Advancing AANHPI Youth's Mental Health:

KNOWLEDGE, GAPS, AND FUTURE DIRECTIONS

Executive Summary
& Full Report

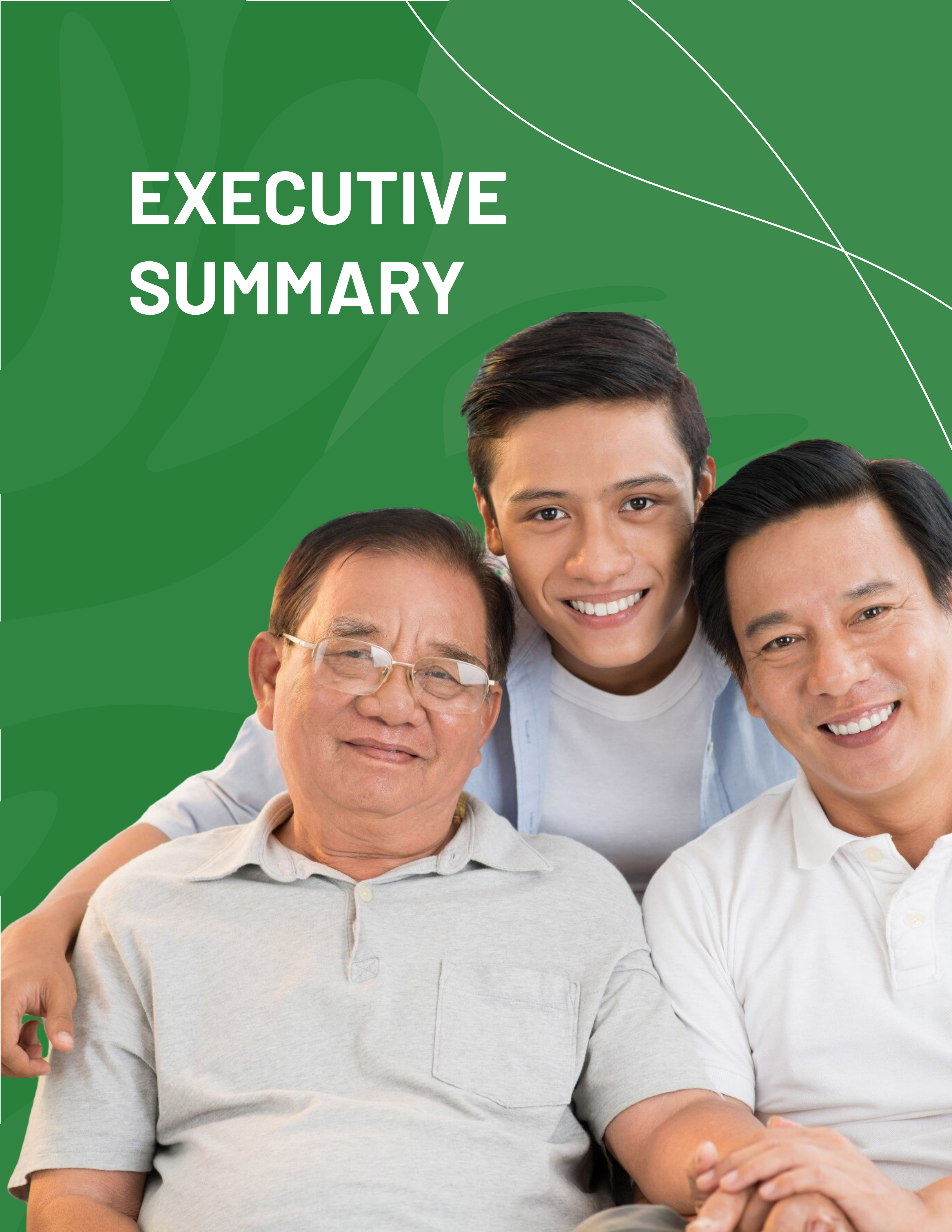
Institute for Population Health Sciences
501(c)(3) Organization

TABLE OF CONTENTS

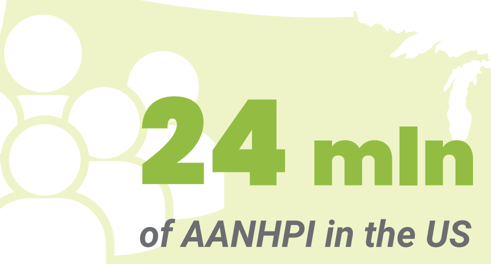
EXECUTIVE SUMMARY **3**
- Background 4
- Purpose 4
- Methods 5
- Key Findings 6
- Recommendations 8

FULL REPORT **10**
- Introduction 11
- Methods 13
- Results 17
- Discussion 31
- Future Directions and Recommendations 34
- Acknowledgements and References 39
- Conclusion 40

EXECUTIVE SUMMARY

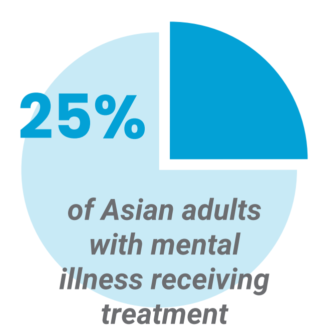


Background:



Asian Americans, Native Hawaiians, and Pacific Islanders (AANHPI) account for more than 24 million persons in the US which is approximately 7% of the total US population. Using data from 2020 from the US Census Bureau, 21 different groups are included under the umbrella of 'Asian' alone, including 4.2 million people reporting Chinese and 20,758 people reporting Malaysian. Under the NHPI umbrella, there are roughly 620,000 who identified as Native Hawaiian, 212,000 as Samoan, 156,000 as Chamorro, and roughly 50,000 as Fijian. It is estimated that there are more than 50 different ethnic groups in the AANHPI category, although the exact number is unclear. The diversity and complexity of this population is in part due to their distinct cultural heritages, languages, and traditions, as well as constantly changing immigration patterns and newly formed communities.

In the US, AANHPI youth have some of the highest mental health burdens yet the lowest rates of health care utilization and help seeking behaviors. In recent years, suicide has been the leading cause of death for AANHPI youth ages 10-24 in the US. In fact, AANHPI youth are the only racial/ethnic group in this age category with suicide as the leading cause of death. Despite this, AANHPI communities have the lowest help seeking rates for mental health services of any racial/ethnic group, with only 25% of Asian adults with mental illness receiving treatment. There is a dire need to synthesize the most up- to-date scientific knowledge, understand the current gaps, and pave the way for future directions in research, practice, and policy to address this critical issue.



Purpose:

This state-of-science study has two complementary aims:

Systematically review the prior scientific knowledge on the prevalence, risk factors, consequences, and interventions for AANHPI youth's mental health; and

Iteratively quantify the current gaps and identify future directions through semi-structured interviews of key stakeholders at the local, state, and national levels.

Methods:

Systematic Review:

This literature review was conducted following the Preferred Reporting Items for Systematic Reviews (PRISMA) guideline, using Web of Science, Sociological Abstracts, Scopus, PsycINFO, ERIC, Criminal Justice, BIOSIS Preview, BIOSIS Citation Index, PubMed, and EBSCOhost. Search terms included:

(a) diverse mental health terms;

(b) appropriate age groups; and

(c) specific AANHPI groups

Studies were included if they met the following criteria:

(a) empirical study;

(b) mental health as a variable;

(c) the target population included AANHPI;

(d) the study population included youth;

(e) published in peer-reviewed journals; and

(f) published in English.

We reviewed 8,206 publications across databases, and 382 were included in the final analyses.

Stakeholder Interviews:

Semi-structured interviews were based on grounded theoretical framework. Organizations were identified based on the diversities of their population, mission, expertise, and geographic and ethnic representation. In total, we reached out to 120 organizations of which 20 agreed to participate. These interviews were then transcribed to identify potential themes and subthemes. Representative quotations were generated using iterative analysis with NVivo software.

Key Findings:

Systematic Review Findings:

Prevalence:

For AANHPI youth overall, the prevalence of mental health issues ranges between 1.3% to 68.8%. These ranges differ when broken down by racial/ethnic subgroups as well as etiology. For Asian Indians, the prevalence ranges between 7.6% to 54% and for Vietnamese, the prevalence ranges between 6.3% to 51.5%. For anxiety, the prevalence ranges between 5% to 63%. For depression, the prevalence ranges between 2% to 71%. For substance abuse, the prevalence ranges between 15% to 41%.

Risk/Protective Factors:

Several factors were identified in the literature. Individual-level factors included race, culture identification, acculturative stress, violence, racial discrimination, academic performance, self-esteem, religious coping, body dissatisfaction, and sleep disturbance. Race and discrimination stood out as AANHPI youth in general had more internalizing problems, depressive symptoms, social anxiety, psychological distress, and lower self¬esteem than White youth. Family-level factors included parental SES, intergenerational solidarity, conflict and control, and family functioning. Intergenerational conflict and parent-child warmth stood out as recurring themes, although there were limited longitudinal studies. Community-level factors included social and physical environment, although these were less studied. School-level factors included supportive school environment, school stress, teacher support, and peer stress, underlining the importance of peer and school relationships as protective factors for suicidality. Additionally, we observed notable differences among AANHPI subgroups. For instance, Korean youth were more likely than those from other subgroups to turn to religion as a coping mechanism, highlighting the significant role that religion plays in Korean culture.

Consequences:

Untreated mental health conditions can place people at higher risk of negative consequences, such as increased treatment needs, distorted self-esteem and body image, worsening stigma, high risk sexual behaviors, perceived discrimination, increased substance use, more video game and internet use, and negative coping strategies. Moreover, data suggests a cyclical pattern, with certain mental health issues predisposing adverse outcomes in others. Physiologically, research suggests that mental health issues are associated with an increased risk of cardiovascular disease, inflammatory bowel disease, and other adverse health outcomes.

