

INDIGENOUS MENTAL HEALTH: EXAMINING POPULATIONS IN TRIBAL AREAS AND NON-TRIBAL
AREAS

By

Madeline Nash

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ABSTRACT

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In this paper, I hypothesize that Indigenous populations in tribal areas fare better than those populations residing outside of tribal areas because of stronger social ties due to higher levels of integration and regulation. I review some of the studies that have been undertaken to measure mental health outcomes and suicide rates for the Indigenous populations in the US and Canada, paying close attention to the studies that describe differences between populations residing in tribal areas compared to those who do not. I then use a panethnicity/race as a fundamental cause approach to explain why Indigenous populations have disparate mental health outcomes compared to the rest of the population, utilizing structural genocide to explain diminished integration and regulation. Pooling data from the National Drug Use and Health Survey (NSDUH), 2014-2017, I test this hypothesis controlling for sociodemographic variables. The results are mixed. On measures of serious psychological distress (SPD), my results are consistent with Park-Lees et al (2018). findings that there is no significant difference between these populations. However, there is a significant difference in serious thoughts of suicide. This contradicts Park-Lee et al. findings that though people residing in tribal areas had a lower rate than those who resided outside of tribal areas—the difference was not statistically significant using a T-test (2018). I found in my regression that after controlling for gender, age, marital status, education and income that living in tribal areas lowered one's odd of having serious thought of suicide by over 30%.

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KEY TO ABBREVIATIONS

AIAN	American Indian/Alaskan Native
AMI	Any Mental Illness
BIA	Bureau of Indian Affairs
ICWA	Indian Child Welfare Act
IHS	Indian Health Services
MDE	Major Depressive Episode
NESARC	National Epidemiologic Survey on Alcohol and Related Conditions
NICWA	National Indian Child Welfare Association
NSDUH	National Survey on Drug Use and Health
RIBS	Residential Indian Boarding Schools
SMI	Serious Mental Illness
SPD	Serious Psychological Distress

INTRODUCTION

American Indians ¹are such a small proportion of the United States population that they are often dropped out of quantitative studies, not included in national reports and consequently miss out on much needed resources (Haozous, et al 2014: 1; Fieland, et al 2007). Indeed, in 2004 when former president Obama was still a senator during the 2004 Democratic convention, he described the nation in such a way as to leave American Indians out, completely forgotten: “There’s not a black America and a white America and Latino America and Asian America; there’s the United States of America” (Wise 2010: 11). According to the 2010 US Census, there are a total of 5,220,579 people who either identify as American Indians/Alaskan Natives (AIAN) alone (2,932,248 people) or in combination with one or more other races (2,288,331 people). AIANs living in the United States comprise about 1.7 % of the overall population and yet they are disproportionately affected by poverty rates, “have close to three times the rate of type 2 Diabetes-related deaths, 1.7 times the rate of suicides and 6.5 times the rate of alcohol-related deaths compared to non-Hispanic whites” (Haozous, et al 2014: 1). Unfortunately, most studies seldom mention if the statistics they produce are representative of populations in tribal areas or nontribal areas. It could be that where AIANs live makes no difference to their health outcomes, but it does seem clear that life in tribal areas is different than life in mainstream society (nontribal areas).

In this paper, I review some of the studies that have been undertaken to measure

¹ For ease, I will refer to American Indians/Alaska Natives (census category) as either “American Indians” or “AIANs”, although “Indigenous” as well as “Native American” are acceptable terms and usually refer to the same people. In Canada, the term “aboriginal” encompasses First Nations, Inuit as well as Eskimo peoples. When referring to populations in both Canada and the U.S. I will use “Indigenous.”

mental health outcomes and suicide rates for the Indigenous populations in the US and Canada, paying close attention to the studies that describe differences between populations residing in tribal areas compared to those who do not. I then use a panethnicity/race as a fundamental cause approach to explain why Indigenous populations have such disparate mental health outcomes compared to the rest of the population, utilizing structural genocide to explain diminished integration and regulation. I hypothesize that populations in tribal areas fare better than those populations residing outside of tribal areas because of stronger social ties due to higher levels of integration and regulation. Pooling data from the National Drug Use and Health, 2014-2017, I test this hypothesis.

BACKGROUND

Panethnic/Racial Identity

Currently, there are 573 federally recognized tribes in the United States (BIA 2019). These tribes represent a diverse population dispersed over a wide geographical space, representing many different languages, belief systems, and histories. To justify lumping such diverse people into one group for the purposes of quantitative study, it is helpful to examine panethnic/racial identities.

Panethnic identities are formed in response to racialization by a dominant group and enables multiple, heterogenous, ethnic subgroups to come together for political, economic and cultural needs (Espiritu 2004; Itzigsohn 2004). In the United States, the dominant white settler culture has contributed to racializing groups such as Asians, Latinx and Native Americans. People grouped under the Asian label can trace ties to various countries such as China, Japan, Vietnam, Korea, the Philippines, etc. People grouped under the Latinx, or Hispanic label can trace ties to countries such as Mexico, Cuba, The Dominican Republic, Peru, Columbia, etc. (people with ties to the US territory of Puerto Rico also fall under the Hispanic panethnic label). People grouped under the American Indian label can trace ties to countless tribal or band groupings such as Cherokee, Navajo, Sioux, Chippewa (Ojibwa), Iroquois, Choctaw, etc.

American Indians share a panethnic identity that has enabled them to come together for cultural and political purposes due to their similar experiences of oppression in the United States (Tecumseh and Tenskwatawa in 1811, Red Power Movement and American Indian Movement [AIM] of the 1960s and 1970s, and more recently, Standing Rock).

Some of their shared experiences with colonization are reflected in their socioeconomic as well as health disparities.

Studies of Mental Health Outcomes for AIAN and Aboriginal Populations

Mental Health

In terms of mental health, only a few studies have provided concrete statistics for AIANs on a national scale due to small sample sizes. Huang et al, using Wave I National Epidemiologic Survey on Alcohol and Related Conditions (NESARC), 2001-2002 data, concluded that Native Americans had the highest prevalence rates of alcohol use disorders, drug use disorders, mood disorders, anxiety disorders, and personality disorders (2006: 254). Smith et al. in a study examining Twelve-month rates of most mood, anxiety and substance use disorders, using the same survey, found that rates were generally, “greatest among Native Americans and lowest among Asians” (987). Using wave 2 of the NESARC, conducted in 2004 and 2005, Grant et. al (2008) found that Borderline Personality Disorder was more common among Native American men compared to other ethnicities.

One of the drawbacks of the NESARC studies is that they have not been able to compare prevalence rates of mental illness/disorders among AIANs who live in tribal areas to those who do not. Studies that have considered these differences have usually been much smaller in scope and have focused on specific geographical populations of AIANs, such as specific metropolitan areas compared to a nearby reservation (Rieckman et al. 2012; Guittar 2012; Freedenthal and Stiffman 2004).

Rieckman et al. (2012) in a study comparing American Indian substance abuse programs in an urban area and a reservation in the Southwest concluded, “urban clients were more likely

to report employment problems, polysubstance use, and a history of abuse. Reservation-based clients reported having more severe medical problems and a greater prevalence of psychiatric problems.”

