Respondents have a choice to answer: *Not at all* (1), *A little* (2), *Some* (3), *Pretty much* (4) and *Very much* (5). TAM-R is a type of survey administered to participants who self-report information related to the chosen variables. Therapist adherence is considered present with a score of .61 (61%) or greater. Families enrolled in treatment are asked to complete the TAM-R at various points in treatment either via phone, email or in paper form (Connell et al., 2016).

Evidence in MST is gathered through a highly monitored quality assurance system. MST uses an independent call center that is tasked at collecting data throughout the 5- to 6-month service period. At the start of treatment, participants are told that they will be receiving this phone call. Phone calls are typically 10 minutes in length (Lange et al., 2018). In addition to the call center, MST teams are given options to collect paper versions of the TAM-R or have parents complete an online version. These options have their benefits and setbacks. The TAM-Rs collected over the telephone have the lowest

likelihood of error when conducted by experienced interviewers (MSTI, n.d.). Paper versions of the TAM-R are usually given to the family to complete under certain circumstances, such as when a family does not have a phone, or the call center has flagged that the particular family has been difficult to reach. The therapist can then provide a paper TAM-R along with an addressed stamped envelope to be mailed back to the MST supervisor. This technique is effective but has a lower response rate. The online version is a relatively new option, which is helpful to families who have the technical resources (MSTI, n.d.).

The TAM-R is a validated measure used to predict MST outcomes (Ryan et al., 2013). (Lange, Delsing, et al., 2018). One study discussed a lack of cross-national equivalence of the TAM-R following a transportability study. The study compared the U.S. version of the TAM-R to the Dutch TAM-R. The lack of equivalence was said to be largely due to differences in how individuals responded to the measure and how the measure was implemented. Aside from the cross-national concerns, which were suggested by the authors as a need in future studies, TAM-R measures are considered valid and reliable (Lange et al., 2016).

The TAM-R was initially developed to measure adherence to the MST model. However, several studies have also found the measure to have specific alliance factors (Lange et al., 2017). In following these studies, the TAM-R will be measured by the two constructs of alliance and adherence. Questions related specifically to adherence (Factor 1), which include 13 items, will be compared to questions related to alliance (Factor 2) which include 11 items. The remaining four items were dropped as they appeared to

measure both constructs. In these previous studies, the two-factor TAM-R was seen to have high internal consistencies and excellent reliability (Lange et al., 2018).

Data Analysis Plan

I used SPSS (Version 27) to analyze data collected for this study. SPSS is a software package developed to evaluate data entered into a spreadsheet in various statistical forms, including tables, charts, and diagrams (Green & Salkind, 2017).

The following research questions were formulated based on the hypotheses that there is a relationship between therapeutic alliance, treatment adherence, and treatment outcomes of MST services within the NHPI population:

Research Question 1: How does the rating of Therapist Adherence Measures (TAM-R), which includes measures of therapeutic alliance and treatment adherence, correlate with treatment outcomes of MST services within the NHPI population?

$H_0$1: There is no correlation between treatment outcomes of MST services and treatment adherence measures as measured on the TAM-R.

$H_1$1: There is a correlation between treatment outcomes of MST services and treatment adherence measures as measured on the TAM-R.

Research Question 2: To what extent do therapeutic alliance, and treatment adherence explain the variance in treatment outcomes of MST services within the NHPI population?

$H_0$1: Therapeutic alliance and treatment adherence do not explain the variance in treatment outcomes of MST services within the NHPI population.

$H_1$1: Therapeutic alliance and treatment adherence do explain some of the variance in treatment outcomes of MST services within the NHPI population.

Threats to Validity

Threats to validity in a study can hinder a researcher from replicating a similar study in the future (Parker, 1993). Therefore, it is important to address the threats to validity during a study. Over the past 30 years, studies conducted on MST services sought to prove their successful work with participating families, with an elaborate quality assurance system (Lange, van der Rijken et al., 2018). This quality assurance system, known as the TAM-R, was designed to continuously monitor data related to this study's interest in factors such as treatment adherence and treatment alliance (Lange et al., 2018).