Interventions:

Overall, there is grossly inadequate data on evidence-based intervention or prevention efforts. The studies currently available include a 12-week mindfulness intervention, parental-child intervention with cognitive behavioral therapy and relaxation training, solution-focused body-mid-spirit group therapy, and culturally adapted treatment. Of these, there were limited results to support the individual therapies. Only one RCT was found, exploring the effects of trauma-informed group psychotherapy sessions for Chinese, Korean, and Vietnamese women at a university. Use of the Women's Action for Resilience and Empowerment (AWARE) intervention was found to have a significant reduction in depressive symptoms and suicidal ideation.outcomes. Physiologically, research suggests that mental health issues are associated with an increased risk of cardiovascular disease, inflammatory bowel disease, and other adverse health outcomes.

Stakeholder Interviews Findings:

Stakeholders found anxiety, depression, and stress to be widespread, exacerbated by communication barriers and cultural differences. Bullying, racism, and discrimination, especially targeting marginalized groups in a post-Covid-19 era, further contribute to mental health issues. The study revealed that patriarchal systems contribute to domestic violence within households, further complicating the household environment for youth.

Accessing mental health services remain a significant challenge for Asian youths due to limited availability and long waiting lists for qualified and culturally competent therapists and counselors. Asian youth often find it challenging to openly discuss mental health with their parents due to the high level of involvement in their lives. Despite recognizing the need for external support, individuals often encounter barriers in finding appropriate care which are further exacerbated by language barriers and stigma surrounding mental health issues. Intergenerational challenges, social taboos, gender bias, and family and immigration trauma were some of the key themes identified through the interviews. Other themes include culture-specific sense of collectivism; shame and humiliation about mental health in specific Asian subcultures; cultural norms and expectations; and unique parental conflicts. Intergenerational challenges and experiences of immigration also play a role, with trauma and cultural differences influencing attitudes towards mental health within immigrant communities.

Few support systems were identified, including regular family and peer communication, awareness and educational campaigns, community events, and access to safe space, counseling, and care. Moreover, there is a great need for linguistically and culturally sensitive clinicians and mentors for youth with greater involvement of educational organizations. Many

stakeholders believe there is a greater need for social media sensitivity (positive and negative), reachable helplines and texting systems, and a keen understanding of geographical variations in outreach programs. Educating individuals about mental health access and providing culturally and linguistically appropriate care are also crucial steps in addressing these complex challenges.

From a systems perspective, high treatment cost, inordinately long waits, patchy insurance coverage, paucity of linguistically and culturally appropriate services, and appropriate allocation of funding and resources were additional barriers. Furthermore, many stakeholders felt the current clinical workforce is inadequate, lacking understanding and appreciation of unique Asian cultures and communities, which has emphasized the need to evaluate the effectiveness of current health care systems.

Recommendations:

From the research perspective, there is poor understanding of the prevalence and incidence of mental health issues across AANHPI subgroups and across specific mental health conditions. There is an urgent need for prospective longitudinal population-based epidemiological studies to better ascertain the incidence of mental health issues and establish causal inferences. Without establishing rigorous evidence on incidence and causality, the design, testing and implementation of prevention efforts are thwarted. Moreover, there is very limited evidence of existing interventions to ameliorate mental health burdens. More AANHPI-focused subgroup representations are greatly needed in all studies to untangle perhaps the greatest heterogeneity of any racial/ethnic group.

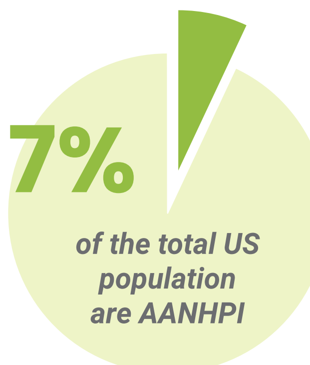
From the practice perspective, there is a greater need for higher education and health care entities to hire diverse teachers and practitioners to build robust mental health infrastructure for youth, families, and communities. Many stakeholders identified a lack of rigorous scientific data available to inform practice along with needs for AANHPI youth, educator, and clinician participation in social movements, debunking mental health myths, and reducing silos to build more synergy in collaborations. Moreover, it is critical for practitioners to work with academic communities to review, test and implement promising treatment options generated from these research endeavors.

From a policy perspective, there is a consistent expression of need for increased funding and support specifically aimed at AANHPI communities at both the state and national levels. Mental health is not simply a psychological or psychiatric issue, but an interdisciplinary issue that

permeates all aspects of health and wellbeing. In concurrence with the mandate of a periodical update on the state-of-science for AANHPI youth mental health, policymakers should emphasize data disaggregation efforts to delineate the diversity and complexities of AANHPI populations while leveraging existing mental health legislation to meet more population-specific needs. There is a great paucity in research, practice, and policy dealing with AANHPI youth mental health. Interdisciplinary efforts and support from family, school and community are needed to devise effective strategies to prevent, detect, and treat mental illness in AANHPI youth. Collective advocacy and policy advances are needed to create a national infrastructure to protect this vulnerable population.

FULL
REPORT

Introduction:



In 2020, Asian Americans, Native Hawaiians, and Pacific Islanders (AANHPI) comprised 7.7% of the U.S. population, with Asian Americans having the fastest population growth rate since 2010 [1]. 21 different groups are included under the umbrella of 'Asian' alone, including 4.2 million people reporting Chinese and 20,758 people reporting Malaysian. Under the NHPI umbrella, there are roughly 620,000 who identified as Native Hawaiian, 212,000 as Samoan, 156,000 as Chamorro, and roughly 50,000 as Fijian. It is estimated that there are more than 50 different ethnic groups in the AANHPI category, although the exact number is unclear [2]. Despite this growing ethnic diversity of the North American population, ethnic representation and ethnicity- related issues have received little attention in studies of youth mental health [3]. This is especially evident when considering AANHPI populations which have recently immigrated to the US. The American Psychological Association's (APA's) Presidential Task Force on Immigration (2012) issued a report regarding the psychological needs of immigrants [4] in which they noted that research specific to the mental health needs of immigrant populations lags behind other areas of multicultural and cross-cultural research. However, this lack of research into AANHPI youth mental health is not reflective of the level of demonstrated need within the population.

4.2 mln	***Chinise***
20,758	***Malaysian***
620,000	***Native Hawaiian***
212,000	***Samoan***
156,000	***Chamorro***
50,000	***Fijian***

Mental illness among adolescents is a growing public health concern. Major Depressive Disorder (MDD) is currently among the leading causes of disability in the United States and is expected to be the most debilitating disease in the developing world by the year 2030 [5]. Notably, the age of onset for depressive illnesses peaks between ages 15 to 19 [6]. Consequently, suicide-related outcomes among adolescents are a serious public health problem. In fact, suicide is the second most frequent cause of death among Asian and Pacific Islander Americans aged 15-19 years [7]. Suicide accounts for more deaths than all natural causes of death combined among 15-24 years. From 1999 to 2021, 4747 AAPI youth died by suicide in the USA. Rates of suicide doubled from 3.6 to 7.1 per 100,000 during 1999-2021, with an increasing trend observed from 2014 onwards. The most common methods of suicide deaths in this population were suffocation, firearms, and poisoning. Rates of suicide were higher among Asian American males than Asian American females, although more Asian American females reported depressive symptoms, including suicidal planning and attempts [8].

Mental health disparities exist for AANHPI youth. In the United States, AANHPIs have the lowest rate of mental health care utilization compared to other racial or ethnic groups, with only 25 percent of Asian adults with a mental illness receiving treatment in 2021. In recent years, suicide has been the leading cause of death for AANHPI youth ages 10 through 24 in the United States, and AANHPI youth are the only racial or ethnic group in this age category where this is the leading cause of death [9].

There is a widely held stereotype that AANHPI children are the "model minority," emphasized by their high academic achievement. Asian-American children are thought to experience fewer mental health problems compared with their counterparts from other ethnic backgrounds [10]. This stereotype is problematic for narrowly and homogeneously defining Asian Americans, overlooking individual challenges they may face (e.g., academic/economic hardships, mental health needs, and discrimination) and pitting them against other racial/ethnic minorities as a "model" with whom other minorities are failing to keep pace [11, 12]. Although some studies of AANHPI children found lower rates of behavioral problems [13, 14], other studies reported higher rates of clinically impairing internalizing problems (e.g., depression, anxiety disorder, suicide) [10, 15]. Especially for AANHPI youth whose families have recently immigrated to the US, there may be additional stressors present that non-immigrant children do not face, including acculturation, racism, language barriers, and separation from close family members and social networks [16]. In addition, Asian American youth considerably underutilize mental health services relative to their level of need [17].

Meanwhile, mental illness disproportionately affects subgroups of AANHPI youth. AANHPI populations trace their roots to more than 20 countries in East and Southeast Asia and the Indian subcontinent, each with their own cultural values, language or dialect, history, and traditions [18]. A few of the studies that have examined subgroups of Asian-American children have suggested that some groups may be at higher risk than others. For example, there is some support for higher rates of depression in east Asian (e.g., Korean) youth compared with southeast Asian (e.g., Filipino, Vietnamese) youth [13], and higher levels of anxiety among southeast Asian (e.g., Filipino) youth compared with east Asian (e.g., Chinese, Japanese) youth [15]. Studies of Asian- American subgroups have focused primarily on youth from east Asia (e.g., China, Korea) or southeast Asia (e.g., Vietnam, Philippines), with relatively little attention given to children from south Asia (e.g., India, Pakistan) [19-21]. Given the high prevalence rates of suicide and low rates of mental health care utilization among AANHPI youth as well as the heterogeneities within this population, a comprehensive literature review regarding mental health of overall AANHPI youth and its subgroups, particularly its unique risk and protective factors and diverse pathways to adaptive and maladaptive outcomes, is lacking, which could help to better understand mental health disparities in this minority population.

