

**Poverty and Disadvantage among Native American Children: How Common
Are They and What Has Been Done to Address Them?**

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1. Statistical portrait of child poverty among American Indian children and Alaska Native children ages 0 to under age 18 living in their parents' household.

Any analysis that focuses on American Indians and Alaska Natives (AIAN) must start with defining the population. Unlike other ethnic or minority groups in the United States, American Indians and Alaska Natives occupy a distinct position in that they are also recognized as a political group. Due to the history of US expansion, land acquisition and treaty-making, American Indians and Alaska Natives as a group have political rights that may or may not align with racial or ethnic designation (Snipp, 1986). As such, the AIAN population is eligible for certain programs and benefits that would otherwise be deemed illegal or unconstitutional in other settings for things such as preferential hiring, treaty payments and sovereign immunity. These benefits accrue directly as a result of their unique political status and not from a racial or ethnic designation. In the discussion that follows, we will primarily discuss the AIAN population as a racial and ethnic group; in certain instances, however, we will take care to identify potential programs that may be of benefit only to the AIAN population that are considered citizens of their tribal nations.

A second distinction that is important to note for this particular group is the prevalence of the mixed-race self-identification. When the US Census Bureau allowed for individuals to identify as multi-race starting with the 2000 US Census, the size of the AIAN population doubled. Liebler et al (2016) find that the AIAN population increases from 2 million in 1990 to over 4 million in 2000 if we include the multi-race category as well. Therefore, more than any other group in the US, it is important to distinguish whether one is discussing AIAN alone or AIAN in combination with other races (Liebler et al 2014; Liebler et al 2015). As would be expected, there are large differences in the socioeconomic status of these two groups. We will take care to identify the specific group in our analysis that follows.

A third area that should be mentioned is the scarcity of data for this population and for children in particular. Given the relatively small size of the AIAN population, they are often uncounted in national survey data. For instance, data sets such as the Survey of Income and Program Participation (SIPP) do not collect data for the AIAN population. Other data sets may collect information but sample sizes are quite small, the National Health Interview Survey (NHIS) has around 900 observations and the Current Population Survey (CPS) has only 2,700 observations for the AIAN population when it has over 164,000 for whites. As such, unlike other populations, the AIAN population is really only well-represented in extremely large-scale data collection efforts that are conducted by the US Census Bureau. Other nationally-representative surveys either have few or no AIAN individuals in their data; alternatively, the AIAN group is combined with other small racial or ethnic groups.

Table 1 below presents data for the AIAN population of children living with families from the US Census Bureau. In Panel A, we present the total number of AIAN children alone or in combination for the 2000 US Census and the 2010 and 2015 5-Year American Community Surveys. The official poverty rate when we include the entire population identifying as (part) AIAN ranges from 27%-31% over this time period. However, when one uses the AIAN alone race category (we are able to extend backwards to the 1990 US Census with this comparable measure) we find in Panel B that the poverty rates were higher in 1990 and dropped by 6 percentage points from 38% to 32% over the 1990s and remained constant over the 2000s.

In Panel C we produce a similar calculation for the Black or African American child poverty rates over time as a comparison. There appears to be a similar level of poverty between this group and that found in Panel B for the AIAN alone or in combination group. This decrease in poverty between 1990 and 2000 is comparable to that for the AIAN population over this same

time period; suggesting that there were national trends that affected poverty in these different groups in approximately similar magnitudes.

Table 1: Child Poverty Rates by Year and Population

	US Total			
	1990	2000	2010	2015
Panel A. American Indian Alaska Native Alone or in Combination				
Total Number of Children Under 18 Living in Families with Income Below the Poverty Level		370,610	417,773	472,713
Total Number of Children Under 18 Living in Families		1,365,233	1,453,782	1,543,301
Percent Living in Poverty		0.27	0.29	0.31
Panel B. American Indian Alaska Native Alone				
Total Number of Children Under 18 Living in Families with Income Below the Poverty Level	254,431	249,561	238,827	233,227
Total Number of Children Under 18 Living in Families	664,454	789,509	716,251	690,535
Percent Living in Poverty	0.38	0.32	0.33	0.34
		US Total		
Panel C. Black or African American Alone				
Total Number of Children Under 18 Living in Families with Income Below the Poverty Level	3,180,111	3,467,900	3,755,610	3,928,519
Total Number of Children Under 18 Living in Families	8,107,759	10,477,365	10,609,249	10,254,083
Percent Living in Poverty	0.39	0.33	0.35	0.38

Source: 2000 US Census, 2010 and 2015 ACS Data, 1990 Census of Population, Social and Economic Characteristics, United States, 1990 CP-2-1 (Tables 94 and 112); 1990 Census of Population, Social and Economic Characteristics, American Indian and Alaska Native Areas, 1990 CP-2-1A (Table 13); The Supplemental Poverty Measure, 2015 and 2010, Report Number: P60-258 and P60-241.

2. Differences in child poverty among American Indian children who are living in families on reservations compared to American Indian children living off reservations.

In the next section, we use the US Census geographic boundaries for tribal reservation lands in our analysis. As noted earlier, American Indians and Alaska Natives may live on reservations, traditional homelands or in Alaska Native villages. Alternatively, they may live off

of these politically-defined lands and reside in adjacent (or non-adjacent) counties, cities or states. Historically, American Indians were confined to reservation-lands under the Indian Offenses Acts where they were punished if they left the reservation without the express consent of the superintendent from the Bureau of Indian Affairs (Haas, 1949). In recent history, however, there are no restrictions on where the AIAN population may reside and they have all been made citizens of the United States under the Indian Citizenship Act of 1924.