Previous studies conducted on the TAM-R measure resulted in excellent reliability in both treatment adherence and treatment alliance (Lange, Desling et al., 2018). The reliability and validity of these two factors have been compared internationally, such as in the Dutch TAM-R (Lange, Desling et al., 2018) further increasing the effectiveness of the MST treatment model.

Ethical Procedures

This study followed the ethical guidelines outlined by the IRB. I started by sending a letter to MST services to request access to the data needed for my study. In the letter of request, I included the purpose of my study, variables of interest, and desired outcome. I also included a disclosure statement ensuring that no data were looked at prior to the data collection due to my prior relationship as an MST Supervisor. Following the

approval by MSTI, I sought and obtained approval (07-08-21-0526250) by Walden's University's IRB. The next step was to collect the data for my study. As outlined in the Methodology section, participants of MST services are informed at the start of treatment that the information they provide was used for quality assurance and research purposes (MSTI, 2017). Participants also provided written consent of this at the start of treatment. Although consents differ amongst licensed agencies who provide services, all consents are within required HIPAA standards. Participants were informed that they may withdraw from the research process any time without penalty.

Summary

This chapter included a detailed description of the research method for this quantitative study examining the effectiveness of MST with the NHPI population. Three variables were presented including independent variables of therapeutic alliance, treatment adherence on the dependent variable of treatment outcomes. Two research questions were introduced along with a discussion on validity issues related to the research method and data collection processes. This chapter discussed the instruments used to measure the independent and dependent variables. The next chapter will provide detailed information around the results of the study.

Chapter 4: Results

Research conducted with the NHPI population has shown that this group experiences a great deal of mental health issues but refuse to seek help for their problems (Subica et al., 2019). This quantitative study explored how a well-researched and empirically sound service such as MST can be effective with this population. Specific variables of therapeutic alliance, treatment adherence, and treatment outcomes were examined to determine whether the identified variables are correlated. I explored these variables through data gathered from individuals who identify as NHPI participating in MST services over a 5-year period (January 2015–December 2020). The examination of these variables is particularly important because it could help treatment providers identify whether this type of therapy is effective with individuals who identify as NHPI. In this chapter, I present the outcomes of this study and review the findings within the context of the research questions and objectives.

Research Questions and Hypotheses

The following research questions were formulated based on the hypotheses that there is a relationship between therapeutic alliance, treatment adherence, and treatment outcomes of MST services within the NHPI population.

Research Question 1: How does the rating of Therapist Adherence Measures (TAM-R), which includes measures of therapeutic alliance and treatment adherence, correlate with treatment outcomes of MST services within the NHPI population?

$H_0$1: There is no correlation between treatment outcomes of MST services and treatment adherence measures as measured on the TAM-R.

$H_1$1: There is a correlation between treatment outcomes of MST services and treatment adherence measures as measured on the TAM-R.

Research Question 2: To what extent do therapeutic alliance, and treatment adherence explain the variance in treatment outcomes of MST services within the NHPI population?

$H_0$1: Therapeutic alliance and treatment adherence do not explain the variance in treatment outcomes of MST services within the NHPI population.

$H_1$1: Therapeutic alliance and treatment adherence do explain some of the variance in treatment outcomes of MST services within the NHPI population.

Data Collection

After receiving approval from the IRB on July 8, 2021, to begin data collection, I requested the data needed for this study from MSTI. MSTI requires a fee of $300 per dataset, and once payment was remitted, I received the data in the form of a Microsoft Excel spreadsheet. The requested dataset included information about clients who participated in MST services in Hawaii over a 5-year period (January 2015–December 2020) and self-identified as NHPI. The data provided were in alignment with the plan presented and described in Chapter 3. This dataset included a total of 770 participants, their responses to completed TAM-R questionnaires, and information about their treatment outcomes.