Suicides Rates in American Indian/Alaskan Native (AIAN) & First Nation Populations

According to the American Foundation for Suicide Prevention (AFSP), suicide rates in the US are increasing and it is currently the tenth leading cause of death in the country (2016). Consistent with Durkheim’s findings more than one hundred years ago, “The rate of suicide is highest in middle age — white men in particular.” (AFSP 2016). However, AIAN rates are not far behind. According to the Center for Disease Control (CDC), “suicide is the eighth leading cause of death among American Indians/Alaska Natives across all ages” (2015).

Jiang et al. (2015) found that AIAN males were more than twice as likely to commit suicide compared to most other gender and racial/ethnic subgroups. Suicide rates for AIAN young adults are likely to be underestimated; a previous study...found that deaths overall for the AIAN population were underreported by 30%. Additionally, the highest suicide rate increase for females has been reported in the AIAN population (Curtin et al. 2016).

The situation in Canada does not seem any better. As recently as 2016, there were numerous news stories covering the suicide epidemic among the Attawapiskat First Nation in Ontario, Canada where eleven people tried to take their own lives (Canadian Press 2016). According to a report by Mohar Kumar (2016), taken from a study from The Aboriginal Peoples Survey, 2012:

Suicide is a major cause of death among Aboriginal peoples in Canada. In the 1991-to-2001 period, suicide rates were nearly twice as high among Registered

Indian, and Métis men compared with non-Aboriginal men, and Registered Indian women compared with non-Aboriginal women according to analysis using the Canadian Mortality Database (CMDB) linked to the 1991 Census. (1)

The report also notes that suicidal thoughts, which are a precursor to suicide, are prevalent off-reserve as well as on-reserve.

Guittar (2012), in a literature review examining suicides and contributing factors such as mental health, reviewed a study on suicide that found that though rates of attempts were similar for both AIANs who lived on reservations compared to those who did not, suicide rates were higher on reservations than in urban areas, “Freedenthal and Stiffman (2004) find very little in common between the correlates of suicide for reservation Indians and those of Native Americans living in urban environments.” But, once again, the Freedenthal and Stiffman study focused on a specific reservation and urban population in the Southwest.

What these smaller studies seem to show is that urban and reservation AIAN populations differ, but, there are virtually no studies that compare AIANs who live in tribal areas to those who live outside².

The one exception is a study recently published by Park-Lee et al. (2018). Using NSDUH data from 2005 to 2014, Park Lee et al. examined different mental health outcomes as well as substance use/disorders for US-born AIANs, aged 12 and older. Because adolescents were asked different mental health questions than adults, the authors analyzed these two groups separately. The final sample size for adult US-born AIANs was approximately 18,500, with 3,400

² It is important not to conflate urban with outside of tribal areas. It is quite possible for AIANs to live outside of tribal areas and still reside in a rural setting and vice versa.

residing in tribal areas and 15,100 outside of tribal areas. Using T-tests they compared prevalence rates for any mental illness (AMI), serious mental illness (SMI), major depressive episode (MDE), major depressive episode with severe impairment and serious thoughts of suicide. They determined that there was no significant difference in AMI outcomes for AIANs residing in tribal areas (24%) and those residing outside of tribal areas (25%). The same held true for SMI (5.2% for those in tribal areas and 7.1% for those outside of tribal areas). In terms of MDE and MDE with severe impairment, the authors did find significant differences. AIANs in tribal areas had lower prevalence of MDE (6.1%) and MDE with severe impairment (4.2%) compared to those residing outside of tribal areas (10.7% and 7.8%, respectively). Though serious thoughts of suicide were lower for AIANs in tribal areas (5.6%) than for those outside of tribal areas (6.4%), this difference was not significant.

Noting that there were some significant differences caused me to formulate my research question:

Are there differences between American Indians who reside in tribal areas compared to those who do not when SES, age, gender and marital status are held constant?

I next turned to theory to get some indication whether there would be any difference.

Theory

In 1897, Durkheim revolutionized the way scholars viewed mental health by demonstrating that suicide could be understood by structural explanations.

He believed that integration (how connected a person is to their community) was the driving force of society and if one was not properly integrated than the rates of “egoistic”

suicide increased. Durkheim also argued that if society did not effectively provide constraints (regulation—norms, beliefs etc.) for the individual then “anomic” suicide rates would increase. Durkheim set out to illustrate how lack of integration and regulation occurred separately, through the increasing secularization of modern society. As Durkheim noted:

Certainly, [anomic] and egoistic suicide have kindred ties. Both spring from society’s insufficient presence in individuals. But the sphere of its absence is not the same in both cases. In egoistic suicide it is deficient in truly collective activity, thus depriving the latter of object and meaning. In anomic suicide, society’s influence is lacking in the basically individual passions, thus leaving them without a check-rein. (1897[1951]: 258)

One of the “check-reins” that helped curb low regulation as well as provided integration for the individual into a society was religion. Durkheim saw religion as a powerful institution that connected individuals to one another. In *Suicide*, Durkheim reasoned that protestants were the most likely to commit suicide because they were not as integrated into the community as Catholics or Jews (1897[1951]: 159-60). In a sense, Durkheim’s argument is that religious affiliation can be viewed as a fundamental cause of suicide because religious affiliation affects integration.

Applying both concepts of regulation and integration to Indigenous populations can be helpful because in a similar vein, the racialization of Indigenous groups in North America has also affected their integration and regulation and can be viewed as a fundamental cause of their poor mental health outcomes. The main difference between these perspectives is that low integration and low regulation for Indigenous populations have occurred, and still occur, in

tandem.³ However, it is possible that rates may be different according to where one lives.

Varga (2006) offers an interesting discussion on the importance of the state's role in promoting solidarity, or at the very least, reducing anomie (which is a consequence of low regulation). He argues:

Regularity is essential for social life in all of its spheres: domestic, professional and civic. This requires the establishment of norms that the individual should observe and find desirable (i.e. internalize)... Also, the individual has to freely accept the moral norms and act accordingly. (2006: 459)

Tribal norms and values can be better enforced in areas where tribes have sovereignty, or at the very least, some jurisdiction.

Fundamental vs Proximate Causes

Link and Phelan (1995) argue that epidemiologists lose sight of the bigger picture when they study what causes disease from the immediate context of individual risk factors, instead of identifying what "puts people at risk of risks." They critique the emphasis of using variables such as "diet," "cholesterol," etc. instead of focusing on "fundamental" variables such as "SES," "gender" and "race." Link and Phelan are not arguing that social epidemiologists are claiming more than one cause for disease, per se rather, that epidemiologists are focusing on the wrong part of the causal chain, "Race/ethnicity and gender, are so closely tied to resources like money, power, prestige, and/or social **connectedness** that they should be considered as

³ Barclay Johnson (1965: 881) argues in "Durkheim's One Cause" that altruistic and fatalistic suicide can be ruled out altogether as cause of suicide and instead we should understand Durkheim's egoistic and anomic suicide as two faces of the same coin, mainly because, "The flaw is a consequence of Durkheim's assumption that the suicide rate depends on two social variables, integration and regulation, though in *Suicide* he seldom locates a group on both dimensions at once." Indigenous populations may be the exception to Johnson's argument.

potential fundamental causes of disease as well..." (1995:87 bold added). Because of these close ties, often gender, race and SES will have an effect on the more immediate and proximate causes, or rather, risks of disease. For example, if a person has a low SES and is therefore limited on where he/she can attain healthy food, it might be expected that the individual has higher cholesterol and blood sugar levels than another individual with a much higher SES, holding everything else constant. Link and Phelan (1995: 80) further argue that, "This focus on proximate risk factors, potentially controllable at the individual level, resonates with the value and belief systems of Western culture that emphasize both the ability of the individual to control his or her personal fate and the importance of doing so."