We restrict our analysis to the on-reservation population in Panels A and B in Table 2 below and examine the AIAN alone or in combination and AIAN alone respectively. The noticeable difference in this table as compared to the AIAN population as a whole in Table 1 is that the poverty rates are on average about 10 percentage points higher at all points in time for the on-reservation population. Second, there is much less difference in the child poverty rates for the two different race groupings. Third, we observe a larger (in percentage points) reduction in poverty between 1990 and 2000 for the on-reservation population as compared to the AIAN population residing in the US as a whole.

The slight differences in the AIAN alone as compared to the AIAN alone in combination for the on-reservation group may indicate that there are relatively few mixed-race AIAN children residing there. Perhaps this is why the on-reservation data does not differ dramatically with regard to poverty levels between the two groups as it did in Table 1 Panels A and B. One might also infer that these children who are residing on tribal lands are much more likely to be enrolled citizens of their respective tribal governments (or Alaska Native village corporations which is the approximate counterpart in Alaska). We do not have tribal citizen status in the US Census data (or any other data for that matter) and can only infer that they are more likely to be enrolled than those AIAN children who report mixed-race ancestry and reside off of tribal lands. However, this is not

an absolute statement. Tribal enrollment data is only available at the tribal level and is seldom asked in surveys; we know of only the Early Childhood Longitudinal Study – Birth Cohort (ECLS-B) and California Health Interview Surveys (CHIS) that have questions on tribal citizenship and enrollment. This is yet another area in which research would significantly benefit from enhanced data collection.

One reason that tribal enrollment information might be helpful in this situation is that it would indicate whether the children were eligible for existing tribal government programs. These tribal government programs may play a role in reducing child poverty rates either through the eligibility of the child themselves or via programs aimed at the parents. There is a wide range of requirements for tribal citizenship which vary across the individual tribal governments and differ according to blood quantum criteria, ancestry requirements and sometimes residential restrictions. The period of the 1990's was the era of widespread expansion of American Indian casino operations which potentially could have increased tribal revenues, employment and ultimately tribal citizens' incomes.

While it is not possible to directly identify which individuals are tribally-enrolled members of an AIAN tribal nation (or Alaska Native Village corporation) in the US Census data, we can infer the use of government safety net programs via the reporting of the Supplemental Poverty Measure (SPM) relative to the Official Poverty Measure (OPM). To our knowledge, the SPM should include all forms of governmental programs including those of the US Federal government, the State or county as well as tribal governments.

In Panel C of Table 2 we provide the best estimates for the differences in the OPM and the SPM for AIAN children given data from the US Census Bureau. The data for the AIAN population is combined with the Native Hawaiian, Pacific Islander and Other races categories; it is not

possible to examine the AIAN group alone in the available data. However, this is a useful approximation for whether there are noticeable differences in the OPM and SPM for this group. Data exists for the SPM over a longer time period and is available at the Center on Poverty and Social Policy at Columbia University. However, this data is not provided by race or ethnicity.

The data in Table 2 indicate that there is between an 8-9 percentage point difference in the OPM and the SPM in both 2010 and 2015. This difference is approximately similar to that for children in the US as a whole (Chaudry et al, page 13, 2016) suggesting that the safety net programs are benefitting the AIAN group in approximately similar proportions to other groups.

Table 2: Child Poverty Rates by Year and Reservation Location and Poverty Rate Type

	Reservation Geographies Only			
	1990	2000	2010	2015
Panel A. American Indian Alaska Native Alone or in Combination				
Total Number of Children Under 18 Living in Families with Income Below the Poverty Level		94,024	82,473	89,471
Total Number of Children Under 18 Living in Families		215,777	191,937	192,608
Percent Living in Poverty		0.44	0.43	0.46
Panel B. American Indian Alaska Native Alone				
Total Number of Children Under 18 Living in Families with Income Below the Poverty Level	102,021	91,275	78,609	83,295
Total Number of Children Under 18 Living in Families	184,417	206,132	178,765	176,584
Percent Living in Poverty	0.55	0.44	0.44	0.47
US Total				
Panel C. American Indians, Alaska Natives, Native Hawaiians, Pacific Islanders or Other Races				
Official Poverty Rate for Children			0.31	0.27
Supplementary Poverty Rate for Children			0.23	0.18

Source: 2000 US Census, 2010 and 2015 ACS Data, 1990 Census of Population, Social and Economic Characteristics, United States, 1990 CP-2-1 (Tables 94 and 112); 1990 Census of Population, Social and Economic Characteristics, American Indian and Alaska Native Areas, 1990 CP-2-1A (Table 13); The Supplemental Poverty Measure, 2015 and 2010, Report Number: P60-258 and P60-241

3. Issues pertaining to American Indian children and Alaska Native children living in poverty.

How is living in poverty during childhood likely to affect American Indian children in the short and in the long run? Family socio-economic status is highly predictive of children's school performance, health and wellbeing, as well as adult outcomes such as income, employment, and premature mortality (Belley and Lochner, 2007; Dahl and Lochner, 2012; Case, Fertig and Paxson, 2005; Almond and Currie, 2011; Bjorkegren et al, 2016; Almond, Currie and Duque, 2017). What is more, better physical and social environment, such as the presence of indoor plumbing and uninterrupted electricity and better economic infrastructure, lack of crime and the availability of economic opportunity, are conducive to better long-term outcomes (Gould, Lavy and Passerman, 2011). The physical and social environment has effects on child development that act independently and in conjunction with family circumstance. Once established, the cycle of poverty is likely to continue barring successful policy interventions.