During the process of reviewing the data received from MSTI, I found that 395 clients were missing data related to their TAM-R scores; therefore, these clients were omitted from this study, for a final total of 375 participants. Although the exact reason as

to why the data were missing is unknown, it is suspected that these participants did not complete the TAM-R survey during treatment services. As a result of the reduction in size of the total participants, I conducted a second power analysis, using G*power 3.1 (Faul et al., 2009) to ensure that statistical power still existed for the new sample size. The sample size of 375 participants yielded a statistical power of .97 with an alpha of .05.

Descriptive Statistics

Participants in the dataset sample were listed by case ID, which is a specific number assigned to the individual when inputted into the system used by MSTI. Requested information about ethnicity (NHPI), client gender, and client date of birth was used as identifying information. The dataset was organized into 45 columns, each labeled based on various information including: "Research Group," consisting of participants of MST who are from Hawaii, "Enroll Date, First Visit Date and Discharge Date," which specify referral, intake, and discharge dates. Other information included discharge outcomes of youth living at home, in school or working and no new arrests were also included in the dataset. The remaining data were scaled down to only include variables specific to the study to conduct a logistic regression.

Of the 375 individuals included in the sample who participated in MST services in Hawaii over a 5-year period (January 2015–December 2020), 245 participants or 65.3% were male, while 130 or 34.7% were female.

Table 1 presents descriptive statistics for caregiver relationships of these clients, who responded to the TAM-R questionnaires. The caregiver relationships ranged from aunt, family friend (not related), father (included adoptive), foster father, foster mother,

grandfather, grandmother, mother (included adoptive), none of the above, other family member, stepmother and uncle with the highest caregiver relationship, mother (included adoptive) at 261 of the 375 participants followed by father (included adoptive) at 53.

Table 1

Caregiver Relationship

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Aunt	8	2.1	2.1	2.1
	Family Friend (not related)	1	.3	.3	2.4
	Father (include adoptive)	53	14.1	14.1	16.5
	Foster Father	2	.5	.5	17.1
	Foster Mother	1	.3	.3	17.3
	Grandfather	6	1.6	1.6	18.9
	Grandmother	28	7.5	7.5	26.4
	Mother (include adoptive)	261	69.6	69.6	96.0
	None of the Above	3	.8	.8	96.8
	Other Family Member	8	2.1	2.1	98.9
	Stepmother	3	.8	.8	99.7
	Uncle	1	.3	.3	100.0
	Total	375	100.0	100.0	

Analysis of Logistic Regression Results

Statistical Assumptions

As discussed in Chapter 3, logistic regression will be used for this study. Logistic regression will be used to determine the relationship between the two independent variables of therapeutic alliance, treatment adherence, and the dependent variable of treatment outcomes. When using logistic regression, assumptions concerning linearity were conducted. Table 2 represents the linearity of continuous variables with respect to

the logit of the dependent variable that was assessed using the Box-Tidwell (1962) procedure. Table 2 shows that the two continuous independent variables of therapeutic alliance and treatment outcomes were not linearly related to the logit of the dependent variable of treatment outcomes. As recommended by Tabachnick and Fidell (2014), a Bonferroni correction was applied using all five terms in the model that resulted in statistical significance being accepted when $p < .01$ was used. Based on this assessment, all continuous independent variables were found to be linearly related to the logit of the dependent variable with p values greater than .01 respectfully.

Table 2

Variables in the Equation

								95% C.I.for EXP(B)	
		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1[a]	Therapeutic_Alliance	4.624	11.437	.163	1	.686	101.909	.000	5.539E+11
	Therapeutic_Alliance by ln_Therapeutic_Alliance	-2.290	4.733	.234	1	.629	.101	.000	1082.099
	Treatment_Adherence	-.254	4.134	.004	1	.951	.776	.000	2562.772
	Treatment_Adherence by ln_Treatment_Adherence	.481	1.805	.071	1	.790	1.618	.047	55.662
	Constant	-5.237	17.201	.093	1	.761	.005		

a. Variable(s) entered on step 1: Therapeutic_Alliance, Therapeutic_Alliance * ln_Therapeutic_Alliance , Treatment_Adherence, Treatment_Adherence * ln_Treatment_Adherence .