Link and Phelan offer a comprehensive discussion of how fundamental causes are linked to health disparities and remind social epidemiologists not to lose sight of how societal inequalities promote these disparities. Like Durkheim argued from the get-go, society is outside the individual and exerts force upon his/her life. Individuals are not born in a vacuum and their social locations determines a great deal for them that is beyond their own individual control.

By applying Link and Phelan's model of fundamental and proximate "causes" of disease to Durkheim's concepts of social integration and regulation, we can get a better understanding of mental health outcomes in Indigenous populations (see figure A.1 in Appendix A). But first it is important to understand how policies aimed at assimilating Indigenous populations into white settler society succeeded in racializing what were at the time, very diverse groups of people.

“Elimination of the Native”

During the initial time of first contact with various European groups it is estimated that up to 90% of the Indigenous population was wiped out from diseases that their bodies had no natural resistance to, which made it easier for Europeans (especially the British) to settle in what would later become the United States and Canada (Dobyns and Swaggerty 1983).

The British justified dispossessing the remaining native tribes in North America of their lands because they considered them “heathen savages” who did not have the same agriculturalist claims or aspirations to the land that the colonists did. European modes of life were viewed as more advanced and thus superior to the indigenous modes of life that the British encountered.

Later, the founders of the United States, (who John Higham [2004] dubs as “settlers,” to denote their position as the architects of American social structure), carried on this growth into indigenous lands as the new country began to expand westward during the nineteenth century. Settlers eventually discovered that it was growing more and more difficult to justify the expense of making war on those people who had not been wiped out by disease, and resorted to finding other ways to solve the “Indian problem” so they could continue their imperialistic expansion.

Residential Indian Boarding Schools (RIBS) were one answer to both the United States and Canada’s Indian problem (Child 1999; Adams 1995; Wolfe 2006; Kirmayer et al. 2014). Founded on the philosophy of Captain Richard Pratt, “Kill the Indian; save the man!” at the end of the 19th century, it was thought that by removing Indian children from all influences of their tribe, they would assimilate settler culture in a more thorough fashion. Earlier attempts at

locating the schools on or near reservations had made this goal all but impossible (Adams 1995).

RIBS affected almost all North American Indigenous Peoples (Child 1999; Adams 1995; Wolfe 2006; Kirmayer et al. 2014). Sometimes, parents would bring or send their children willingly in the hopes that the boarding school would provide their children with the tools they would need to succeed in white European settler world. Sometimes, however, children were forcibly removed from their families by soldiers or police and were not allowed to return home until summer break (and sometimes they were not allowed to go home even for break). The Meriam Report of 1928 exposed the subpar conditions that Indian children experienced in US RIBS. These schools used outdated instructional techniques, were staffed by under-qualified people who lacked proper credentialing and the children were often farmed out to white families who overworked them. Often, children were malnourished and overcrowded. The report recommended that the practice of removing the children from their families be ended. However, the advice of the Meriam report was largely ignored and RIBS, though they declined in number, continued to operate into the twenty-first century (though their operation was largely taken over by tribal governments after the 1970s). The last residential school closed in Canada in the 1990s (Kirmayer et al. 2014).

Brave Heart and DeBruyn (1998) link such experiences as being a student in a RIBS, or a family member of a former student, to what they dub as, “historical trauma”:

Boarding schools have had devastating consequences for American Indian families and communities; abusive behaviors—physical, sexual, emotional—were experienced ...and learned by American Indian children raised in these settings. Spiritually and emotionally,

the children were bereft of culturally integrated behaviors that led to positive self-esteem, a sense of belonging to family and community, and a solid American Indian identity. When these children became adults, they were ill-prepared for raising their own children in a traditional American Indian context. (3)

In addition, other federal policies aimed at assimilation of Indigenous populations into white settler culture through relocating certain members of these populations into urban areas. Often, these people (men mostly) lacked the skills and education to compete fairly with whites, faced discrimination and were regulated to the “status of second-class citizens” (Braveheart and DeBruyn 1998: 4).

As helpful as historical trauma is in understanding why AIANs suffer a disproportionate burden of poor mental health outcomes, Kirmayer et al. argue that the concept of historical trauma conflates “disparate forms of violence by emphasizing presumptively universal aspects of trauma response” (2014: 299). They further argue that historical trauma likens trauma responses of Indigenous populations to Holocaust survivors and therefore misses a crucial piece of the picture: the fact that structural violence is ongoing and not just a historical event.

Assimilation policies are part of this structural violence and still affect AIAN populations today. A helpful example is The Indian Child Welfare Act (ICWA) of 1978, which was enacted to protect AIAN children from being removed from their families. At the time, nearly 1 in 3 children were being removed from their homes and placed with non-AIAN families a majority of the time (NICWA 2019). ICWA has helped diminish this practice, but currently, AIAN children are “removed from their homes at 2–3 times the rate of their white counterparts and often are

not placed with relatives or other Indian families, even when such placements are available and appropriate” (NICWA 2019).

Patrick Wolfe (2006) offers an excellent discussion of what he calls, “structural genocide” to explain “settler-colonial policies” aimed at “eliminating the native”:

Indeed, depending on the historical conjuncture, assimilation can be a more effective mode of elimination than conventional forms of killing, since it does not involve such a disruptive affront to the rule of law that is ideologically central to the cohesion of settler society. **When invasion is recognized as a structure rather than an event, its history does not stop—**. (402, bold for emphasis)

What is especially useful about Wolfe’s concept of structural genocide is that it does not posit genocide as a past event, but rather, encompasses many different forms used at different times, some of which are still ongoing and are embedded in the political and social structure in Canada and the United States to this day. Structural genocide provides a heuristic device to talk about conditions that both on and off tribal land AIAN populations come face-to-face with on a daily basis. It also provides a contextual vehicle to understand how low levels of social integration and regulation have occurred within Indigenous populations, thus explaining why they have disparate mental health outcomes compared to the non-indigenous population.