Family financial resources are highly predictive of children's health outcomes and current and future wellbeing. Currie (2009) identifies several potential mechanisms behind this fact. First, there is a well-established positive correlation between child health at birth and maternal socio-economic characteristics (Currie and Hyson, 1999; Currie and Moretti, 2003). Furthermore, child health at birth as measured by birth weight is predictive of long-term outcomes (Black et al, 2007). Childhood health, as measured by height, is also strongly predictive of later-life outcomes, such as schooling, employment, and health in adulthood (Case and Paxson, 2010).

Second, in the presence of dynamic complementarities (Heckman, 2007) higher initial human capital, as measured by either better health or better cognitive abilities, would lead to higher future return on public or private (family) investment in children. Further, in the likely scenario that there is a link between child health and cognitive abilities, the link between initial endowments and long-term outcomes would be even stronger.

Third, the availability of better educational materials, books, higher quality toys, more timely and higher quality health care, and better quality of informal care are more likely in families with more financial resources. What is more, since resources are strongly correlated with parental education and skill, financially better-off families are also more likely to utilize these extra resources in a more productive manner.

Fourth, as suggested by Akee et al (forthcoming), family financial wellbeing likely positively affects the relationship between the parents and between parents and children. Better household environment is a very likely contributor to children's positive personality development and hence long-term wellbeing, though the causal evidence in favor of this channel is limited.

The National Vital Statistics reveal some differences in health endowments at birth across infants born to AIAN mothers and the rest of the population. For consistency, we use only first births to compare infant health outcomes. According to the most recent Natality Public Use data¹, infant deaths were almost twice as likely among AIAN babies (4.7 deaths per 1000 live births as compared to 2.7 deaths in the rest of the population). These differences are not driven by low birth weight (defined as birth weight below 2500 grams), as Native American children are significantly less likely to have been born with low or very low birth weight (defined as <1500 grams at birth). AIAN mothers are slightly more likely to have given birth prematurely (12.6 percent vs 10.2 percent in the rest of the population), however this is also unlikely to be the main cause behind the large differences in infant deaths. The largest differences between the AIAN births and the rest are in the proportion of teen mothers and in maternal education – both of which are contributing factors to worse infant and subsequent health. Over thirty percent of first births to AIAN mothers in 2016 were to women below the age of 20, as opposed to 13 percent in the rest of the sample. Maternal

¹ The National Vital Statistics are maintained by the Centers for Disease Control and Prevention and can be downloaded here: https://www.cdc.gov/nchs/data_access/vitalstatsonline.htm

education at first birth was also substantially lower, with the average AIAN mother not having completed high school. Another important difference is in the rate of missing information about the child's father, which we interpret as a marker of single motherhood. This is about twice as likely among AIAN first births than in the rest of the sample. Overall, despite the lack of material differences in health endowment at birth as proxied by birth weight and gestational age, children born to AIAN mothers are significantly more likely to face adverse social and economic conditions and are also less likely to survive their first year of life.

Surprisingly little is known about how American Indian children compare with the rest of the population along dimensions of family circumstance that have been shown to affect the children's own health and long-term wellbeing. We use the Child Sample of the National Health Interview Survey 2016 to compare health outcomes and relevant family characteristics across American Indian children and the rest of the surveyed population. The National Health Interview Survey (NHIS) has been conducted among the civilian non-institutionalized population since the late 1950s and is considered the pre-eminent source of trends on general health and disability rates in the US population. The latest survey that is used here covers approximately 35000 households.

Table 3 summarizes the differences in health status across American Indian and Alaska Native (AIAN) and children from other groups. The sample contains information on 882 AIAN children and their families and 43,856 non-AIAN children. Across all analyses we use the appropriate survey weights provided by the NHIS.

Similar to what we found in the Census data, AIAN families report significantly lower incomes than others. The difference here is about \$33,000 per year. Correspondingly, the average American Indian family is much closer to the federal poverty level - their income is only 1.68 times higher than the level of income that would officially put them below the poverty threshold.

Parental employment is also significantly higher among non-AIAN. Overall, the AIAN families have worse labor market outcomes and are substantially financially worse-off than the rest of the surveyed population.

Table 3: Differences across American Indian and non-Indian children – health and wellbeing and family circumstance as reported in the NHIS 2016

<i>Variable</i>		<i>AIAN</i>	<i>Others</i>	<i>Diff (p-val)</i>
	Family income in USD	44305	77404	0.00
	Income/poverty threshold	1.68	2.89	0.00
	Parent not employed	0.31	0.236	0.01
	Birth weight	3244	3286	0.136
	Current BMI	22.49	21.77	0.059
<i>In the past 6 months....</i>	The child behaves well	0.87	0.887	0.317
	Has been depressed and/or tearful	0.185	0.111	0.001
	Has not had problems with emotional control	0.651	0.75	0.000
	Child has had a well child visit	0.714	0.832	0.000
	How many times in the ED?	0.494	0.233	0.000
	Parent can't afford specialty care/glasses/follow-up care	0.07	0.059	0.259
	Child has autism	0.033	0.012	0.016
	Child has (had) asthma	0.236	0.12	0.000
	Child has allergies	0.258	0.217	0.048
	Child has ADHD	0.056	0.0759	0.025
	Missed school days due to illness in the past year	5.56	3.00	0.000
	Child has developmental delays	0.042	0.042	0.975

Although American Indian children in the survey were born with slightly lower average birthweight, these differences are not statistically significant or economically meaningful. However, their current Body Mass Index at the time of the survey was higher by 0.7 of an index point and that difference is significant at the 10 percent level.