Methods:

Search Method

This literature review was conducted following the Preferred Reporting Items for Systematic Reviews (PRISMA) guideline. Electronic databases were systematically searched for all relevant studies published in or before January 2024. The databases were Web of Science, Sociological Abstracts, Scopus, PsycINFO, ERIC, Criminal Justice, BIOSIS Preview, BIOSIS Citation Index, EBSCOhost, and PubMed. We used the following search term combinations for titles, key words, and abstracts of articles:

(a) mental health, depression, anxiety, suicide, post-traumatic stress, personality disorder, obsessive-compulsive disorder, eating disorder, psychotic disorder, panic disorder, ADHD, substance use disorder, internalizing behavior;

(b) youth, adolescence, teenager, middle school, high school; and

(c) Asian American, Chinese American, Korean American, Japanese American, Vietnamese American, Filipino American, Indian American, Cambodian American, Pakistan American, Indonesian American, Bangladeshi American, Thai American, Burmese American, Nepalese American, Sri Lankan American, Singaporean American, Laotian American, Hmong American, Native Hawaiian, Pacific Islander.

Inclusion and Exclusion Criteria

We included studies that met the following criteria:

(a) empirical study *(including observational and intervention studies)*

(b) mental health was either an independent variable or dependent variable;

(c) the target population included AANHPI;

(d) the study population included youth;

(e) published in peer-reviewed journals; and

(f) published in English.

Studies were excluded if they

(a) did not focus on mental health;

(b) did not include any AANHPI groups or used a combined sample with other ethnic groups but we are unable to disaggregate results for AANHPI groups;

(c) did not include any youth groups or used a combined sample with other age groups but we are unable to disaggregate results for youth;

(d) were literature review, commentary, or letter; or

(e) were published as meeting abstract, dissertation, or book.

Coding of Studies and Data Extraction

The selected articles and their protocols were reviewed for systematic coding based on a standardized coding form. In each study, publication information (author and year), participant characteristics (age, sex, and race), and study description were coded. Key study variables in quantitative observational studies were coded into independent variables, outcomes, mediators, and moderators. Qualitative studies were coded into setting, methods, and themes. Intervention studies were coded into sample size, setting, recruitment method, treatment group, and control group. To ensure reliability, each study was independently coded by two raters. The raters typically achieved high interrater agreement on coding. Discrepant codes were discussed until issues were resolved. We reviewed 8,206 publications across databases, and 382 were included in the final analyses. (Figure 1)

Figure 1: PRISMA Flow Chart for AANHPI Youth Mental Health

Identification

Studies from databases/registers (n = 8206)
- Studies from Web of Science (n = 5635)
- Studies from PsycINFO (n = 592)
- Studies from PubMed (n = 510)
- Studies from Scopus (n = 21)
- Studies from Medline EBSCO host (n = 221)
- Studies from BIOSIS Preview (n = 188)
- Studies BIOSIS citation index (n = 188)
- Studies from Sociological Abstracts, ERIC, Criminal Justice (n = 851)

References from other sources (n = 82)
- Citation searching (n = 82)

References removed (n = 4996)
- Duplicates identified (n = 4736)
- Marked as not relevant (n = 260)

Screening

Studies screened (n = 3292)

Studies excluded (n = 2383)
- Due to wrong population age (n = 154)
- Due to no Mental Health information (n = 540)
- Due to wrong study population (not Asian American, Pacific Islander, Native Hawaiian) (n = 872)
- Not quantitative study (Literature review/ non-empirical study/qualitative study/meeting abstract) (n = 265)
- Book of dissertation (n = 85)
- Not relevant (not in US, development a measurement) (n = 467)

Studies assessed for eligibility (n = 909)

Studies excluded (n = 527)
- Not quantitative study (Literature review/non-empirical study/qualitative study) (n = 89)
- Not related (no Mental Health information/Mental health service/wrong population age/wrong study population/not in US) (n = 437)
- Book (n = 1)

Included

Studies included in review (n = 382)

Stakeholder Interviews

To gain more systematic and real-world understanding of AANHPI youth mental health issues beyond literature review of prior research, we conducted semi-structured interviews based on grounded theoretical framework of local, state, and national organizations. In total, we reached out to 120 organizations based on the diversities of their served population, local and national reach, mission, expertise, and geographic and ethnic representation. Twenty organizations participated in this project. Semi-structured interviews were conducted via zoom for approximately 90-120 min each. The interviews encompassed a structured questionnaire consisting of 30-35 questions which asked for participants' perspectives on current needs, barriers, risk factors, protective factors, and outcomes associated with mental health issues within the AANHPI youth population. Additionally, participants were invited to identify existing gaps in research, education, advocacy, and policy addressing mental health concerns among AANHPI youth. Sessions were recorded, then later transcribed anonymously by the research team. Two team members separately read the transcripts to ensure greater reliability. A third member of the team then re-read all transcripts and identified potential themes and subthemes to ensure greater validity. All transcripts were inputted into NVivo software for analysis and an iterative process was used to maximize the thematic and sub-thematic saturations. Representative quotations were then generated to illustrate sub¬themes, and results were displayed in the tabulated format.

Terminology

Throughout this report, the term AANHPI (Asian Americans, Native Hawaiians, and Pacific Islanders) will be the primary designation used. However, variations such as Asian, Asian American, or API may also be employed to maintain fidelity to the original terminology used in the studies under discussion.

Results:

Prevalence

1.3% – 68.8%

prevalence of any mental health issues for AANHPI as a whole

7.6% – 54%

for Asian Indians

7.1% – 65.2%

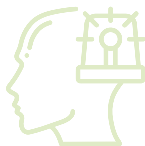
for NHPI populations

6.3% – 51.5%

for Vietnamese American

Through our systematic review, we found a vast variability in the prevalence rates of mental health among AANHPI youth (Figure 2). There is not only great heterogeneity of prevalence among the AANHPI group as a whole as well as different subgroups, but also across different etiological mental health pathologies. For AANHPI as a whole, the reported prevalence of any mental health issues ranges from 1.3% to 68.8%. For Asian Indians, the reported prevalence ranges from 7.6% to 54%. For Vietnamese American, the reported prevalence ranges from 6.3% to 51.5%. For NHPI populations, the reported prevalence ranges from 7.1% to 65.2%.

For specific mental health issues, the prevalence also varies greatly. For anxiety symptoms and/or disorders, the reported prevalence ranges from 5% to 63%. For depression, the reported prevalence ranges from 2% to 71%. For substance abuse, the reported prevalence ranges from 15% to 41%. Details of the ranges, either for AANHPI as a whole or for specific conditions or Asian subgroups, can be found in Table 1.



5% – 63%

prevalence for anxiety

2% – 71%

prevalence for depression

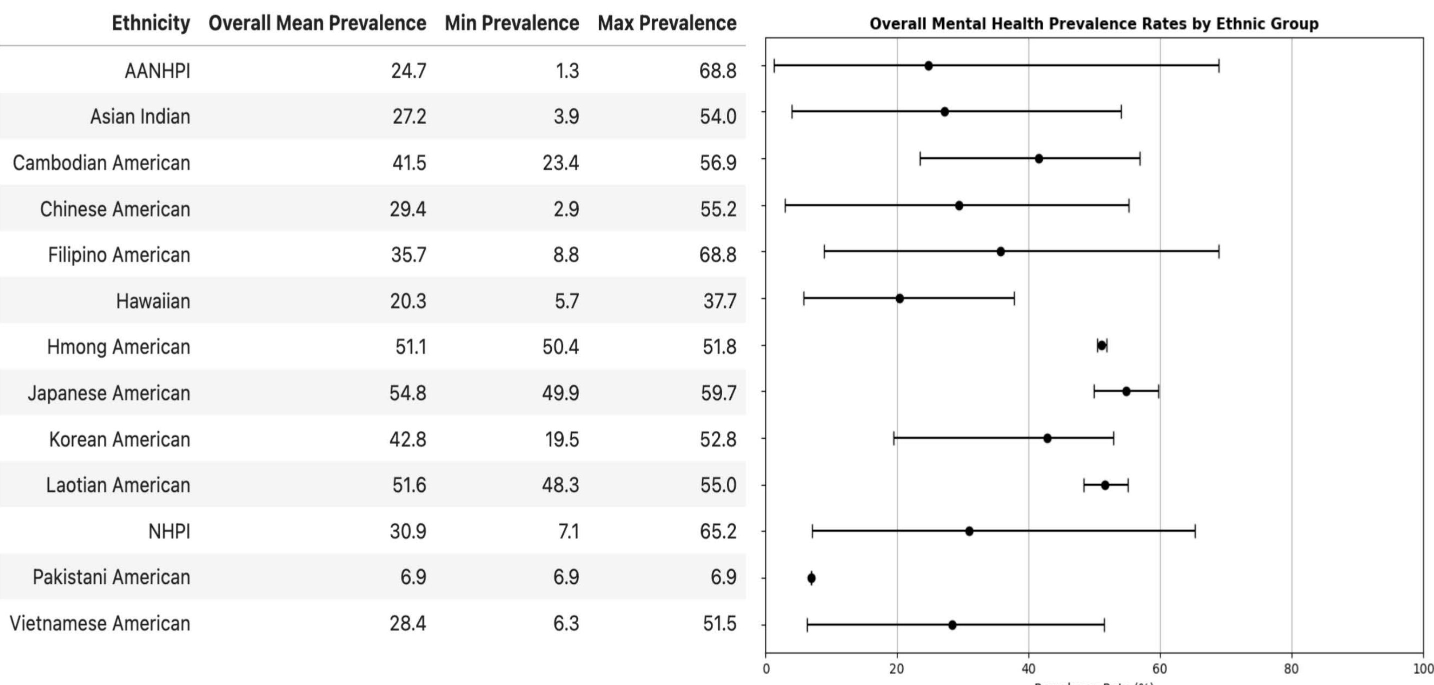
15% – 41%

prevalence for substance abuse

There were numerous studies that examined the scope of mental health pathologies but did not report a prevalence point. In our methodology, we did not extrapolate or calculate on the behalf of the author. Moreover, there were many studies that used a scale to examine the scope of mental health pathologies. For example, if a study used PHQ-9 as a measure of depressive symptoms, and only reported mean scores with/without standard deviations, we could not extrapolate the prevalence estimates, and the results of these studies are displayed in Table 1. Overall, we did not find a sufficient number of studies that examine the incidence, rather than prevalence, of mental health issues in AANHPI youth populations from which to draw any significant conclusions.