The settler project to “civilize” AIAN and Aboriginal populations has succeeded in racializing what were once very diverse groups of people, both biologically as well as culturally. It is important to note especially that this project has been one of elimination from the outset. In this sense, racial categories have been very successful in achieving the desired effects that white settler culture has assigned them. As Wolfe (2006) notes, the “one drop of blood rule”

regarding former slaves was designed to ensure that there is a cheap, surplus labor force available to the ruling whites, whereas “blood quantum regulations” (the US, during the Allotment Act, designated that an individual had to prove degree of indigenous ancestry to qualify as an AIAN) are designed to see that Indigenous populations are surely bred out of existence:

Everything within a settler colonial society strains to destroy or assimilate the Native in order to disappear them from the land...These desires to erase - to let time do its thing and wait for the older form of living to die out, or to even help speed things along (euthanize)because the death of pre-modern ways of life is thought to be inevitable - these are all desires for another kind of resolve to the colonial situation, resolved through the absolute and total destruction or assimilation of original inhabitants. (Tuck and Yang 2012: 9)

Ultimately, conditions in white settler society make integration as well as regulation difficult for AIAN individuals (it is difficult to form social ties if you are treated as a second-class citizen, or at best, an almost invisible relic of the past, especially as language, rituals and customs are stripped away or forgotten). But are conditions of integration and regulation different for AIAN populations who reside in tribal areas compared to populations who reside outside of tribal areas? Some of the literature on social ties and cultural continuity can help provide insight into this matter.

Social Ties

Kawachi and Berkman reviewed literature summarizing some of the findings on the mechanisms underlying the relation between social ties and mental health, noting that it is well

established that social ties have positive effects on mental health and well-being (2001). One way social ties can be beneficial is through social networks. Kawachi and Berkman argue that:

[I]ntegration in a social network may...produce positive psychological states, including a sense of purpose, belonging, and security, as well as recognition of self-worth....Finally, location in the broader social structure (e.g., participation in community organizations, involvement in social networks, and immersion in intimate relationships) enhances the likelihood of accessing various forms of support, which in turn protect against distress. (2001:459)

They also warn that strong social networks can have adverse effects as well, when members engage in detrimental behaviors such as smoking.

Lin et al. (1999: 348) put forth a three-layer model to explain how social ties fit into a structure of support. The first level is where intimate ties (binding relationships) are formed, the second level is where network relations (bonding relationships) are formed and finally the third level is where community participation happens (sense of belongingness). This model is meant to harmonize social structure with functions of support. One drawback of this theory is Lin et al.'s criticism that researchers in the past have operationalized support by using sociodemographic variables. In the case of AIANs, the variable of residence might be indicative of the quality of social ties at each level. However, it is a useful framework to analyze how integration may function at the individual, meso, and structural level.

In regard to social ties as well as networks, AIANs who reside in tribal areas will have better access to Indigenous culture, language and people (regulation). This access to an Indigenous community will in turn make levels of integration higher in tribal areas.

Studies have shown that “Traditional practices, traditional spirituality, and cultural identity”, which are all elements of regulation, “buffer symptoms in adults” for both physical and mental illnesses (Whitbeck 2006: 187).

Ayers et al. (2017) found in a study examining parenting practices that urban American Indians (AI) often “live in two worlds.” Many traditional support systems as well as cultural practices can be disrupted by living in a non-tribal area. Often, the community these parents have access to may be panethnic in nature and not fully reflect the beliefs/values of their particular tribal group. Ayers et al. do argue that some parents are able to navigate this tight rope of “two worlds” effectively, and raise culturally aware and successful children, but there are still difficulties. Whitbeck (2006) discusses one study he undertook in which AI children were taught conflicting values: at a mainstream school children were taught to be competitive and that land was to be exploited, whereas at home they were taught that sharing resources with one’s community was more important, and that land must be respected. Such contradictions cannot be easily harmonized and can create anomic conditions.

Some of the psychological/social work literature speak to the success of cultural restoration (regulation) in regard to suicide (Chandler and Lalonde 2008). Herne et al. state, “Research has suggested that cultural factors, such as sense of belonging to one’s culture, strong tribal spiritual orientation, and cultural continuity, can be protective against suicide among AI/AN populations” (2014: S340). People who reside in tribal areas will have better access to traditional culture/resources as well as people. Because of this, they probably will have higher rates of integration and regulation.

One caveat to this argument is that high levels of integration and regulation are not always protective against poor mental health outcomes. Mueller and Abrutyn (2016) conducted a qualitative study in an affluent town (mainly white, middle-class) known for their emphasis on academic success and social cohesiveness. They concluded that the high rates of adolescent suicides in the community were due to the high levels of integration and regulation. This phenomenon could explain suicide clusters that have occurred on reservations in the U.S. as well as reserves in Canada.

However, given the findings of mental health outcomes for AIANs discussed in the fit section (especially Park-Lee et al. 2018) combined with the theories just discussed, I hypothesize that conditions in tribal areas promote higher regulation and integration and therefore:

1. will result in conditions that would cause a decrease in serious psychological distress (SPD), after controlling for sociodemographic variables.
2. will result in conditions that would cause a decrease in suicide ideation (serious thoughts of suicide), after controlling for socio-demographic variables.

DATA & METHODS

Beginning in 2014, The National Survey on Drug Use and Health (NSDUH), an annual survey, provided a unique opportunity to examine mental health measures in AIAN populations—those living in American Indian areas and those who do not. The NSDUH (Codebook 2014: 627) uses the census' definition for American Indian areas. These can be any of the five descriptions below:

1. Federally-recognized American Indian reservations and off-reservation trust areas
2. State-recognized American Indian Reservations
3. Oklahoma tribal statistical areas
4. Tribal designated statistical areas
5. State designated tribal statistical areas

The survey is conducted every year and is nationally representative. The survey focuses on drug use as well as health and includes people ages 12 and older. Because many of the mental health questions were only asked of adult respondents (age 18 and older), adolescents were not included in my analysis.

Respondents are interviewed face-to-face but answer most of the questions via computer (CAPI), which discourages social desirability bias. The survey has an extensive mental health questionnaire. I chose to use the Kessler psychological distress scale (K6) as one of my dependent variables, which has been shown to be very reliable across socioeconomic groups and somewhat reliable across racial/ethnic groups, including Indigenous populations, and seems to accurately measure psychological distress (Firestone, Smylie et al., 2015; Fleishman

2012; Mitchell & Beals 2011). The scale is comprised of six questions: “During the past 30 days, about how often did you feel...

1. ...nervous?
2. ...hopeless?
3. ...restless or fidgety?
4. ...so depressed that nothing could cheer you up?
5. ...that everything was an effort?
6. ...worthless?”

The possible responses to each question are: (4) all of the time, (3) most of the time, (2) some of the time, (1) a little of the time, (0) none of the time. Each response is given a value (in the parentheses) and added up for a total score. Scores that equal 13 or higher are evidence of severe psychological distress (SPD). Because the K6 scale variable was highly skewed and log transformation did not solve this issue, I chose to use the binary variable as my dependent variable: a value of 1 was assigned any respondent with a score of 13 or higher and a value of 0 was assigned any respondent with a score under 13. I also looked at the same set of questions regarding the worst month of the respondent’s year (if it was not the last 30 days). This variable was coded the same way.

To measure suicide ideation, I used the question: “At any time in the past 12 months...did you seriously think about trying to kill yourself?” respondents who answered “yes” were coded as 1 and respondents who answered “no” were coded as 0. 30 AIANs did not answer this question and were dropped from my analysis giving me a total sample of n=2,600.

My independent variable of interest was residence in tribal area/land. I pooled together public-use data from 2014 through 2017 for my analysis, dropping anyone under age 18 as well as respondents who were not AIAN. I used multiple logistic regression and controlled for gender, age, marital status, education, and income. I also coded dummy variables to control for the survey years. I ran my models using STATA, version 14.