American Indian and Alaska Native children are less likely to receive regular outpatient health care and are more than twice as likely to end up in the emergency room. Part of this may be due to reduced access to regular care, yet the data on clinical conditions also suggest that they are more likely to suffer from asthma, which is the third leading cause of hospitalizations for children

in US². American Indian children are also more likely to suffer from allergies and to have been diagnosed with autism. The only relatively common condition that is more prevalent among non-AIAN children is Attention Deficit Hyperactivity Disorder (ADHD). Still, emotional well-being is also worse in American Indian children. Their parents are about 50 percent more likely to report that the child has been depressed in the past 6 months. Similarly, Native American children are about 10 percentage points more likely to have had problems with emotional control over the same period.

Perhaps unsurprisingly in light of these data, Native American children report missing more school days due to illness. On average, they are likely to miss 2.5 schooling days more than their peers. School absences are a major factor contributing to worse education outcomes. In their review of the literature, Grossman and Kaestner (1997) point out that children who often miss school have worse grades and are more likely to drop out of school early.

Overall, the most recent data from the pre-eminent nationally representative survey of health suggest that AIAN children are at much higher risk of current and future health and behavioral problems associated with worse family economic and social circumstance. Furthermore, some of these problems are already manifest in higher BMIs, higher prevalence of allergies and asthma, worse emotional states and more missed school days.

One of the possible channels that determine early-life and adult health is the intergenerational transmission of health and health behaviors. The overwhelming evidence is in favor of a strong positive correlation between parental socio-economic wellbeing and their children's health (Currie, 2009). However, the extent to which this transmission is due to genetic

² Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), Kids' Inpatient Database (KID), 2012, and National Inpatient Sample (NIS), 2012

and physiological factors (nature) or acquired behaviors (nurture) is debated in the literature. A recent study using data on a large sample of adoptees from Sweden found strong correlations between biological mothers' and their adopted children's longevity, but it also found a non-trivial effect of the adoptive mother's education on adoptive children's long-term health (Bjorkegren et al, 2016).

It is intuitive that health behaviors observed in the household from young age are likely to affect adult health behaviors among the household's children. To test for differences in adult health and behaviors prevalent in American Indian families relative to the rest of the population we use data from the Behavioral and Risk Factor Surveillance System (BRFSS) survey conducted in 2016. The BRFSS is conducted every year through phone interviews. More than 400,000 individuals are surveyed annually, and the main goal of the survey is to gauge the prevalence of health-related risk behaviors and chronic conditions in the United States.

American Indian and Alaska Native children are more likely to live with adults who are less educated, in worse health and have suboptimal health behaviors. Table 4 displays differences in means across the American Indian population and the rest of the sample.

Table 4: Health and Health Behaviors: differences between American Indian adults and the rest of the population according to the BRFSS 2016

<i>Variable</i>	<i>AIAN</i>	<i>Others</i>	<i>Diff (p-val)</i>
BMI	29.3	27.85	0.00
High school graduate	0.80	0.86	0.00
Smoker	0.540	0.406	0.00
Regular Seatbelt Use	0.905	0.944	0.00
Average N drinks	3.13	2.51	0.00
Ever had asthma	0.196	0.135	0.00
Days in the past month feeling unhealthy	7.39	4.84	0.00
Physical exercise in the past month	0.734	0.756	0.00
Overall health status excellent or very good	0.388	0.50	0.00

Note: BRFSS final survey weights used in all comparisons

The dataset contains information on 7,238 American Indian and Alaska Native (AIAN) and 479,065 non-Indian respondents. There are large and significant differences in the average

health status and health behaviors across the two groups. The average person represented in the survey is overweight, however American Indian adults' body mass index (BMI) is about 1.5 higher than the rest of the sample. The average American Indian is teetering on the verge of being obese (BMI over 30). More than 43 percent of American Indians are obese, compared with less than 36 percent of the rest of the sample. American Indians are fifteen percentage points more likely to have smoked, and four percentage points less likely to regularly wear seat belts. Consistent with the evidence from the children's survey, they are also substantially more likely to have ever been diagnosed with asthma. Further, regular drinking is prevalent in the Native American sample, and regular physical exercise is less likely. Unsurprisingly, Native Americans are reporting on average almost a week of bad health per month, as compared to 4.8 days in the rest of the population. The prevalence of suboptimal health is also much higher – only 50 percent of the non-AIAN sample report less than very good health (Fair or Poor), but among Native American respondents less than 40 percent report being in excellent or very good health. Thus, in addition to living in significantly poorer and less educated households, American Indian children are substantially more likely to grow up among adults who are overweight, smoke, in worse overall health, and engage in riskier health behaviors overall.

Historical Trauma, Discrimination and Exclusion

Beyond the effects of poor financial resources, AIAN children have historically been exposed to significant shocks to their emotional and physical wellbeing coming from, among others, public policies regarding adoptions, foster care, and cultural assimilation. Some of these shocks have had lasting consequences for their willingness to associate with and participate in non-AIAN led initiatives to improve education and crime outcomes on the reservations and among tribal members country-wide.