Broadly speaking in epidemiological research there are many factors that influence study findings. For example, study design, survey modalities, instrumentation, definitions, analytical methods, all could affect the prevalence of study findings. In person surveys vs. telephone or self-administered vs. technology assisted surveys can yield different results. Moreover, different instruments to measure mental health will yield different results. For example, there are many different instruments to measure depression and/or depressive symptoms. Different instruments or the brevity of the same instrument will yield different results. Furthermore, once the survey data are collected, depending on the primary hypotheses or the analytical team decisions, how one categorizes the definition of depression will yield different results. For example, if a depression score ranges between 0-20, the value the team decides as a cut-off point to define a "case" is crucial in determining the overall study findings. Defining depression as "any positive score" vs. "score greater than 10", will yield different results in the overall prevalence rate. Any one or combination of the factors above could have contributed to the extremely wide prevalence ranges found. Additionally, the aggregation of data into the "AANHPI" category without accounting for varying prevalence rates between racial subgroups could have contributed to the wide range reported.

Figure 2:
Overall Mental Health Prevalence Rates by Ethnic Group



Ethnicity	Overall Mean Prevalence	Min Prevalence	Max Prevalence
AANHPI	24.7	1.3	68.8
Asian Indian	27.2	3.9	54.0
Cambodian American	41.5	23.4	56.9
Chinese American	29.4	2.9	55.2
Filipino American	35.7	8.8	68.8
Hawaiian	20.3	5.7	37.7
Hmong American	51.1	50.4	51.8
Japanese American	54.8	49.9	59.7
Korean American	42.8	19.5	52.8
Laotian American	51.6	48.3	55.0
NHPI	30.9	7.1	65.2
Pakistani American	6.9	6.9	6.9
Vietnamese American	28.4	6.3	51.5

Risk/Protective Factors of Mental Health

There are individual-level, family-level, school-level, and community-level risk and protective factors associated with mental health of AANHPI youth (Table 2). Individual-level factors included race, acculturation, violence, discrimination, religious coping, academic performance, self-esteem, body image, and sleep. Family-level factors included family SES (Socioeconomic Status), family functioning, parenting style, and intergenerational solidarity, conflict, and control. School-level factors consisted of support or stress from teacher and peers, school attachment, school environment or climate. There were limited studies in the literature that focused on the community-level factors associated with mental health of AANHPI youth. In addition, there are limited studies in the existing literature exploring the role of intersectional identities in the mental health of AANHPI youth, such as multi-racial identities, sexual and gender identity, and geographic relative minority status.

Individual-Level Risk/Protective Factors

Race

Most studies reported that AANHPI youth had worse mental health than their counterparts. Children of foreign-born Asian families (from east [b=0.17, SE= 0.06] and southeast [b=0.16, SE= 0.05] Asia) were at greater risk for internalizing problems compared with US-born Whites [10]. Asian students scored positive in social anxiety at significantly greater rates than White, Black, and Latino students [22]. Asian American undergraduates indicated greater psychological distress than White Americans [23]. Native Hawaiian adolescents had significantly higher rates of psychiatric diagnosis (32.7%; 95% CI 26.1%-40.1%) than non-Hawaiians (23.7%; 95% CI 19.9%-28.0%) [24]. API adolescents in grades 7-12 had higher rates of suicide ideation (15.4%) than their African American (12.3%), Hispanic (14.8%), and White (14.1%) counterparts [25]. Longitudinal research showed that the rates of change for the depressive symptoms for Chinese Americans and Whites were parallel. For adolescents younger than 15, Chinese Americans and Whites had similar depressive symptoms trajectories and the pattern was the same for males and females. Among adolescents aged 15 and older, the only significant difference was that Chinese American males had higher initial levels of depressive symptoms than White males [26].

Meanwhile, some studies reported that AANHPI youth did not have significant differences in mental health compared with other ethnic groups. Asians didn't have significant differences in feeling sad (OR=1.07, 95%CI=0.97-1.18), suicidal ideation (OR=1.08, 95%CI= 0.89-1.14), suicide plan (OR=1.12, 95%CI=0.99-1.27), or self-harm (OR=0.85, 95%CI =0.69-1.06) compared with Whites [27]. Filipinos and Caucasians did not have significant differences in anxiety

(OR=1.00, 95%CI=0.49-2.06), depression (OR=1.18, 95%CI=0.54-2.57), or suicide attempts (OR=2.78, 95%CI=0.63-12.23). Native Hawaiians and Caucasians did not have significant differences in anxiety (OR=1.18, 95%CI=0.56-2.49), depression (OR=1.14, 95%CI=0.51-2.55), or suicide attempts (OR=2.44, 95%CI=0.53-11.14) [28]. AHPI identity was not significantly associated with baseline depression symptoms (b=.04, SE=0.14, p>0.05) or suicidal ideation (b=0.01, SE=0.20, p>0.05), nor with the slope of depression symptoms (b=0.06, SE=0.06, p>0.05) or suicidal ideation (b=0.02, SE=0.05, p>0.05) compared with Black identity [29]. No statistically significant differences between Hispanic and Asian Pacific Islander American youth are found for underage substance use [30].

A few studies reported that AANHPI youth had better mental health than their counterparts. Young Asian American women exhibited lower PTSD severity than their White counterparts [31]. Asian/Pacific Islanders (OR=0.36; 95%CI=0.15-0.84) exhibited lower rates of depression and anxiety compared to their white counterparts [32].

In addition, there are limited studies addressing specific subgroups within the AANHPI umbrella. Korean American students reported significantly greater depression than Chinese American and other Asian American students [6]. One study reported that Southeast Asians were 97% more likely to have suicidal thoughts than European Americans [33]. Another found that third-generation Filipino-American adolescents had 500% higher odds of experiencing lifetime suicidal ideation and ten times the odds of reporting suicidal ideation compared to white adolescents [34]. There was no statistically significant group difference in depressive symptoms among the four Asian American subgroups (U.S.-born Asian Americans who speak a non-English language at home, U.S.-born Asian Americans who speak English at home, foreign-born Asian Americans who speak a non-English language in the home, and foreign-born Asian Americans who speak English at home). There was statistically significant group difference in adolescent suicidal ideation, early young adulthood suicidal ideation, and young adulthood suicidal ideation among the four Asian American subgroups [35].

Acculturation and Enculturation

Many studies have explored the role of acculturation—the process of adjusting to the social and cultural values and behavioral patterns of a new culture— and acculturation-based conflict within the home, suggesting a link to mental health [36]. Higher ethnic affirmation was found to be protective, as it was associated with lower depressive symptoms (p=-0.25, p<0.01) and lower anxiety symptoms (p=-0.27, p<0.05) in Asian American college students [31]. Increase in ethnic identification was associated with decrease in withdrawn/depressed symptoms (b=-0.04, SE=0.02) and somatic complaints over time (b=-0.03, SE=0.01) [37]. Identity enculturation—the process of maintaining or being socialized to one's culture of ethnic origin— was related to fewer depressive symptoms via maternal explicit affection (b=-0.057, p<0.05), bonding

to mom (b=-0.098, p<0.05), paternal explicit affection (b=-0.069, p<0.05), and bonding to dad (b=-0.081, p<0.05). Behavioral enculturation was related to fewer depressive symptoms via bonding to mom (b=-0.058, p<0.05) and to fewer antisocial behaviors via bonding to mom (b=-0.060, p<0.05) and bonding to dad (b=-0.066, p<0.05) [38]. Positive coping skills (b=-0.01, SE=0.01, p<0.05) and a strong identification with the culture of origin (b=-0.23, SE=0.11, p<0.05) may serve as a protective factor against substance use during adolescence. Cultural identity seemed to lessen the association of deviant peer association and substance use when identification to the culture of origin is high in Vietnamese immigrant youth (p=-0.26, p<0.01) [3]. General life stress was associated with higher levels of symptoms, distress, and suicidal ideation, whereas acculturative stress had only a marginal association with symptoms. Although acculturation level was not associated with the outcome measures, longer durations of stay in the US were associated with greater distress in Korean American adolescents [39]. One study on female American youth who were adopted from China reported that compared with the U.S.-Non-Adoptee Group, the U.S.- Adoptee Group scored significantly lower on anxiety problems. Compared with the U.S. Adoptee Group, the China-Non-Adoptee Group scored significantly higher on depression problems and anxiety problems [40]. Most studies support that enculturation and increased ethnic identification served as a protective factor against mental health issues, whereas acculturative stress may or may not be a significant risk factor.