RESULTS

Figure 1 shows the percentage of the NSDUH sample who live in tribal Areas. One of the drawbacks of the public use data is that the race variables are recoded and I am unable to ascertain whether my AIAN population are respondents who identify as AIANs alone or in combination with another race. This issue is further complicated due to a “more than one race” option in the survey. According to the US Census Bureau (2012), 22% of AIANs who identified in combination with another race lived in tribal areas in 2010. 32.9% of those who identified as AIAN alone lived in tribal areas. 37% of the NSDUH, 2014-2017 sample lived in tribal areas. This figure may be a little high compared to the census figures.

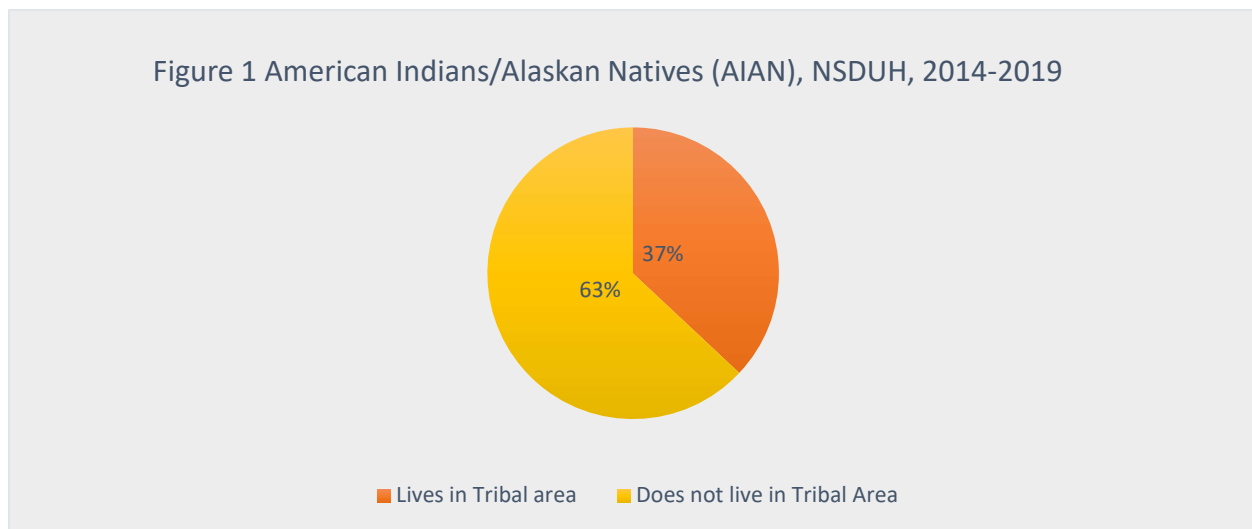


Figure 2 shows the percentages of those who has SPD in the last month, in the worst month of the last year as well as those who reported having serious thoughts of suicide by area of residence (for frequency see Table B.2 in Appendix B). There was not much difference between those who lived in tribal areas compared to those who did not in terms of SPD. The biggest difference was in serious thoughts of suicide (2.4% difference).

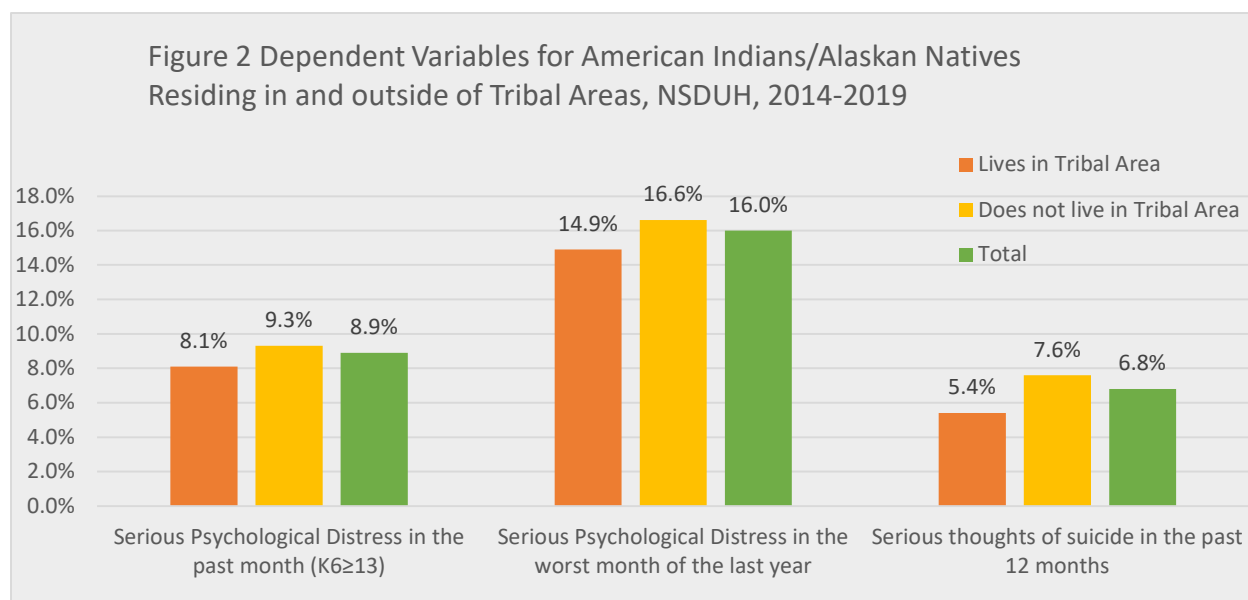


Figure 3 shows the demographic characteristics of the sample by area of residence (for frequency table see Table B.3 in Appendix B). The biggest difference between these two groups is that a higher percentage of married people live outside of tribal areas whereas there was a higher percentage of people who never been married living in tribal areas.

Figure 4 shows education and income by place of residence (for frequency table see Table B.4 in Appendix B). There was a higher percentage of people in tribal areas that did not have a high school diploma and a higher percentage of college graduates outside of tribal areas. This difference was also reflected in income with a higher percentage of people in tribal areas who had incomes under \$20,000 whereas a higher percentage of people outside of tribal areas had an income of \$75,000 or over. Lastly, descriptive statistics for all variables used in my analysis can be found in Table B.1 in Appendix B.

For my logistic regressions, I ran models for each dependent variable. I controlled for the survey years, as well as gender, age, education and income.