The National Indian Child Welfare Association (NICWA) has advocated on behalf of American Indian children in the foster care system. They have worked with tribal governments to enact legislation that allowed tribal governments to participate in Title IV-E Foster Care and Adoption Assistance which provides funding for tribal governments to participate in the foster care systems (similar to state governments). The organization has also supported the Native American Children's Safety Act (P.L. 114-165) which requires criminal background checks for foster homes on tribal lands. They continue to push for the passage of the Tribal Adoption Parity Act (H.R. 2035 and S. 876) which will provide the same adoption tax credits for adoptive families from tribal governments as would be realized via state-based adoption systems. In a summary report "2017 Report on Disproportionality of Placements of Indian Children" (NICWA, 2017), NICWA indicates that AIAN children are disproportionately more likely to be in the foster care system than white children. In 15 US states the ratio of the percent of AIAN kids in foster care to the percent of children in a state that are AIAN is greater than one. These states tend to be the ones with the largest AIAN populations. In one state, Minnesota, the ratio is an astonishing 17.

Violence is another dimension that may impact AIAN children. There are relatively high levels of violence in the AIAN community. While the current research only focuses on adults, it is not difficult to imagine that the violence extends to children as well or to their care-givers. In recent National Institute of Justice research, Rosay (2016) finds that more than 4 in 5 AIAN women (84.3 %) experienced violence during their lives. Of that group, 56% experienced sexual violence and another 56% reported physical violence from an intimate partner. He also reports that 66% experienced psychological aggression as well from an intimate partner. In the research, these same individuals report physical injuries in 41% of those cases and 66% of these women reported concern for their safety.

American Indians, Alaska Natives, Australian Aboriginees and Canadian First Nations were all required at various times in their histories to send their children to federally-sponsored schools. These schools were often located away from the communities and were intended to assimilate the next generation of children. The forced removal of children as well as the high incidence of abuse and trauma has left many native communities understandably distrustful of Western-based education. As a result, this unique historical experience has served as an important obstacle and deterrent to education for several generations of AIAN children. For instance, Feir (2016) shows quite convincingly in Canada that attending an Indian Boarding school resulted in a separation of those children from their communities as adults; she finds that as adults they are less likely to speak their traditional language, participate in traditional activities and are more likely to reside off traditional lands. Her analysis does not account for the boarding school survivors (as they refer to themselves) who committed suicide or died from alcohol or drug abuse subsequent to those years. While this empirical analysis was conducted in Canada, this mirrors the experience of many American Indians as well but there has been little quantitative analysis of these experiences. There are, however, extensive ethnographic and qualitative research on the topic in the US (see for instance, Lomawaima, 1995).

4. Policies and programs that show evidence of reducing child poverty among American Indian and Alaska Native children.

The causes of poverty can be complex for any community. Still, for the AIAN population there are additional layers of complication due to the historical experience with genocide, forced relocation, assimilation and persistent discrimination. The AIAN population is eligible for the standard programs and services available to all US citizens and tribally-enrolled AIAN members

may also be eligible for additional programs and services offered either by their own tribes or the US federal government.

In this section, we review some of the potential programs and different topics that have shown some promise for reducing poverty in general for the AIAN population. There are relatively few evaluations of tribal-based anti-poverty programs or policies in general or for children in particular. However, there are several published analyses that may be indicative of avenues through which incomes for the AIAN population may be improved. There are differing degrees of social science rigor and methods employed in these various studies below. Nevertheless, given the state of the literature, in our assessment, these are some of the most promising options for reducing poverty in AIAN children.

Training Programs/Education

An important area that may hold promise for reducing poverty is in the improvement in training and educational programs for the AIAN adult population. In general, this population has much lower levels of educational attainment than the US as a whole (Akee and Taylor, 2014). Programs and services aimed at improving conditions in this area may lead to better and sustained employment for the AIAN population.

Gitter and Reagan (2002) use the NLSY to compare employment for American Indian men and Non-Indian men residing on and off of reservations. They find a negative relationship between residing on the reservation for AI men and their probability of employment. No such relationship exists for non-Indian men. This suggests that improving opportunities and programs that enhance employment may play an important role in improving economic conditions for the AI population.

HeavyRunner (2003) emphasizes the importance of cultural connections for improving educational achievement and attainment for the AIAN population given the history of compulsory Western-based education practices. She describes a Family Education Model (FEM) which takes a family-centered approach to education for AIAN populations. The model advocates for a more inclusionary process for non-standard (non-traditional) students so that they can enroll and successfully complete their higher education pursuits. Goodluck and Willetto (2009) also identify seven principles for resiliency in AIAN communities that are also based on cultural connection for educational success. One example of how these types of ideas are put into practice is via the establishment of Tribal Colleges and Universities (TCU) on American Indian reservations. There are 36 TCUs in the nation and they are a collaboration of tribally and/or federally chartered institutions that are based in and around AIAN communities and tribal nations.

Political Institutions

An additional area that may serve to improve the economic conditions of the AIAN population is the efficiency and effectiveness of tribal governments. These governments tend to provide many direct services and programs to the on-reservation population. In certain circumstances, these tribal governments are also able to provide funding (or administer) for programs on off-reservation locations. Additionally, tribal governments are a large employer for the on-reservation labor force either via governmental operations or via the various businesses that they operate (for example gaming operations). Improvement in tribal government efficiency, transparency and legitimacy may play an important role in reducing the incidence of poverty for the AIAN population. There are several dimensions in which tribal governance may be improved from legal jurisdiction to the establishment of appropriate governing institutions.