Violence

A direct but non-linear path from cumulative trauma to acculturative stress to internalizing symptoms has been found [41]. After controlling for daily hassles, one study found that recent exposure to violence predicted higher self-reported PTSD (b=0.38, p<0.001) and depressive symptoms (b=0.30, p<0.5) [42]. Korean American adolescents who reported ever observing others being bullied experienced a higher level of depression than those who had not observed others being bullied. Those who reported both being bullied and bullying others were more depressed than the non-bully-victim group [16]. Longitudinal research showed that high levels of adolescents' perceptions of peer victimization at baseline were associated with increased levels of depressive symptoms one year later (p=0.35, p<0.05) in Asian American youth. Peer victimization interacted with reports of school-based peer support on depressive symptoms (b=4.41, p<0.05). Under conditions of high levels of peer support, high levels of peer victimization related to increased depressive symptoms (b=8.94, SE=1.62, p<0.001). Conversely, under conditions of low levels of peer support, there were no significant associations (b=3.04, SE=1.86, p=0.10) [43]. However, one study found that the degree of exposure to violence did not have a significant influence on the subsequent internalizing behaviors in Asian American group [44]. One particularly concerning study demonstrated that among AAPI adolescents there was a significant positive correlation between exposure to school-based violence

and engagement in the four suicidal behaviors (considered attempt, made a plan, attempted suicide, and had an attempt that resulted in injury). This was also noted among AAPI adolescents who experienced sexual violence [45]. Most studies seem to support that exposure to violence increases the risk of symptoms of depression, anxiety, and even suicide.

Discrimination

Discrimination was correlated with poor mental health for Asian-identified student-athletes who reported A-average grades but showed no significant correlation with mental health for student-athletes reporting B-average or lower GPAs (p=-0.23, p=0.01). The three-way interaction between discrimination, gender, and BMI classification was significant for both anxiety (p=-1.59, p=0.02) and positive mental health (p=1.45, p=0.04), whereas it was nonsignificant for depression (p=-1.27, p=0.07). Significant three-way interactions of discrimination, student athlete status, and exercise were significant for depression (p=-0.09, p=0.00), anxiety (p=-0.07, p=0.00), and positive mental health (p=0.07, p=0.00) [46]. Racial discrimination that was higher than the average for the study samples across the three waves increased mental distress (i.e., significant between-subjects effect). An increase in racial discrimination within samples over time during the study period also increased mental distress (i.e., significant within- subjects effect). Racial discrimination was a significant predictor of depressive symptoms only among the U.S.-born Filipino American youth. While it was significant in both foreign-born and U.S.-born Korean American youth, the negative impact was significantly stronger among the U.S.-born Korean American youth [47]. COVID-19- related racial discrimination predicted higher levels of Chinese American adolescent internalizing difficulties only when they were less likely to view their Chinese and American identities as harmonious and blended (b=0.76, p<0.001) [48].

Religious Coping

Forgiveness (b=-0.29, p<0.01) and negative religious coping—defined as having an insecure relationship with God, including strategies such as religious discontent and making punitive religious appraisals— (b=0.24, p<0.05) were significant predictors for Korean American girls, while negative religious coping (b=0.21, p<0.05) was a significant predictor for Korean American boys [49]. Korean American youth were significantly more likely to use religion as a coping mechanism than Japanese and Chinese youth (b =2.10, SE=1.04, p<0.05) [50]. Religious identity reduced depressive symptoms for females over time (b=-0.15, SE=0.06, p=0.01), but not for males (b=0.03, SE=0.04, p=0.41). Religious participation (b=0.09, SE=0.04, p=0.04) and religious identity (b=0.17, SE=0.05, p=0.001) were significantly associated with positive affect in Asian American high school students [51]. Higher personal spirituality levels predicted fewer depressive symptoms in Korean American girls (b=-9.31, p<0.01) [52]. Although the study above was conducted with Catholic participants, it would be interesting to

investigate the relationship between eastern philosophies like Confucianism and mental health within these populations. In general, studies showed mixed results regarding the association between positive religious experiences and mental health symptoms, but showed consistently that negative religious coping was a significant risk factor for AANHPI youth.

Academic Performance

Academic performance was linked to depressive symptoms of Korean American youth (p=-0.14, p<0.01) [53]. The negative contribution of academic performance to substance use was stronger in victimized Asian groups than in victimized Black and Latinx groups (Abs=0.15 and 0.13, SE=0.04 and 0.05, p<0.001 and <0.01, respectively) [54]. Youth with stronger Chinese identities reported greater distress on days when they experienced more school problems compared to those with less Chinese culture orientation [55]. One study also found a significant association for self-reported GPA on depressed and suicidal scores [56].

Self-Esteem

Positive self-esteem was associated with lower depression among Asian American adolescents [57, 58]. Self-esteem was a negative predictor of depression in Korean American adolescents (p=-0.60, p<0.001) [59]. Self-esteem and sense of mastery were both correlated with lower depressive symptoms [60]. The effects of interparental conflict and parent-adolescent conflict on depressive symptoms were partially mediated by self-esteem. The effect of problem-focused disengagement coping on depressive symptoms was fully mediated by self-esteem in Korean American adolescents [61].

Body Image

Lower global body satisfaction was associated with higher social anxiety in Asian American college women [62]. The difference in depressive symptom scores between the low-body dissatisfaction and high-body dissatisfaction points was found in AsianAmerican boys [63]. Higher BMI in 6th grade increased the risk for weight-based peer discrimination in 7th grade, in turn predicting higher levels of 8th grade loneliness and social anxiety [64]. Body dissatisfaction (p=0.517, p<0.001) was found to be a significant predictor of bulimic symptoms among Asian American women [65].

Sleep

Daily nighttime disturbance partially or fully mediated the impact of daily ethnic/racial discrimination and ethnic/racial discrimination in the preceding 6 months on daily mental health outcomes, including negative mood, anxious mood, rumination, and somatic symptoms. Daily daytime dysfunction partially or fully mediated the impact of daily level and prior 6-month ethnic/racial discrimination on daily mental health outcomes, including negative mood, anxious mood, positive mood, rumination, and somatic symptoms.

Daily daytime sleepiness partially or fully mediated the impact of daily level and prior 6-month ethnic/racial discrimination on daily negative mood, anxious mood, positive mood, rumination, and somatic symptoms [66].

Family-Level Risk/Protective Factors

Higher levels of open father-adolescent communication was associated with fewer internalizing symptoms (p=-0.42, p<0.001) [67]. Parent-adolescent discrepancy (p=0.19, p<0.05) and adolescent's perception of family conflict (p=0.35, p<0.001) predicted Chinese American adolescents' depression [68]. Perceived father-adolescent relationships warmth (b=0.04, SE=0.06, p>0.05) or control (b=0.01, SE=0.27, p>0.05) and perceived mother-adolescent relationships control (b=0.13, SE=0.28, p>0.05) or conflict (b=0.26 (SE=0.20, p>0.05) were not significantly associated with depressive symptoms in Korean American adolescents. However, perceived father-adolescent relationships conflict (b=0.52, SE=0.18, p<0.01) and perceived mother-adolescent relationships warmth (b=0.17, SE=0.07, p<0.05) were significantly associated with depressive symptoms [69].

Longitudinal research showed that perceived parental unresponsiveness at predicted significantly higher levels of internalizing symptoms (p=0.17, p<0.001). The total indirect effect (p=0.04, p=0.021) and the specific indirect effect through parental unresponsiveness (p=0.04, p=0.007) were significant for Vietnamese American adolescents [70]. Among Korean American adolescents, less open father-adolescent communication exacerbated the negative impact of the intergenerational enculturation gap on internalizing symptoms (p=-0.23, p<0.05) [67]. Additionally, parental support was associated with lower depression ((p=-0.22, p<0.001) [59]. For Chinese American adolescents, authoritative parenting significantly mediated the paths from child English proficiency to internalizing problems (95% CI [-.453, -.028]) [71]. The level of mother-adolescent connectedness did not have a significant influence on the subsequent internalizing behaviors in Asian American groups [72]. Greater intergenerational conflicts with mothers significantly mediated the association between perceived discrimination and depressive symptoms (p=0.04, 95% CI [.014, .079]), but intergenerational conflicts with fathers did not significantly mediate this association (p=0.01, 95% CI [-.017, .030]) [73]. Living with both parents was associated with lower levels of depressive symptoms (p<0.001) and suicidal ideation (p<0.05). Social support from parents was marginally associated with lower levels of symptoms (p<0.001) [39]. Higher parental socioeconomic status (b=0.08, SE=0.02, p<0.001) was associated with higher depression among Asian American adolescents [58]. Family functioning had a statistically significant impact on depression (p=0.42, p<0.01), and delinquency (p=0.37, p<0.05) in Chinese American adolescents [74]. Higher levels of familial pride were associated with lower levels of depressive symptoms (b=-0.101, SE=0.029, p<0.001), while familial obligation was correlated with higher depressive symptoms (b=0.136, SE=0.059,

p<0.05) [75]. Many studies seem to agree that open communication and support in family environments are protective factors for mental health, while closed or no communication and perceived high expectations were associated with worse mental health.

School-Level Risk/Protective Factors

Stronger school relationships (b=-4.66, SE=0.97, p<0.05) and peer relationships (b=-5.51, SE=1.63, p<0.05) significantly predicted lower rates of suicide attempts one year later [76]. High levels of teacher support at baseline (b=-4.52, p<0.05) were associated with decreased depressive symptoms one year later. Teacher (b=0.40, p<0.05) support emerged as a moderator of the association between adolescents' anxiety and depressive symptoms [77]. Supportive school environment was associated with lower depression (p=-0.26, p<0.001) [59]. Among Cambodian American adolescents, school attachment significantly mediated the relationship of acculturation and enculturation to internalizing symptoms. School attachment also mediated intergenerational cultural conflict to internalizing symptoms [78]. School belonging fully mediated the association between congruence and emotional problems for first generation Asian students (a*b=0.48, p<0.001) [79]. School and peer stress was significantly associated with less same-day happiness (school: b=-0.06, SE=0.03, p<0.1; peer: b=-0.13, SE=0.06, p<0.05) more same-day distress (school: b=0.09, SE=0.02, p<0.001; peer: b=0.11, SE=0.04, p<0.01) and anxiety (school: b=0.11, SE=0.02, p<0.001; peer: b=0.11, SE=0.04, p<0.01) among Asian American adolescents [80]. Positive school climate at the individual level buffered the relationship between face-to-face victimization and suicidal thoughts and behaviors, whereas positive school climate at the school level buffered the relationship between cyber victimization and suicidal thoughts and behaviors [81]. School environment and support levels were generally shown to have a significant impact on the mental health of students.