Table 3 represents a test of multicollinearity for the independent variables of therapeutic alliance and treatment adherence. Multicollinearity diagnostics were analyzed using the Variance Inflation Factor (VIF) to ensure that the predictor variables did not have a high degree of correlation. The predictor variables tolerance values were all above .10 which indicated multicollinearity was not a concern.

Table 3

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.949	.191		4.972	.000		
	Therapeutic_Alliance	-.134	.069	-.174	-1.943	.053	.329	3.042
	Treatment_Adherence	.122	.049	.226	2.517	.012	.329	3.042

a. Dependent Variable: Treatment_Outcome

An interpretation for the assumption of outliers was next conducted to ensure that all cases were representative of the statistical model. As a result, all cases met the standardized residual values of ±2 standard deviations from the mean; therefore, there were no significant outliers to report.

A Hosmer and Lemenshow goodness of fit test was conducted to assess how adequate the logistic regression model would be at predicting the hypothesized outcomes. This result showed that the test is not statistically significant (p = .375), indicating that the model is a not a good fit and is appropriate for this study.

Table 4 depicts the model summary, which explains how much variation exists for the dependent variable using two different methods, Cox & Snell *R* square and Nagelkerke *R* square. The table suggests the approximate percentage of variance accounted for using the pseudo R^2 model Cox & Snell R^2 = .014 and Nagelkerke R^2 = .026. The model can be explained 2.6% Nagelkerke R^2 of the variance in treatment outcomes and correctly classified for 85.9% of the cases.

Table 4

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	296.511[a]	.014	.026

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

Table 5 represents variables in the equation and the statistical significance for each of the independent variables. The Wald test determines the statistical significance for each of the independent variables. Therapeutic alliance, $p = .090$, did not add significantly to the model, whereas treatment adherence, $p = .018$, added significantly to the model/prediction.

Table 5

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	Therapeutic_Alliance	-.910	.537	2.874	1	.090	.402
	Treatment_Adherence	.830	.351	5.598	1	.018	2.293
	Constant	2.468	1.620	2.322	1	.128	11.798

a. Variable(s) entered on step 1: Therapeutic_Alliance, Treatment_Adherence.

Research Question 1

A logistic regression was used to address the research question, how does the rating of Therapist Adherence Measures (TAM-R), which includes measures of therapeutic alliance and treatment adherence, correlate with treatment outcomes of MST services within the NHPI population?

Two constructs, therapeutic alliance and treatment adherence, were the independent variables represented from the TAM-R measurement, whereas the treatment outcome was measured by the outcome of the youth living at home, which is seen as a successful outcome by MST and is collected at discharge. Questions related specifically to treatment adherence, which includes 13 items, were compared to questions related to therapeutic alliance, which includes 11 items. The remaining four items from the questionnaire were dropped, following the recommendations of a previous study conducted by Lange, Desling et al. (2018).

Independent variables included in this study were obtained from TAM-R questionnaires in the form of mean scores. Mean scores were representative of the average responses ranging from: Not at all (1), A little (2), Some (3), Pretty Much (4) and Very Much (5). Questions were factored for Therapeutic Alliance and Treatment Adherence following the study by Lange, Desilng et al. (2018). Questions 1–3, 6, 7, 10, 12, 16, 18, 20 and 21 were factored for Therapeutic Alliance, and labeled as a new variable "Therapeutic_Alliance" on the dataset, whereas Questions 4, 5, 8, 9, 13, 14, 19, 22, and 24–28 were factored for Treatment Adherence, labeled as a new variable "Treatment_Adherence" on the dataset. The four questions that were omitted from the study were Questions 11, 15, 17 and 23, as they were considered cross-loading items (Lange, Desilng et al., 2018). The dependent variable of "Treatment_Outcome" was determined by whether the youth were living at home at discharge.