Figure 3 Gender, Age and Marital Status for American Indians/Alaskan Natives Residing in and outside of Tribal Areas, NSDUH, 2014-2019

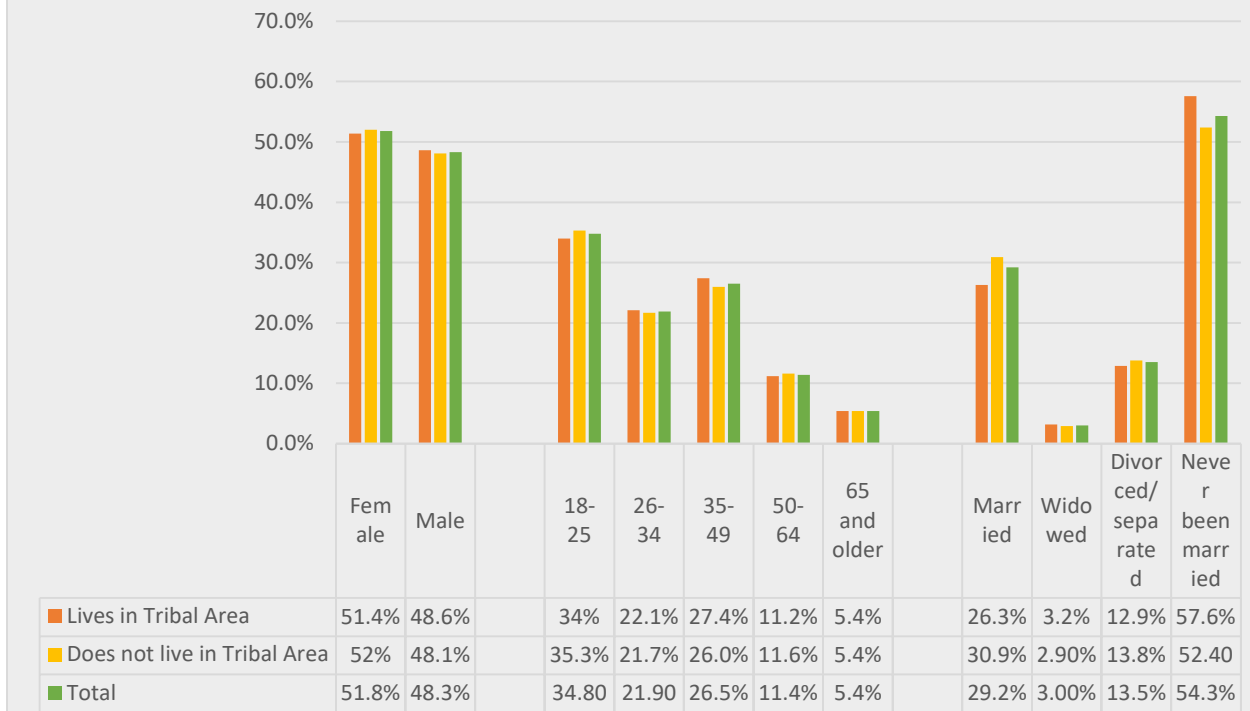
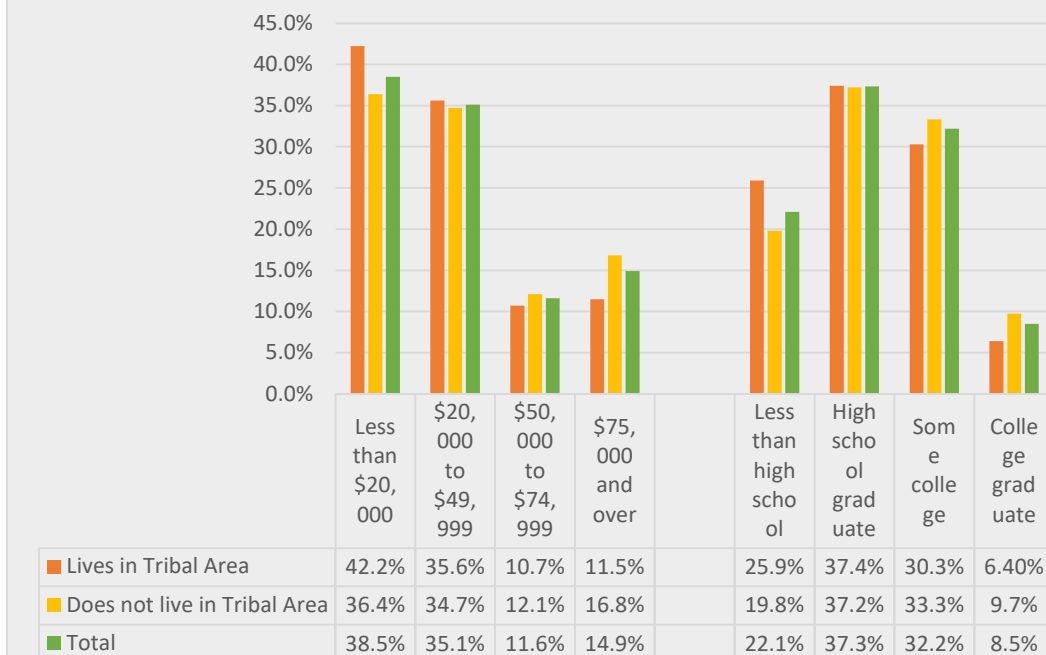


Figure 4 Income and Education for American Indians/Alaskan Natives Residing in and outside of Tribal Areas, NSDUH, 2014-2019



The first model in Table 1 shows the results for SPD in the last month. Though the odds ratio was lower for those who lived in tribal areas, the result was not significant. Women had 68% higher odds than men of experiencing SPD in the last month. Younger age groups also had higher odds when compared to those 65 or older. Divorced people had odds 108% higher than those who were married of having SPD, and lastly, those with an income under \$20,000 had 108% higher odds of experiencing SPD in the last month compared to those who made \$75,000 and over. This model explained about 6% of the variation in SPD in the last month.

The second model in Table 1 shows the results for SPD in the worst month of the last year. The odds were lower for those who lived in tribal areas of experiencing SPD, however, once again, this result was not significant. The rest of the results were similar to the first model with the exception that income fell out of significance.

The third model in Table 1 shows the results for serious thoughts of suicide in the last year. After adding the control variables, the odds for having serious thoughts of suicide were 31% lower for people in tribal areas than for those outside; and the model was significant, explaining about 4% of the dependent variable's variation. Younger people had much higher odds of having serious thoughts of suicide when compared to people 65 years and older. Those with an income under \$20,000 had 137% higher odds of having seriously thought about suicide when compared to those in the highest income category. Women were not significantly different than men in this model.

Table 1 Logistic Regression for Dependent Variables, OR, NSDUH 2014-2017, Unweighted Data

VARIABLES	(1)		(2)		(3)	
	SPD in last month		SPD in worst month of the last year		Serious thoughts of suicide in last 12 months	
Tribal area	0.81	(0.12)	0.87	(0.10)	0.69*	(0.12)
Female	1.68***	(0.25)	2.08***	(0.24)	1.21	(0.20)
AGE^a						
18-25	6.06**	(3.39)	6.88***	(2.94)	6.63**	(4.22)
26-34	4.06*	(2.28)	4.23***	(1.81)	5.13*	(3.27)
35-49	3.76*	(2.07)	3.69**	(1.55)	3.95*	(2.48)
50-64	1.87	(1.12)	1.51	(0.70)	1.30	(0.92)
Marital status^b						
Widowed	1.36	(0.71)	0.90	(0.42)	1.44	(0.83)
Divorced/separated	2.08**	(0.50)	2.33***	(0.43)	1.54	(0.41)
Never been married	1.10	(0.22)	1.02	(0.16)	0.81	(0.17)
Income^c						
Less than \$20,000	2.08**	(0.56)	1.41	(0.27)	2.37**	(0.71)
\$20,000 to \$49,999	1.62	(0.45)	1.28	(0.25)	1.62	(0.49)
\$50,000 to \$74,999	1.21	(0.42)	1.02	(0.25)	1.10	(0.43)
Education^d						
Less than high school	1.68	(0.58)	1.07	(0.26)	0.79	(0.28)
High school graduate	0.92	(0.31)	0.78	(0.18)	0.72	(0.24)
Some college	1.26	(0.42)	0.89	(0.20)	0.92	(0.30)
Constant	0.01***	(0.00)	0.02***	(0.01)	0.01***	(0.01)
Pseudo R2	0.06***		0.06***		0.04***	
Observations	2,600		2,600		2,600	

S.E. in parentheses, *** p<0.001, ** p<0.01, * p<0.05

Reference groups: ^a65 years and older, ^bmarried, ^cover \$75,000, ^dcollege graduate. Dummy variables for survey years not shown.