Community-Level Risk/Protective Factors

The presence of a park or playground (b=-0.08, SE=0.4, p<0.05) and being involved in extracurriculars (b=-0.07, SE=0.01, p<0.001) were independent negative predictors of mental health among Asian American children [82]. Another study reported that neither neighborhood disadvantage nor cohesion was associated with depressive symptoms in Chinese American adolescents [83].

In Review of Risk/Protective Factors

In sum, although most studies showed that AANHPI youth had worse mental health than other ethnic groups, a minority of studies reported the opposite findings. A strong identification with the culture of origin and assimilation to the mainstream culture are associated with better mental health, while acculturative stress is generally related to worse mental health. Students who

experience being bullied, bullying others, or observing others being bullied are likely to experience a higher level of depression than their counterparts. Racial discrimination negatively impacts mental health and disproportionately affects AANHPI subgroups. Better academic performance can benefit mental health. Self-esteem can either directly affect mental health positively or serve as a mediator for other risk factors. Negative religious coping, body dissatisfaction, and sleep disturbance have been associated with deterioration of mental health.

Consequences

Studies demonstrate that mental health is an independent factor with various outcomes (Table 3). A study of 511 Asian American medical students found anxiety was associated with increased negative coping strategies ($r=0.194$, $p<0.01$), while depression showed no significant associations ($r=-0.025$) [84]. Another study found that for 1,415 undergraduate and graduate students, internalizing problem severity was associated with increased treatment use only in cisgender, non-Hispanic/Latinx White, while this relationship was negative in cis-gender Asian students and nonsignificant in other marginalized demographic groups [85]. Analysis of 2,955 underweight and healthy-weight adolescents in the 2005 California Health Interview Survey demonstrated that 16.9% with depressive symptomatology also had distorted weight perception, indicating a potential association between depression and weight perception (OR=1.75, CI= 1.21,2.55) [86].

Several studies found a connection between mental well-being and engagement in risky behaviors. For instance, one study of 754 Chinese/Chinese American, Latino/Hispanic, Persian/Iranian and non-Latino White adolescents demonstrated that the presence of depressive symptoms were significantly associated with the intention to smoke after controlling for language use acculturation, socioeconomic status, gender, and ethnicity. However, this association did not vary significantly across ethnic groups [87]. Highlighting these cultural variances, a cross-sectional study of 3,717 U.S. adolescents found that when Asians reported lower use of cigarettes, they were also likely to report lower depressive symptom scores than White individuals (OR=0.45, CI [0.38, 0.53]) [88].

In a study of 1,567 Texas college students, Electronic Nicotine Delivery Systems (ENDS) were found to be utilized more among young adults experiencing depressive symptoms [89], suggesting that they were using ENDS as self-medication for their symptoms. A California statewide study of 13,374 high school students found a significant association between depression and alcohol/tobacco use in females across ethnicities, while self-esteem did not show a similar relationship. However, neither self-esteem nor depression significantly predicted marijuana use [90]. A study of 6,700 8th-grade students found high levels of internalizing symptoms predicted more hours of video game (4.0 vs. 1.9) and internet use (5.3 vs. 2.4) for Asian-American males compared to White males, suggesting a need to further understand racial/ethnic minority experiences [91].

Knowledge gaps exist on the impact of Asian youth mental health on longitudinal outcomes, protective and risk factors, help-seeking behaviors, and co-morbid conditions. To effectively address mental health outcome disparities among Asian youth, future research and interventions must prioritize understanding risky behaviors, strengthening protective factors, dismantling stigma, and fostering culturally responsive and accessible care models that can be equitably implemented within diverse communities.

Interventions

A series of studies investigated the effectiveness of various interventions in targeting specific stress subtypes (Table 4). In one investigation where 145 predominantly ethnic minorities (Asian and Latino) in 9th grade underwent a 12-week mindfulness intervention, researchers observed a 6.51% decline in internalizing symptomatology and an 18.81% decline in perceived stress levels [92]. In another study, 53 male youth and their parents underwent a 16-week intervention program measuring the associations between parent training (PT) and patient outcomes. Of the 16 sessions, parents were involved in 2 of the sessions: individual CBT and relaxation training. No significant association was found between PT and childhood anxiety via clinical severity rating or multidimensional anxiety scale for children [93]. In a Midwest summer program, 13 Asian-American youth had a solution-focused body-mind-spirit group therapy and found improvement and congruence among qualitative and quantitative assessments of emotional, conduct, hyperactivity, and peer relationship factors [94]. A double-blind intervention utilizing a culturally adapted one-session treatment for phobia found an improved behavioral approach when compared to self-help among Asian American ethnicities [95].

Research has explored the effectiveness of various interventions in addressing mental health symptoms of depression, suicidality, eating disorders, and trauma in Asian youth. One study investigated the efficacy of the Asian Women's Action for Resilience and Empowerment (AWARE) intervention— a gender- and culture-specific and trauma-informed group psychotherapy intervention. An RCT involving 63 Chinese, Korean, and Vietnamese young women with histories of interpersonal violence and trauma and/or Post Traumatic Stress Disorder was conducted, was conducted, documenting retention rates, preliminary efficacy for sexual risk behaviors and depressive symptoms, and safety in terms of suicidality at baseline, postintervention, and at a 3-month follow-up. The intervention reported high retention and safety rates, as well as a significant reduction in depressive symptoms among women with a history of PTSD, with an effect size of 0.84 compared to the control group, although the reduction was nonsignificant between the overall groups [96]. A cross-sectional web-based suicide awareness study of 431 university students testing the cultural relevancy of The Truth About Suicide: Real Stories of Depression in College, a widely used suicide prevention video, found that Asian American students were 6.85% more likely to rate the video significantly lower for cultural relevance when

compared to non-Hispanic whites [97]. An RCT of 206 high-risk young adult women was randomized into a 10-week internet-based cognitive-behavioral intervention or wait-list control for eating disorders with comorbid depression. While eating disorder onset rate was not significantly lower in the intervention group, eating disorder attitudes, behaviors, and depressive symptomatology significantly improved compared to the control group [98]. A single¬blind study which tested a strengths-based, multi-level, and community/cultural intervention "Qungasvik", a Yup'ik word for a toolbox, for adolescents in a tribal community in Alaska found significant intervention effects for participants' reason to live ($d=0.27$, $p <0.05$), but not for their reflective processes regarding alcohol abuse [99].

Despite the initial promise of existing interventions, knowledge gaps persist concerning their long-term efficacy across diverse Asian ethnicities and age groups. To optimize mental health interventions for these populations, further research is necessary to determine effective delivery methods and elucidate the family's role. Limited interventions designed specifically for male AANHPI youth also necessitate further research. Future interventions should prioritize cultural adaptation, affordability, and accessibility to ensure alignment among community needs.

Current Stakeholder Interviews

Mental Health Issues

After 9/11 [...] a lot of South Asian kids, even ones that are Hindu [...] just all got called Osama. You know, Muslim girls wearing a hijab have issues, boys wearing turbans, all that kind of stuff [.] were treated as different and ridiculed, mocked."

Stakeholders identified that anxiety, depression, and stress are widespread, exacerbated by communication barriers and cultural differences (Table 5). This leads many to suffer in silence, which exacerbates the intergenerational stigmatization of help seeking behaviors. Bullying, especially targeting marginalized groups like South Asians and other minorities based on religious and cultural practices, further contributes to mental health issues. Discrimination and racism, exacerbated by events such as COVID-19, continue to impact mental well-being. The data additionally revealed that the patriarchal system contributes to domestic violence within households, further complicating the household environment for the children. This issue often goes unnoticed or disregarded due to prevailing societal and cultural norms. Substance use, fear of gun violence, academic pressures, and the transition from high school to college also contribute to youth psychological wellbeing.

You get a high school kid that you know the parents want them to be a doctor or an engineer, and what they really love is art and theater, you know, and like these are not and that can be hard on a kid like that pressure being successful is slowly killing me."

Mental Health Issues

College students, they're also worried, because if they're using their family members insurance, there might be a summary of benefits that gets mailed home that says […] what services they would use. […] so some of our students are kind of afraid."

The study has emphasized that accessing mental health services remains a significant challenge for Asian youths, particularly due to limited availability and long waiting lists of qualified and culturally competent therapists and counselors. Asian youth find it challenging to openly discuss their mental health with their parents, likely due to their high level of involvement in their lives. Asian parents express care differently depending on their ethnic and culture backgrounds and direct communication Is lacking. Despite recognizing the need for external support, individuals often encounter barriers in finding appropriate care, which are further exacerbated by the stigma surrounding mental health. Language barriers further complicate access to services, with many individuals unable to communicate effectively with therapists or find professionals who speak their language and understand their cultural nuances. Language barriers, among other confounding factors, also exacerbate the struggle to access health insurance, a challenge which prevents many from seeking care. Even between youth and their parents, language differences can prevent healthy and easy conversation about mental health.

Additionally, social, and environmental factors such as food insecurity and housing instability intersect with mental health, highlighting the importance of addressing basic needs to support overall well-being.

Social, Cultural and Family Dynamics

In Asian American community, our cultures tend to be very paternalistic. So I think there's also the kind of machismo as well but particularly for men that you need to be strong. You're head of the family."