As demonstrated in Table 6, of the two variables, therapeutic alliance, and treatment adherence, only one was statistically significant, treatment adherence ($p < .05$).

Therefore, we accept the null hypothesis and reject the alternative hypothesis. There is no correlation between treatment outcomes of MST therapist and treatment adherence measures, alone as measured on the TAM-R within the NHPI population. It is important to note that, since the variable of treatment adherence was statistically significant on its own, this is consistent with previous research conducted in MST and because of this statistical finding can be generalized to the NHPI population.

Table 6

Logistic Regression Predicting the Relationship Between Therapeutic Alliance, Treatment Adherence and Treatment Outcomes

								95% C.I.for EXP(B)	
		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1[a]	Therapeutic_Alliance	-.910	.537	2.874	1	.090	.402	.140	1.153
	Treatment_Adherence	.830	.351	5.598	1	.018	2.293	1.153	4.558
	Constant	2.468	1.620	2.322	1	.128	11.798		

a. Variable(s) entered on step 1: Therapeutic_Alliance, Treatment_Adherence.

Research Question 2

The second research question was aimed at understanding to what extent do therapeutic alliance and treatment adherence explain the variance in treatment outcomes of MST services within the NHPI population. Table 7 contains the Omnibus Tests of Model Coefficients, which uses chi-square tests to see if there is a significant difference between the Log-likelihoods (-2 LLs) of the baseline model and the new model. Here the chi-square was 5.391 ($df = 2$, $p > .000$); therefore, there was not a statistically significant association between the variable's therapeutic alliance, treatment adherence and treatment outcomes, accepting the null hypothesis and rejecting the alternative

hypothesis. Therapeutic alliance and treatment adherence do not explain the variance in treatment outcomes of MST services within the NHPI population.

Table 7

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	5.391	2	.068
	Block	5.391	2	.068
	Model	5.391	2	.068

Summary

In Chapter 4, the data analyses were discussed along with the descriptive statistics and collinearity diagnostics for the variables used in this study. A logistic regression analysis was performed to analyze the two hypotheses. Data were screened for missing and inappropriate values. I also examined the assumptions necessary to complete this statistical test.

A binomial logistic regression was conducted to determine the relationship between therapeutic alliance, treatment adherence, and treatment outcomes. Two research questions were examined, and results indicated in the first research question was that there was no significant correlation between treatment outcomes of MST therapeutic alliance and treatment adherence measures. However, it is important to note that the variable treatment adherence was shown to be statistically significant alone, which was consistent with previous literature review findings and can be generalized to the NHPI. The second research question indicated that there was no significant variance between therapeutic alliance, treatment adherence and treatment outcomes.

Chapter 5 provides an overall discussion and summary of the study's results, as well as the interpretations of the results and possible implications of the findings for social change. Recommendations for clinicians and future research will also be provided.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The main purpose of this study was to evaluate the effectiveness of MST with those who identify as NHPI. Previous research with this population indicated that they are at the highest risk for problematic behaviors as compared to youth in other cultures (Davis et al., 2015). Because of this risk, it was important to understand how therapy, specifically MST, can be effective and influence positive social change with this population. This study looked at the correlation between therapist factors of therapeutic alliance and therapist adherence on treatment outcomes. As a result of examining these variables, it was found that only one of the variables, treatment adherence was statistically significant and found to be consistent with previous research in this area. In this chapter, I present an interpretation of the findings describing how the findings confirm, disconfirm, or extend existing knowledge in the discipline by comparing them with what has been found in the peer-reviewed literature described in Chapter 2. Additionally, I discuss how the study correlated with the theoretical background, study limitations, suggestions for future research, and implications for positive social change.