DISCUSSION

I did not find support for my first hypothesis:

1. Conditions in tribal areas promote higher regulation and integration and therefore will result in conditions that would cause a decrease in serious psychological distress (SPD), after controlling for sociodemographic variables.

My results for the SPD variables were similar to Park-Lee et al.'s findings regarding AMI and SMI (2018). Considering that AMI and SMI are estimated using the K6 scale as well as the World Health Organization Disability Assessment Schedule (WHODAS), this finding is consistent (NSDUH 2014-2017 codebook). A reason for this finding could be linked to economic insecurity. A study by Hossain and Lamb (2019) found that food insecurity, employment status and quality of housing were significantly linked to psychological distress in the Indigenous population in Canada. Living in a metropolitan area was also linked to lower psychological well-being when compared to respondents who lived in rural areas, but the study determined that these effects were not as large as economic insecurity. My findings were somewhat consistent: respondents making under \$20,000 were 108% more likely to experience SPD than those who made \$75,000 or above in the last month, though the significance dropped off for SPD in the worst month of the last year.

I did, however, find support for my second hypothesis:

2. Conditions in tribal areas promote higher regulation and integration and therefore will result in conditions that would cause a decrease in suicide ideation (serious thoughts of suicide), after controlling for socio-demographic variables.

This contradicts Park-Lee et al.'s finding that though people residing in tribal areas had a lower rate than those who resided outside of tribal areas—the difference was not statistically significant using a T-test. I found in my regression that after controlling for gender, age, marital status, education and income that living in tribal areas lowered one's odd of having serious thought of suicide by over 30%. There could be a couple of reasons why my results are different.

I am using unweighted data, whereas Park-Lee et al.'s data was properly weighted (2018). It could be that once the data in my data set are properly weighted that the significance will drop off. The other possibility is that there really is a difference in these populations. I am using later survey years (2014-2017) than the Parker-Lee et al.'s study (2008-2014). Suicide rates are rising most rapidly in AIANs compared to other racial groups, especially in the youth (CDC 2015). My results do reflect this trend if one considers that thoughts of suicide are a precursor to the actual act. Additionally, depressive episodes are associated with an increased risk of suicide (Turecki and Brent 2015), and Parker-Lee et al. did find that AIANs in tribal areas had a lower prevalence of MDE as well as MDE with impairment compared to AIANs off tribal lands. Finally, I am controlling for sociodemographic variables that are known to contribute to poor mental health outcomes.

Methodological Issues

The NSDUH uses self-identification to determine racial categories and does not distinguish AIANs on the basis of tribal affiliation. This creates a couple of methodological issues that need to be addressed. The first issue is that of panethnic/racial identity, the second is self-identification.

Panethnic/Racial Identity

As helpful as panethnicity can be in bringing groups of people together for political, economic and cultural needs, it can create methodological issues for social scientists. Espiritu (2004) takes a critical transnational approach and argues that although the pan-Asian ethnic label can be helpful in contributing to political cohesion amongst various subgroups, it also effectively cloaks the differences between them and does not recognize different experiences with U.S. colonialism. For instance, a Vietnamese immigrant can be very different from a Japanese immigrant because of the relationships that the US has/had with the respective country of origin. Likewise, there can be a vast difference in the experience of someone who identifies as Navajo compared to someone who identifies as Iroquois. Complicating this issue is the fact that there are often several federally recognized tribes/bands in the same tribal groupings (e.g., there are several Chippewa/Ojibwe tribes in Michigan, Minnesota, Wisconsin as well as First Nations in Canada).

Self-Identification

Gone and Trimble (2012) offer a compelling discussion on some of the issues surrounding self-identification in tribal communities in their review of mental health disparities. They cite an anthropological study conducted by Sturm (2010) that examined racial shifting in the Cherokee community with the emergence of nearly 250 new “self-professed” tribes composed of formerly white, working-class individuals. Scholars often cite these types of scenarios to argue that census figures, which rely on self-identification, are overly inflated. Gone and Trimble, instead rely on figures given by the Bureau of Indian Affairs (BIA) and Indian

Health Service (IHS) to come up with a more conservative estimate of the AIAN population: roughly 2 million people.

Some of the problems with this method is that not everyone who is a tribal member utilizes IHS facilities (especially if they live in an urban area); and just because a person is not enrolled in a tribe does not mean they are not legitimately AIAN (to their credit, Gone and Trimble do acknowledge this issue). There can be many reasons why an individual is unable to have tribal citizenship. It may be that his/her ancestor did not register on the tribal censuses that many tribal governments rely on to establish descent. It also may be an inability to provide proper documentation of family lines (birth/marriage certificates). Some tribes rely on blood quantum (percentage of Indian blood) and this can also be difficult to document. Additionally, disenrollments do happen. In 2014, tribes in 17 states were engaging in disenrollments that were “not related to casino revenues but...stem[med] from political disputes within the tribes” (Congressional Research Service). Currently, it is difficult to find figures on how many people have been disenrolled from their tribes, but some estimates are well into the thousands (Hilleary 2017).

Ultimately, by not counting people who do not have tribal citizenship, researchers effectively silence some of the most marginalized in the AIAN population. This contributes to structural genocide.