Dimitrova-Grajzl et al (2014) find that when civil and criminal jurisdiction is removed from tribal control and given to the US states, tribal incomes decrease. These long-run outcomes may be due to the civil and criminal uncertainty over jurisdictions and/or the associated observed increase in crimes with this loss of local control on criminal jurisdiction. Therefore, local political and legal authority may also play a role in improving incomes on American Indian reservations. The authors take care in identifying a causal story using an ingenious instrumental variables technique in their analysis. Akee, Jorgensen and Sunde (2015), also using an instrumental variables technique, find that tribal nations with constitutions that contain parliamentary-type systems are more likely to have long-run economic growth as compared to those with presidential systems. These political institutions historically may have been more aligned with existing pre-contact political and social norms (Cornell and Kalt, 2000). Therefore, improvements in tribal government accountability (via improvements in legitimacy and alignment with community values and norms) may improve the economic conditions in AIAN communities. These changes may result from effective lobbying at the US Congress but also at a more local level in the Constitutional reform process which has been on-going for many AI tribes in the past 25 years (Lemont, 2006).

Earned Income Tax Credit

Wagner and Hertel (2008) investigate the impact of the Earned Income Tax Credit for American Indian households. They surveyed individuals in fourteen Volunteer Income Tax Assistance (VITA) areas on Native American reservations or urban Native American community centers or organizations. They asked respondents how they would spend their tax refunds and the response was overwhelmingly for basic needs such as groceries, utilities, clothing, and rent/mortgages. Only 10% indicated that they would use the refund for savings. Given that this is a survey and the typical selection caveats exist, it is not possible to extend this analysis to other

AIAN populations. The results of this limited analysis imply that EITC refunds are directly contributing to basic household expenditure needs.

Health and Human Services programs

There has been little evaluation of the effectiveness of federal programs aimed at improving the conditions for the AIAN population. In recent years, tribal governments have been allowed to take over the administration of several programs and service provision. The US Department of Health and Human Services (HHS) currently allows federally-recognized American Indian tribes and Alaska Native Villages to operate their own Temporary Assistance to Needy Families (TANF) programs. It was authorized under 412 of the Social Security Act, as amended by Pub.L.104-193. Approximately 70 AIAN tribal governments are approved to operate TANF programs which serve almost 300 different AIAN tribes and villages. Tribally-operated TANF programs are also unique in that their program participants may be exempt from the 5-year lifetime restriction if the participants reside on reservations with unemployment above 50%. As a result, the binding TANF constraint does not apply to several AIAN communities or program recipients.

Hillabrant and Rhoades (2003) describe tribal officials as quite interested in operating their own TANF offices as it is closely aligned with their overall tribal government mission. Often, however, they find that there are inadequate opportunities for employment on the reservation. Therefore, while they are training and preparing individuals for employment, the relevant opportunity often does not exist for these potential workers.

There does not appear to be a full evaluation of these programs to our knowledge by the US Federal government. Mather (2015) provides an analysis which uses US Census data at the reservation-level for 163 tribes and finds that tribes that operated their own TANF programs are associated with a drop of about 5 percentage points in poverty rates over the decades 1990-2010.

The analysis is unable, however, to control for the endogenous decision to operate a TANF program. Biolosi et al (2002) interviewed current and former TANF recipients on the Rosebud reservation and found that few of the former TANF recipients are employed. The limiting factor appears to be the lack of available employment opportunities. Pandey and Guo (2007) conducts a longitudinal survey of TANF recipients for three American Indian tribes in Arizona and follows the individuals over three years. In their analysis, the only statistically significant predictor of exiting a TANF program is the presence of employment incomes. Whiting et al (2005) finds similar results when interviewing individuals on the Northern Cheyenne reservation as well. Overall, the few studies of TANF programs indicate that employment opportunities (as is the case in other TANF situations) are the primary determinant of whether an individual exits TANF programs.

There are additional US HHS programs such as the Native Employment Works (NEW) program which provides funding for job training, placement and readiness programs. Approximately 70-80 grantees are awarded from different tribal and communities per year for this program. Again, there is little evaluation for this program to our knowledge.

The Indian Child Welfare Act (ICWA) of 1978 aimed to stop the removal of AIAN children from their households primarily due to poverty. A series of studies had confirmed that social workers had been removing AIAN children from households not due to maltreatment, neglect or being orphaned but simply due to high poverty status of the household. The ICWA legislation was intended to improve tribal control over the placement (and removal) of AIAN children from their households. Additionally, there was an increased push for coordination across various jurisdictions (including tribal, state, county and federal) whereas in the past they had operated largely in isolation or opposition (MacEachron et al, 2005).

There is good research that indicates that the AI on-reservation population responds to health and infrastructure investments. For instance, Watson (2006) shows that AI communities are responsive to investments in public health infrastructures. In her study, she finds that improvements in the provision of sewers greatly improves infant health (survival) and also has positive spillover effects to the non-Indians residing in adjacent communities as well. This research indicates that governmental programs aimed at improving physical conditions for the AIAN population can translate directly into improvements for AIAN children.

Indian Gaming

The passage of the Indian Gaming Regulatory Act of 1988 (IGRA) created a unique economic opportunity for American Indian tribes. The law allowed federally-recognized American Indian tribes to operate casinos on their tribal lands and this granting of a monopoly-right (in most states at the time) provided a large economic opportunity. Akee et al (2015) show that federal spending on tribal programs decreased precipitously over the 1980s and never recovered. At the same time, the Indian Gaming industry reported revenues of approximately \$28 billion annually for the past ten years. Given the large influx of revenues, these funds may serve as an important means to alleviate AIAN child poverty. There are few rigorous studies that evaluate the role of casino revenues on poverty rates or incomes for AIAN populations due to the scarcity of data on this topic. Tribal governments are not required to provide information regarding revenues from their casino operations. It is also important to note that not all tribal nations operate casinos and even for those that do they are not equally successful; there is considerable variation in the revenue-generation which is dependent primarily upon location and proximity to large population centers. The studies below provide some of the scarce analysis on this topic.