Interpretation of the Findings

This study was of a quantitative nature as its aim was to examine whether two independent variables of therapeutic alliance and therapist adherence and one dependent variable of treatment outcomes were correlated. Therapeutic alliance is defined as the working relationship between a therapist and a family while treatment adherence involves how well the therapist is following the protocol of the MST model. Treatment outcomes

are measured at the end of treatment. For the purpose of this study, treatment was measured as successful if the youth is living at home at the end of treatment.

The sample of participants ($N = 375$) included individuals selected from the MSTI website, who participated in MST services over a 5-year period (January 2015–December 2020) and self-identified as NHPI. The TAM-R was used to measure both constructs of therapeutic alliance and treatment adherence, whereas treatment outcomes were measured by the outcome of the youth living at home at discharge. A binomial logistic regression was used as the primary analysis to determine if the variables were correlated in SPSS.

Research Questions

Two research questions were examined in this study. The first asked, how does the rating of Therapist Adherence Measures (TAM-R), which includes measures of therapeutic alliance and treatment adherence, correlate with treatment outcomes of MST services within the NHPI population? Results indicated that there was no significant correlation between treatment outcomes of MST therapeutic adherence and treatment adherence measures. The results were not consistent with existing knowledge in the discipline, as previous research studying the impact of therapeutic alliance suggests that a client-therapist relationship is strengthened when a therapist adheres to the MST model, therefore achieving desired treatment outcomes (Lange et al., 2017).

The variable treatment adherence alone was shown to be statistically significant, which was consistent with previous literature findings and can be generalized to the target population. Previous research on treatment adherence explored how well a therapist adheres to a specific model or treatment (Lange et al., 2017) and are also

associated with therapist competence, related to experience and skill (Lange et al., 2016). In alignment with this research, the current study suggests that factors related to treatment adherence contribute to the effectiveness of MST with the NHPI population.

The second research question asked, to what extent do therapeutic alliance and treatment adherence explain the variance in treatment outcomes of MST services within the NHPI population? Results indicated that there was no significant variance between therapeutic alliance, treatment adherence and treatment outcomes variables, accepting the null hypothesis and rejecting the alternative hypothesis. This finding confirmed what was found in previous research in MST. MST efficacy varies in positive outcomes for the reduction of severe antisocial behaviors and youth displaying conduct like behaviors, however, lacks in showing efficacy in cultural relevance (Tan & Fajardo, 2017), such as with the NHPI population.

The theoretical framework for this study was based on Bronfenbrenner's social ecological theory and Bowen's family systems theory. These theories influenced the development of MST as it focused on how the various systems interact and influence the individual client. Both theoretical constructs align with the variables of therapeutic alliance, treatment adherence and treatment outcomes as the goals of MST are designed to decrease anti-social behavior of at-risk youth and support MST's theory of change (Deaton & Ohrt, 2019). Although this current study did not yield significant findings, it is important to note that continued research showing the effectiveness of MST services with the NHPI population is justified and will be further discussed in the next sections of this chapter.

Limitations

Several limitations were identified before beginning the study, including the limitation related to the chosen research design, quantitative research, regarding its lack of specific details that a qualitative or mixed methods approach could provide (Creswell, 2014). Specifically, because of the quantitative method used, the participants did not have the opportunity to clarify their experiences in therapy and point to specific therapist factors, cultural barriers, and various stigmas in therapy (Davis et al., 2015) identified as a need to understand the experience of NHPI population in therapy. Participants had each completed the TAM-R survey and self-reported the information based on a range of scores from 1 to 5. Respondents have a choice to answer *Not at all* (1), *A little* (2), *Some* (3), *Pretty much* (4) and *Very much* (5) for each of the 28-items on the survey.

Another limitation identified in the study was my perceived bias, as I previously held a role as an MST Supervisor in Hawaii. Because I had access to the data in MSTI as the MST supervisor for one of the Oahu teams, the data for this team were eliminated from this study and not included in the dataset provided by MSTI for the timeframe requested. Removing these data did not prevent me from moving forward with the study and analyzing the remainder of the Hawaii teams' data during the 5-year period of (January 2015–December 2020). Because of the potential research bias, the sample became a limitation. The final sample of the study consisted of 375 participants, and although deemed an appropriate amount for the type of study that was conducted, the sample could have included a larger number if the Oahu Team was included. It is unknown if the larger sample would have yielded different results.