Through our interviews, stakeholders identified several unique social, cultural, and family dynamics that might influence AANHPI youth mental health. Intergenerational challenges, social taboos, gender bias, and family trauma were some of the key themes identified. In addition, a culturally specific sense of collectivism, shame, humiliation about mental health in specific Asian subcultures, cultural norms, expectations, and unique parental conflicts relating to decision making process also influences mental health. More specifically, intergenerational challenges and experiences of immigration play a role, with trauma and cultural differences influencing attitudes towards mental health within immigrant and refugee communities. In the context of families which have uprooted their lives to flee war and disaster, it can be difficult for youth to bring up mental health, which can feel superfluous in times of survival.

I think parents sometimes see a child's struggles as their failure as a parent, and so they don't want to accept that their child has struggles, because then that means that they've done something wrong."

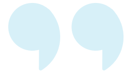
Help Seeking Behaviors and Barriers and Evaluation of Current Health Care Systems

I think we don't have enough Asian American practitioners, who are bilingual or trilingual [...] and existing health providers are not well trained in cultural humility and cultural difference."

There were many barriers for youth's help-seeking behaviors to ameliorate mental health burdens. Communication with parents, cultural conflicts, unique cultural traits and customs, stigma, and barriers to talk about mental health were micro level factors contributing to help seeking behaviors. From a system perspective, high treatment cost, longer wait to receive services, lack of or limitations to insurance coverage, lack of linguistically and culturally appropriate services, and appropriate allocation of funding and resources were additional barriers as well. Many felt that community gathering from religious and social services and targeted school programs holds the potential to address some of those behaviors challenges and barriers to improve mental health. Furthermore, many stakeholders felt there is an inadequate clinical workforce with deeper understanding and appreciation of unique Asian cultures and communities in addition to a greater need to evaluate the effectiveness of current health care systems.

Specific Resources to Support the Needs

Stakeholders identified several potential sources to support AANHPI mental health issues. Family and peer awareness and regular conversations, awareness and educational campaigns, community events, and access to safe space, counseling and care are important support systems. Moreover, there is a great need for linguistically and culturally sensitive clinicians and mentors for youth, and greater involvement of educational organizations. Many thought that there is a need for greater intention with social media messaging, reachable helplines and texting systems, as well as keen understanding of geographical variations of experiences in outreach programs curtailed to the age, gender, race, ethnicity, and sexual orientation of the population served. Educating individuals about mental health access and providing culturally and linguistically appropriate care are crucial steps in addressing these complex challenges and improving mental health outcomes for diverse populations.



We try to do our programming and outreach for the college youth through the campus organizations and institutions because usually they're away from their family, and they're generally in a safer space."

Discussion:

There does need to be a greater depth of understanding about how policies and how schools are handling [...] events that might be experienced differently by different communities."

Mental health is an important public health issue in AANHPI youth. Existing observational studies showed that different levels of risk and protective factors are associated with their mental health. Community-level factors have been less studied than individual-, family-, and school-level factors. Mental illness may lead to negative coping strategies, risky behaviors, co-morbid conditions, and may affect health¬seeking behavior as well as utilization of healthcare systems. Qualitative studies helped identify additional barriers in help-seeking for mental illness. Intervention studies explored the effectiveness of various interventions in addressing mental health symptoms, such as depression, suicidality, or eating disorders, in AANHPI youth.

Findings from this study have several important implications. Clinicians working with AANHPI youth should address these risk factors which contribute to mental health issues. While mental health conditions will not disappear, addressing these risk factors will help to mitigate the culture-specific stressors which can trigger new problems or worsen existing ones. Our review identified some ethnic and immigration-related risk factors, such as racial discrimination and acculturative stress. Asian American adolescents perceive increased discrimination during the high school years [100]. We must eliminate systemic and structural barriers that disproportionately affect AANHPI youth's mental health and create policies that protect them from structural discrimination and reduce their acculturative stress. Implementing structural changes to the school and community environment can help eliminate existing inequities and improve mental health for this marginalized population.

Model minority stereotypes hinder problem recognition when Asian American adolescents are performing well academically by masking the adolescents' internal emotional turmoil [101]. Findings from qualitative studies identified existing patterns and barriers in help-seeking behaviors of AANHPI youth. AANHPI youth may not recognize that their psychological distress amounts to a "problem" if they are not equipped with sufficient mental health knowledge. They prefer seeking help from informal sources such as friends and family and avoid formal options such as online help services and off-campus therapists [101]. However, AANHPI youth may not receive the help that they need unless people around them become aware of the problem. Many AANHPI families lack the knowledge to recognize signs of distress in their children [102]. Education programs are needed to improve AANHPI youth and their families' mental health literacy and reduce stigma in using mental health services [101, 103].

The model minority myth, for instance, you know this idea that Asian Americans are perfect. We don't have anything to worry about. [...] That doesn't serve us very well [...] Asian Americans in general and youth in particular are ignored."

A lot of times, you know, Asian- American, particularly parents, they don't know how therapy works [...] They don't know why it would be helpful to talk to a stranger."

Cultural factors also increase the barriers in help-seeking behaviors. Prior studies have demonstrated that Asian American students tend to report greater stigma about mental illness and help-seeking compared to White American students [104]. Asian cultural values tend to emphasize avoidance of shame, and help-seeking for mental health problems may be regarded as shameful or embarrassing [23]. Many Asian Americans may not consider mental health treatment to be significantly beneficial or helpful. Treatment approaches viewed as targeting mostly the affective or cognitive symptoms of distress, such as psychotherapy, may not be perceived as credible ways to alleviate distress, while help-seeking from those who focus on treating bodily symptoms, such as physicians, may be viewed as more credible [23]. Additionally, language itself may pose a barrier for Asian American youth. Most South Asian languages, for instance, do not have words for anxiety, depression, or trauma, which adds to the difficulty of speaking up about these issues and seeking help. study suggested that culturally relevant approaches are needed to enhance help-seeking behaviors of AANHPI youth. Novel intervention models are needed to increase awareness, decrease fear and stigma, and improve engagement with mental health systems for this population.

Asian cultures place greater emphasis than Western cultures on secondary coping (i.e. acceptance of difficult situations) and less emphasis on primary coping (i.e. directly changing the source of the stressor) [105]. Emotional suppression and forbearance are common ways that Asian Americans handle stressors.

For [...] South Asian American youth, mental health [...] is just not the priority. Education, doing well for your family is your priority, so it can be really hard to find that time or take that space to really address your mental health, something that's looming in the background."

Asian Americans are likely to feel like they are expected to inhibit or control their emotions to maintain harmony [106]. They may lack emotional openness due to cultural expectations and do not want to burden their family. This difference in problem solving orientation may also help explain why Asian Americans tended to perceive therapy as being less credible and regarded self-disclosure to a mental health professional as less useful. Alongside reduction of help-seeking stigma, outreach efforts particularly highlighting the benefits of help-seeking appears to be a promising avenue for Asian Americans.

Despite the aim of the study to quantify the prevalence, risk factors, consequences, and intervention effects, we would like to additionally take into consideration past qualitative research to inform our report. Prior qualitative studies indicate that in dealing with depression, stress, and anxiety, major barriers in help seeking behaviors were stigma associated with mental health, lack of community awareness on mental health issues, avoiding worrying their parents, lack of

linguistically and culturally sensitive providers, and lack of parent's knowledge of mental health issues [102]. At the same time, other qualitative studies have identified additional factors such as fear of invalidating youth emotions, collective values, need for informal help, and provider's trustworthiness as major barriers for help seeking [101]. Many Asian youth recognize the mental health symptoms of negative mood, irritability, quietness, body image issues and eating changes. However, many youths consider mental health as a "white people problem", and normally went unrecognized among their peers and families [107].

Different Asian subcultures face different typologies of mental health issues. A study of Korean youth suggests that loss of independence, family pressure and strained family relationships were strong stressors to mental health challenges [108]. Studies of Filipino populations found that in order for parents to be more involved with youth's mental health, it is important for the researchers to recognize "Kapwa-shared inner self", "Hiya-shame or loss of face" as well as difference perception of stigma, fear and judgement across generations [109] as well as different typologies (disengaged, separated, connected, and enmeshed) of family cohesions [110].

Equally important to cultural nuances, it is important to recognize gender roles and biases in relation to youth's mental health. A study by Yuwen (2013) found that Chinese parenting style in relation to favoring boys, significantly contributes to girl's psychosocial wellbeing [111]. In addition, parenting styles of mothers vs. fathers also contributed to the potential differential perception of mental health. An interesting study by Kodish (2021) found that immigrant youth were more likely to discuss emotions, depression, acculturation and achievement expectations and values difference with family; suggesting that native culture and traditional upbringing may enhance familial help seeking behaviors [112].

Culturally specific approaches are an important tool for combating the pervasive issues of mental health. In a study of Native Hawaiian and Pacific Islander population, participants highlighted the critical needs of cultural protocols, cultural philosophy, and culturally grounded advancement that give back to their communities [113]. One study of Asian youth found that Chinese youth were more heavily focused on physical symptoms of mental illness, which other ethnic groups did not [107]. When designing culturally tailored intervention and prevention strategies, it is important to ground the theoretical framework in a specific cultural context, gather diverse community and stakeholder inputs, linguistically and culturally adapt the intervention components and staffing, and ensure study findings can enable improved community health beyond the traditional academic pursuits.