Wolfe et al (2012) examine how American Indians residing in counties with a tribally-

operated casino differ from American Indians residing in counties without tribal casinos. Using this difference in difference analysis, they find an improvement in incomes and health access and outcomes. In particular, the study reports increases in household incomes by about \$1,700 in their data. While this analysis is for adults, they find that there is a reduction in heavy drinking, smoking, and an improvement in parental health. They are unable to identify whether this is due to the increased employment or other tribal government programs, however, this indicates that adults (parents) may have improved outcomes in these circumstances. Improvement in these characteristics for parents in particular may improve AIAN child conditions.

Anderson (2013) finds that having a casino reduces child poverty rates by 4.6% between 1990 and 2000. In using US Census data, this research is unable to account for compositional changes over time in the reservation-based populations. Specifically, the presence of a casino may be correlated with an influx of new residents that may have better economic characteristics. Therefore, the research should be seen as descriptive and provide an associative relationship. The author concludes that reservations with larger (medium to large sized) casinos are associated with reduced poverty over the decade of the 1990s. The author is unable to point to a specific mechanism at play in this analysis.

One mechanism that could play a direct role in reducing household poverty levels is the provision of cash transfers derived from casino revenues. These payments are known as “per-capita payments” and are provided to tribally-enrolled citizens of tribes that elect to provide a proportion of their revenues to their members. Not all tribes provide these cash transfers and instead elect to use the casino revenues for tribal program operations.

In a series of studies examining the Eastern Band of Cherokee Indians in North Carolina, researchers have investigated the impact of cash transfer program for members of this tribe. In one

paper, Akee et al (2010) find that the cash transfer results in an improvement of child educational attainment for the households that were initially in poverty. They also find that there is a reduction in criminal activities for the children and the parents. Importantly, there is no evidence that the additional unearned income reduces the parents' probability of full- or part-time employment.

In a second paper, Akee et al (forthcoming) find that the improvement in incomes results in a reduction of arguments between parents and with the child. There also is an improvement in parental supervision of children as well. Overall these results indicate that targeted cash transfers have a relatively larger effect for poverty-stricken households in terms of child outcomes and also parental behaviors and choices. An important exception is brought up in a third study by Akee et al (2013), which finds that obesity rates among children in households eligible for the transfer decreased among the initially better-off families; at the same time the initially poorer children experienced the opposite effect.

Other Potential Programs

There are a fleet of additional programs that have not been subjected to the standard social science analysis or evaluation. These programs have been evaluated by a committee, however, comprised of experts on American Indian and Alaska Native well-being. The evaluation criteria does require some evidence of program effectiveness and success. The awards acknowledge excellence in tribal government programs and services on a semi-annual basis and has been coordinated for decades from Harvard University's Honoring Nation's Program. Several of the high honors programs are described in the table below and are indicative of potential programs that may serve to reduce poverty for the AIAN population. Given that the causes of poverty are varied, these potential solutions are also aimed at various dimensions of AIAN well-being. As such, we have categorized these programs into several subcategories which may serve to improve

overall well-being for the AIAN reservation-based population.

In Table 5 below, we provide five broad categories of tribal government programs that have received an award from the Honoring Nations Program. One category of programs provides training and reintegration for ex-offenders and alternative sentencing programs. These programs are useful to the extent that many AIAN adults (and parents) do not often receive culturally appropriate (or any at all) rehabilitation and reintegration programs in standard incarceration experiences. These programs are specifically designed to improve the longer-term outcomes for this population.

The next category of programs address issues of family and female violence in these communities. The lack of family stability and safety is an additional contributing factor to family and child poverty. These novel initiatives provide different programs to assist victims of domestic violence in the AIAN community. Additionally, some of these programs provide strong advocacy for the establishment and enforcement of anti-violence legislation at various governmental levels. There are several examples of child care programs which are designed specifically to assist parents who are seeking employment (as may be required under TANF rules). These programs provide relatively low-cost, convenient and culturally-appropriate child care for these AIAN parents. The foster care programs provide advocacy for keeping more AIAN children within the local tribal community as well as enhancing family resources so that the children are not at risk of being removed in the first place. Finally, the last category in the table provides examples of educational and health programs aimed at meeting the needs of the AIAN population.

Table 5: Tribally-Operated Programs Awarded High Honors by the Honoring Nations Program at Harvard University for Governmental Excellence