CONCLUSION

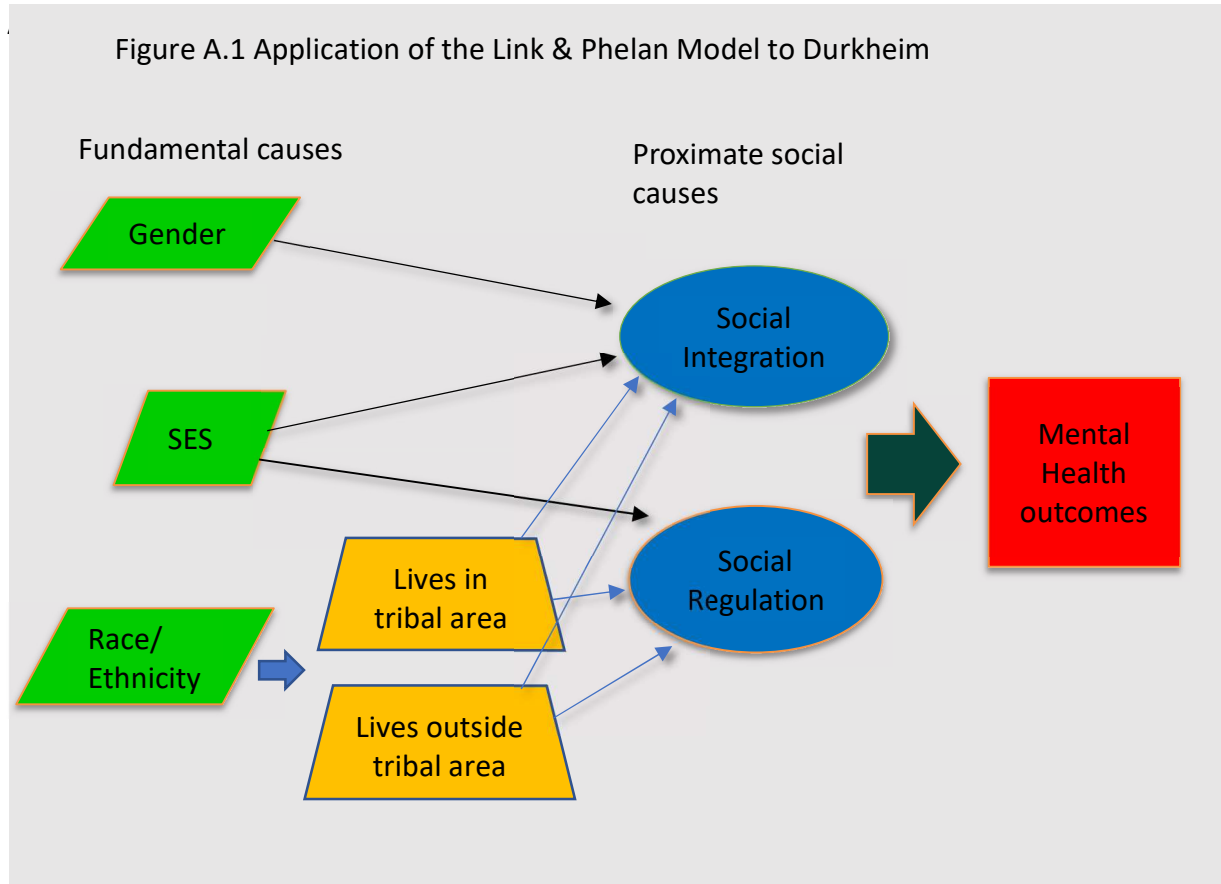
There is mixed evidence that mental health outcomes are different in AIAN populations based on whether they reside in tribal areas or non-tribal areas. SPD seems to affect both populations at similar rates, however, thoughts of suicide are significantly different. It seems that regulation and integration affect these population in some ways, but not in others. What seems to be unclear is how to measure regulation and integration in the form of social ties (besides looking at place of residence). One dimension that might capture this phenomenon is the percentage of AIAN individuals in a given tribal area compared to non-tribal areas. For instance, the percentage of AIAN in tribal areas in my sample was about 29%, whereas the percentage in non-tribal areas was only 1%. This figure varies widely by state/region. Future research could look at regional/state differences in the percentage of AIANs in tribal areas compared to the percentage in non-tribal areas, using percentages available at the National Congress of American Indians website. By using a hierarchal linear model, it may be possible to measure this possible dimension. NSDUH does have region and state data—just not in the public-use data set.

Another aspect that warrants future research is controlling for place of residence in rural and urban areas. Not all people who live off tribal lands live in an urban setting. Likewise, not all people who live in a tribal area live in a rural setting. These distinctions are important to keep in mind when implementing policies aimed at diminishing SPD and suicide ideation in Indigenous populations.

APPENDICES

APPENDIX A:

FIGURES



APPENDIX B:

TABLES

Table B.1 Descriptive Statistics, NSDUH 2014-2017, N=2,600

Table B.1 Descriptive Statistics, NSDUH 2014-2017, N=2,600				
Variable	Std.		Min	Max
	Mean	Dev.		
Dependent				
SPD in last 30 days	0.09	0.28	0	1
SPD in worst month of the last year	0.16	0.37	0	1
Serious thoughts of suicide	0.07	0.25	0	1
Independent				
Lives in tribal area	0.37	0.48	0	1
Control				
Female	0.52	0.50	0	1
Age 18-25	0.35	0.48	0	1
Age 26-34	0.22	0.41	0	1
Age 35-49	0.27	0.44	0	1
Age 50-64	0.11	0.32	0	1
Age 65 and older	0.05	0.23	0	1
Married	0.29	0.45	0	1
Widowed	0.03	0.17	0	1
Divorced/separated	0.13	0.34	0	1
Never been married	0.54	0.50	0	1
Income under \$20,000	0.39	0.49	0	1
Income \$20,000-\$49,999	0.35	0.48	0	1
Income \$50,000-\$74,999	0.12	0.32	0	1
Income \$75,000 and over	0.15	0.36	0	1
Some high school	0.22	0.41	0	1
High school graduate	0.37	0.48	0	1
Some college	0.32	0.47	0	1
College graduate	0.09	0.28	0	1
Survey year 2014	0.26	0.44	0	1
Survey year 2015	0.25	0.44	0	1
Survey year 2016	0.25	0.43	0	1
Survey year 2017	0.24	0.43	0	1

Table B.2 Frequency of Dependent Variables by Tribal Area, NSDUH, 2014-2017

	Lives in Tribal Area		Does not live in Tribal Area		Total	
		%		%		%
Serious Psychological Distress in the past month (K6≥13)	77	8.1%	153	9.3%	230	8.9%
Serious Psychological Distress in the worst month of the last year	143	14.9%	272	16.6%	415	16.0%
Serious thoughts of suicide in the past 12 months	52	5.4%	125	7.6%	177	6.8%

Table B.3 Gender, Age and Marital Status, NSDUH, 2014-2017

	Lives in tribal area		Does not live in tribal area		Total	
	n	%	n	%	n	%
Gender						
Female	492	51.4%	853	52%	1,345	51.8%
Male	465	48.6%	790	48.1%	1,254	48.3%
AGE						
18-25	325	34%	580	35.3%	904	34.80%
26-34	211	22.1%	357	21.7%	568	21.90%
35-49	262	27.4%	427	26.0%	689	26.5%
50-64	107	11.2%	190	11.6%	297	11.4%
65 and older	52	5.4%	89	5.4%	141	5.4%
Marital status						
Married	252	26.3%	507	30.9%	759	29.2%
Widowed	31	3.2%	48	2.90%	79	3.00%
Divorced/separated	123	12.9%	227	13.8%	350	13.5%
Never been married	551	57.6%	861	52.40%	1,411	54.3%

Table B.4 Income and Education, NSDUH, 2014-2017

	Lives in tribal area	%	Does not live in tribal area	%	Total	%
Income						
Less than \$20,000	404	42.2%	597	36.4%	1,001	38.5%
\$20,000 to \$49,999	341	35.6%	570	34.7%	911	35.1%
\$50,000 to \$74,999	102	10.7%	199	12.1%	301	11.6%
\$75,000 and over	110	11.5%	277	16.9%	386	14.9%
Education						
Less than high school	248	25.9%	325	19.8%	573	22.1%
High school graduate	358	37.4%	610	37.2%	968	37.3%
Some college	290	30.3%	548	33.4%	837	32.2%
College graduate	61	6.40%	160	9.7%	221	8.5%

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