There are some limitations in mental health research targeting AANHPI youth. We were limited in our ability to present findings on specific AANHPI subgroups due to the lack of disaggregated data in our review. "Asian American youth" was used broadly to include American youth of any Asian descent. Most samples included largely East Asian youth, ignoring the diversity of

Asian American youth's experiences. The relationship between religion and mental health, for instance, will manifest differently in a Korean American population, which is heavily influenced by Confucianism, as compared to a Filipino American population, which is more Catholic dominated. Future studies should explore the heterogeneities within Asian Americans and highlight the unique experiences of different subethnic groups of AANHPI youth. One method of this is through examining within-group differences in Asian Americans in case of overestimating or underestimating mental illness for specific Asian American subgroups when treating them as an aggregated group. In addition, mental health studies on NHPI youth are particularly small. Future research on the mental health of these populations is warranted. It may be important to tailor programs according to the distinct needs of adolescents from different cultural groups.

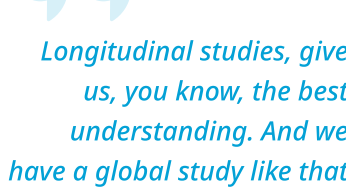
Also, we cannot assess variation in results by age due to the absence of data. Several studies utilized samples within specific developmental stages, particularly adolescence and young adulthood. Groups in these stages are at the peak of identity development which may lead to negative psychological outcomes [114]. Research found that adolescents in the middle stage of adolescence reported a higher level of depressive symptoms than adolescents at early or late stages [26]. Asian American youth of various ages have distinct mental health consequences and associated risk factors as well as different help-seeking barriers in different developmental stages. Building on this research, future studies could examine AANHPI mental health at differentiated stages of adolescence to inform tailored interventions at different levels in school.

Existing studies have extensively focused on individual-level risk factors and help-seeking barriers, leaving family-level, school-level, and community-level factors relatively understudied. Research on family-, school- and community-level risk factors and help-seeking barriers could inform interventions at all levels to improve mental health prevention and treatment for AANHPI youth with mental illness. Developing family-, community-, and school-based initiatives that are aimed at improving AANHPI youth's mental health are essential in reducing/eliminating disparities. Collective advocacy and policy advances from all levels are needed to create a national infrastructure to protect mental health of AANHPI youth.

Future Directions and Recommendations

From a research perspective, there were numerous gaps identified in all areas of AANHPI youth's mental health research. There is inadequate understanding of prevalence and incidence of mental health issues across representative samples of AANHPI subgroups and across specific mental health conditions. Without establishing rigorous evidence on incidence, we will not be able to establish causality, which could further cloud the design, testing, and implementation of prevention efforts. Even among youth groups, there is likely great heterogeneity of mental health

prevalence and incidence. Moreover, there is a need for additional data to assess the prevalence of mental health disorders among AANHPI populations relative to other minority groups, given that existing research predominantly compares AANHPI populations with non-Hispanic Whites. It is crucial to understand, compare, and contrast how mental health issues differ across different age groups and different ethnic groups.



Longitudinal studies, give us, you know, the best understanding. And we have a global study like that for aging, right and aging outcomes and mental health. We do not have a corollary of that for youth.

There is an urgent need for prospective longitudinal population-based epidemiological studies to better ascertain incidence of mental health issues and establish causal inferences in culturally specific risk/protective factors, as well as consequences of mental health. While there is value in examining individual-level risk/protective factors, we need to collectively examine multi-level factors that contributes to mental health, as well as consequences of mental health in AANHPI populations.

Moreover, we need to understand the reciprocity of risk factors and consequences with respect to mental health. Bidirectionality of these issues are crucial understand the causal mechanisms. While there are severe methodological challenges in conducting longitudinal population-based studies, every effort should be taken to learn from prior research efforts to confront these potential barriers to advance the epidemiological studies of this population.

Future research needs to consider how multitude of factors could influence study findings in any given population. For example, study design, survey modalities, instrumentation, definitions, analytical methods, all could affect the prevalence of study findings, even within the same person at any given time or across different times. In person surveys vs. telephone or self-administered vs. technology assisted surveys can yield different results. Different instruments or the brevity of the same instrument will yield different results within the same person. There is a dire need for reliability and validity studies using psychometrically sound instruments to measure mental health in AANHPI populations.

Furthermore, there is limited evidence on existing interventions to ameliorate mental health burdens or reduce the coinciding negative health outcomes associated with mental health. First, we must leverage community engagement principles to engage stakeholders and communities in the design and conceptualization of studies. Early community involvement is important towards the design and implementation of intervention efforts. Second, it is crucial to leverage culturally sound, family centered, and linguistically appropriate framework to design and implement interventions

Highersuicide rates[...] opened up the eyes to our board of directors like, maybe we need to, like really build a program around mental health services in a way"

One understanding adult [...] If you have one person in your life that sees you completely, that actually is a protective factor for suicide."

studies. We need to be more sensitive and competent in understand the cultural core underpinning of mental health issues, in order to design sound intervention ef orts. Third, we should be cautious of "lifting" an existing effective intervention f r m ntal health in different population to "implant" it into an AANHPI population, without conscious adaptation and testing the sustainability and feasibilities to improve youth's mental health. Mental health programs to address the needs of minority youth need to be evaluated for both their inclusion of AANHPI youth, as well as the identification of promising practices that could be adaptable to AANHPI subgroups in a culturally relevant manner. Greater AANHPI focused subgroup representations are greatly needed in all studies to untangle perhaps the greatest heterogeneity of any major racial/ethnic group.

There is an opportunity for future research into the interplay between identity and mental health within this population. For youth who identify as mixed-race, culture identification can be a challenging part of adolescence and contribute to mental health concerns. Even for youth who do not identify as mixed-race, studies examining the role of culture identity in the perception and treatment of mental health issues as well as help-seeking behaviors within this population are warranted. Additionally, there is currently a gap in literature regarding sexuality and sexual identity as it relates to AANHPI youth mental health. Intergenerational conflicts, acculturation, and language barriers make conversations about sexuality difficult, which can lead to the further internalization of mental health concerns. Studying the intricacies of these overlapping risk factors is necessary to navigate the challenging experiences of AANHPI adolescents.

From the practice perspective, there is a greater need from higher education and health care entities to hire linguistically and culturally representative staff, teachers, practitioners, and build mental health infrastructure for youth, families, and communities. Many stakeholders identified lack of rigorous scientific data to inform practice, needs for AANHPI participation in social movements, debunking mental health myth as well as reducing silo and building more synergy in collaborations. Moreover, it is critical for the practice community to work with academic communities to review, test and implement promising treatment options for AANHPI youth mental health issues. Practice communities also should be actively engaged through the principles of Community-Based Participatory Research (CBPR) strategies. Equitable partnership among these entities will ensure the sustainability of the collaboration and improved sharing of results to improve population health.

It goes to say that we need to have more culturally relevant competent consciousness for our providers and their training. [...] This education doesn't just extend to the community, but also to training our professionals."

It's really important to us that we disaggregate that data, because then [...] government institutions and private institutions can really understand [...] who they're serving and how each community should be served differently."

From the advocacy perspective, there is a great need for increased participation in all aspects of AANHPI population. Greater voting registration and community grassroots involvement are crucial to amplify our voices. In conjunction with aforementioned point, there needs to be a great linkage with academic organizations and research institutes to provide community relevant and population specific data to enable targeted advocacy efforts for this population. Avoiding silos is necessary to build synergy in collaboration to collectively push for AANHPI mental health. Through these synergistic efforts, there is a great chance to reduce mental health stigma and misunderstanding of mental health issues.

There hasn't been enough study in this area and it's crucial to analyze the various ways in which mental health stressors manifest among different generations of Asian Americans."

From a policy standpoint, there is a consistent expression of need for increased funding and support specifically aimed at AANHPI communities at both the state and national levels. Mental health is not simply a psychological or psychiatric issue, but an interdisciplinary issue that permeates all aspects of health and wellbeing. Policy makers should consider leveraging existing mental health legislation to be more inclusive of AANHPI population needs. In the past decade, less than 1% of NIH funding was allocated to research focusing on US Asians, with Asian researchers facing lower funding rates compared to white counterparts [115-117]. In sociology, scholars of Asian descent are 74% less likely than their white peers to secure government funding, including NIH and NSF grants [118]. Existing resources to alleviate mental health in the general population should consider the disproportionate burden of disease in AANHPI groups and ensure adequate resources are allocated for vulnerable populations. For city, state and federal agencies who collect administrative data, there is a dire need to implement policies to collect AANHPI specific data and find creative ways to disaggregate existing "Asian" data into analyzable forms for researcher, educators, advocates, and policy makers [119].

I don't think we can serve our communities right unless we invest in research... because there is very little support available for that authentic community-based research."

Moreover, policymakers should consider school and community-based policies to foster prevention efforts, that affect multiple potential end points. National Institute of Health, Centers for Disease Control and Prevention, and Substance Abuse and Mental Health Services Administration (SAMHSA) should have dedicated funding portfolios to improve AANHPI mental health. Congressional members should mandate a periodical update from national bodies on the state-of-science for AANHPI youth mental health, as well as

data disaggregation efforts to delineate the diversity and complexities of AANHPI populations. Law makers should consider primary preventative measures in setting policy and greater reimbursement for mental health care. Henceforth, there should be a greater synergy in goals and movement from research, advocacy, and practice groups to collective push for policy changes at the local, state, and national level.

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A full list of tables and references for this report can be found at the links below.

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CONCLUSION

Mental illness is a serious public health problem. This study examined the prevalence, risk factors, consequences, interventions, and help-seeking barriers of different types of mental illness in AANHPI youth through a systematic literature review of 382 empirical studies and 20 stakeholder interviews. Our study provides a unique contribution to the body of literature addressing health disparities in mental health and point to the need for greater attention to the mental health of AANHPI adolescents, a high-risk subset of one of the fastest growing and understudied minority groups in the United States. National longitudinal research is needed to better define the prevalence, risk and protective factors, and consequences of mental illness in AANHPI youth. Collective advocacy and policy advances from all levels are needed to create a national infrastructure to protect mental health of AANHPI youth.

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