Program Name	Tribe or Agency	Program Focus and Successes
Sentencing and Ex-Offender Programs		
AlterNative Sentencing Program, 2006	Tulalip Tribal Court, the Tulalip Tribes	Focusing on the mental, physical, and spiritual health of offenders, while incorporating cultural values, the program melds indigenous and therapeutic jurisprudence, going beyond placing offenders in jail.
Muscogee Creek Nation Reintegration Program, 2008	Muscogee Creek Nation	The Nation's Reintegration Program works with tribal citizens before and after they leave prison, paying attention to everything from jobs and housing to counseling and spiritual needs.
Violence Against Women Prevention Programs		
Family Violence and Victim's Services, 2003	Department of Family and Community Services, Mississippi Band of Choctaw Indians	Provides comprehensive resources for victims such as access to legal services, counseling, and therapy.
Task Force on Violence Against Women, 2006	National Coalition of Native Nations and Organizations Affiliated Through the National Congress of American Indians	Coordinated efforts led to the reauthorization of the Violence Against Women Act to include more financial resources and protection for Native women.
Navajo Treatment Center for Children and Their Family, 2000	Division of Social Services, Navajo Nation	Responding to high rates of child abuse and neglect, the Navajo Child Special Advocacy Project was launched in 1990 to provide Western and Navajo therapy to victims of sexual abuse between the ages of 3 and 17. The project administers Navajo diagnosis, treatment, and traditional healing, as well as sand play, art therapy, and forensic interviews.
The Healing Lodge of the Seven Nations, 2002	Colville, Spokane, Kalispel, Kootenai, Coeur d'Alene, Nez Perce, and Umatilla Tribes	The Healing Lodge is a treatment center that helps Native American youth and their families heal from the trauma of alcohol and drug abuse. With a focus on blending culture and spirituality with mental health/chemical dependency treatment, the program has served over 1,500 youth from more than 150 tribes.
Child Care Programs		
Chickasaw Nation Sick Child Care Program, 2016	Chickasaw Nation	The Chickasaw Nation Sick Child Care Program provides nurturing care for mildly-ill children of Chickasaw employees, citizens, and community members. Addressing a critical dilemma, the Program offers working parents the assurance that their children are well cared for and safe while staying in good standing with their employers.
Hopi Child Care Program, 2006	The Hopi Tribe	The Hopi Child Care Program assists families in accessing quality care for children of parents pursuing education and those with work demands that keep them away

from home. The Program gives parents the security of knowing their children are safe through affordable and accessible channels.

Foster Care Programs

Indian Child Welfare Services, 2006	Department of Indian Child Welfare Services, Houlton Band of Maliseet Indians	The department created a Child Protective Team made up of professionals and volunteers to review and seek options for children needing services. Drastically reducing the number of children in out-of-home-care situations through culturally and family appropriate solutions, the Houlton Band is preventing child removals, supporting families, and fostering government-to-government relations.
Port Gamble S’Klallam Tribal Child Welfare Program, 2014	Port Gamble S’Klallam Tribe	The Port Gamble S’Klallam Child Welfare Program’s provides holistic wrap-around services to the tribal community to keep S’Klallam families connected and intact. Port Gamble S’Klallam is the first tribe in the nation to receive approval to run its own Title IV-E program governing guardianship assistance, foster care, and adoption assistance.

Educational and Health Programs

Morongo Tutoring Program, 2006	Social Services Department, Morongo Band of Mission Indians	The Morongo Tutoring Program is one of the reasons the high school graduation rate of Morongo students is now at approximately ninety percent, the highest in tribal history. The program also offers life skills for early childhood through high school development; continuous support and encouragement; advocates for parents, students, and schools; as well as trained staff to maintain and promote positive relationships between the tribal community and the school district.
School Based Health Centers, Health Promotion/Disease Prevention Program, 2015	Fort Peck Assiniboine and Sioux Tribes	Before the HP/DP Program, the Fort Peck Tribes’ youth struggled with unmet needs for mental health, dental and routine health services. By bringing the care into the schools, by building diverse and lasting partnerships, and by leveraging a unique funding structure, the School Based Health Centers provide quality mental, dental and health access for all students.

Source: Harvard Project on American Indian Economic Development Honoring Nations Program.

5. Summary of Findings

This report has focused on different definitions of the AIAN child population and their respective poverty rates. We have described the difficulties in measuring and defining poverty among this group in particular due to data limitations and potentially conflicting group definitions. We show that the OPM for the AIAN population either alone or in combination mirrors that of the Black or African American population over the past few decades. Restricting our analysis to the AIAN population residing on reservations (or villages) we find that there is a level increase in child poverty rate by about 10-12 percentage points as compared to the AIAN child poverty rates in the country as a whole (the off-reservation population).

Indian Casino operations were an important and unprecedented economic expansion that occurred in the mid-1990s on American Indian reservations. However, there does not appear to be a noticeable change in child poverty rates in this population as a whole or even for the on-reservation alone population over the period after the casinos opened. The advent of this industry coincided with several other large macroeconomic phenomena such as the general economic growth in the US over the 1990s and a change in the AFDC (to TANF) program. It is impossible to gauge the impact of gaming industry on the AIAN population as a whole: there are no datasets that cover a sufficiently large AIAN population and include the additional data needed to determine whether these individuals were affected by casino opening. There is evidence, however, for a few tribes that the provision of direct cash transfers has resulted in an improvement of child outcomes and household incomes.

Evaluating the effectiveness of other programs, whether tribally-provided or federal or state-provided, has not been conducted for a number of important programs for this particular population. One might anticipate that response to certain programs may differ in significant ways

from other targeted populations. In the few instances where such evaluation does exist, we do find that programs have an impact on improving certain aspects of household conditions. For instance, there is some evidence that EITC refunds are used almost exclusively for basic household needs.

Future research should focus on evaluating these standard programs and whether they are more or less effective for the AIAN population. Additionally, much of the existing analysis is confined to the AIAN population residing on or near tribal lands; future research should also focus on the large urban populations of AIAN children. These urban populations are starting to be as large or larger than the on-reservation population of children, yet we do not have significant studies for these populations primarily due to the lack of data. Substantial obstacles exist given the scarcity of available data for both on and off-reservation populations. Advocating for over-samples in future data collection efforts for the AIAN population would be a step in the right direction for increasing the possibility of further evaluation and analysis.

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