A final limitation of the study was related to the variable of treatment outcomes. In MST, treatment outcomes are viewed as both instrumental and ultimate outcomes and are measured at the end of services (Lange et al., 2018). These outcomes measure several important factors, including caregiver and youth outcomes separated by the youth living at home at discharge, youth attending school or working at discharge, and no new arrest or rearrest during treatment services (Henggeler & Schaeffer, 2016; MSTI, 2017). For the purpose of this study, I only focused on the outcome of youth living at home as it seemed most appropriate to focus on this biggest outcome. It is possible, however, that if the study included the other outcomes as variables in the study, the study may have yielded other results.

Recommendations

There is a need for additional knowledge about the effectiveness of MST with families who identify as NHPI. Research on the effectiveness of MST has shown to be successful because its approach to families is strengths-based, supportive, and include a family's ecology (Rowland et al., 2005). Previous research studying the NHPI population focused on a need to understand specific therapist factors, cultural barriers, and various stigmas in therapy (Davis et al., 2015).

Conducting another quantitative study could support generalizations about the relationships among the variables of therapeutic alliance and treatment adherence with the various treatment outcomes that were not included in the study, as mentioned in the limitations section of this study. By performing another quantitative study, the researcher

may develop conclusions that could potentially be applicable to NHPI population and provide insight to areas that were not found statistically significant in this study.

Further research could also use qualitative methods such as interviews with NHPI participants. The participants would have the opportunity to discuss their perceptions and experience of participating in MST. This method could provide in-depth information about the NHPI experience in therapy, their experience working with therapists, and bring awareness to potential challenges that are experienced by this population during therapy, bridging the gap in previous literature.

Implications for Positive Social Change

The results of this study may promote positive social change in the field of psychology. As research on the effectiveness of MST amongst various cultural groups, such as NHPI continues to be explored, an increased knowledge around culturally appropriate practice will become evident. This in turn could help address the gap in research on what various therapist factors, cultural barriers, and stigmas in therapy (Davis et al., 2015) are most effective with the target population. It is also hoped that this information can be generalized to other family therapy approaches.

Therapists and other mental health professionals may also be able to create social change and impact society by sharing what they learned through their work with the NHPI population. The results of the study, although not all significant, could be used as recommendations for best practice. In this study, we learned the importance of engaging and aligning with the NHPI population in relation to their beliefs and attitudes by tailoring interventions to match their cultural appropriateness, therefore reducing stigma

of therapy (Subica et al., 2019). As the definition of positive social change states, social change can occur, even with the smallest impact (Walden University, n.d.).

Conclusion

The purpose of this quantitative study was to evaluate the effectiveness of MST with those who identify as NHPI. In the literature review, I identified a continued need for a greater awareness of how therapy with the NHPI population can be effective and hopefully break through years of generational stigma, and historical trauma.

The final sample of the study consisted of 375 participants. I conducted descriptive statistics and logistic regression analyses to test the research hypotheses posed in this study using SPSS. The findings indicated that there was no significant correlation between treatment outcomes of MST therapeutic alliance and treatment adherence measures. However, the variable treatment adherence was shown to be statistically significant alone, which was consistent with previous literature review findings and can be generalized to the NHPI.

Moreover, I concluded that the results of the study, although not all significant, could be used as recommendations for best practice with NHPIs. This study underscored the importance of engaging and aligning with the NHPI population in relation to their beliefs and attitudes by tailoring interventions to match their cultural appropriateness, therefore reducing stigma of therapy (Subica et al., 2019). I learned that there is a sample population that is willing to participate in therapy and has successfully completed therapy. Future research in MST and NHPI would be worth revisiting, possibly from a different lens or framework.

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