

# Early Childhood

## INTRODUCTION

In Native Hawaiian families, keiki (children) and mo'opuna (grandchildren) are cherished. This belief is reflected in the proverb, “He lei poina 'ole ke keiki—*A lei never forgotten is the beloved child*” (Pukui 1983, 82). Family bonds and resources protect precious keiki and mo'opuna, providing safe, healthy, and nurturing environments to grow and carry forward the 'ike (knowledge and insights) and mana (spiritual power) of the 'ohana (family, extended family).

The earliest experiences of young keiki are foundational and influence all aspects of well-being—social, emotional, material, educational, and physical. During early childhood, the brain forms more than one million new neural connections every second (Center on the Developing Child 2017), affecting behavioral, physical, and mental health, along with overall learning, throughout one's life. It is during this time that keiki learn how to interact with others, develop interests, and begin the journey of lifelong learning. This development, in large part, is nurtured through parents, caregivers, and household structures and resources.

Growing up in a positive, stable, and healthy household supports a child's development; however, the inverse also holds true. A World Health Organization review of early childhood research states that “many challenges in adult society—mental health problems, obesity/stunting, heart disease, criminality, competence in literacy and numeracy—have their roots in early childhood” (Irwin, Siddiqi, and Hertzman 2007, 5). Similarly, exposure to multiple traumatic events for children ages seventeen and younger can have negative long-term effects and contribute to chronic health problems, mental illness, and substance abuse, and can hinder education and workforce opportunities (National Center for Injury Prevention and Control 2020a). The implications are clear: Experiences in a child's early years have lasting impacts.

This chapter reviews data on several key areas that influence early childhood development, including family composition, available material and social resources, access to education, and maternal physical health. Ideally, the data and methods presented would more fully reflect Native Hawaiian values, beliefs, and practices.<sup>1</sup> For example, a Native Hawaiian worldview sees waiwai, or wealth, as much more than just money and material possessions, and likewise views the well-being of the 'ohana as extending far beyond the nuclear family. However, such measures are not easily quantifiable, and most of the available instruments for data collection are based on a Western worldview and provide population-level data. The analysis that follows acknowledges these limitations and provides a summary of available information relevant to understanding early childhood. For more information, see "[Methods, Data Sources, and Definitions](#)" at the end of this volume.

Family composition and characteristics play a vital role in shaping environments that nurture young children. As such, familial characteristics such as the caregiver's educational attainment, health status, and household income, as well as dwelling conditions such as quality parenting and the presence of cultural practices, all influence the environment in which a child lives and learns (Hertzman 2010). For example, research suggests that one of the most influential factors affecting the learning and development of young children is the educational attainment of the primary caregiver (Davis-Kean and Sexton 2009).

Extended family, such as grandparents and community networks, are also important to child well-being and can serve as additional resources for young children. "He keiki mea kupuna," which means, "That little one has a grandparent," is said in admiration of a child showered by the affection of their parents and grandparents (Pukui 1983, 77). Studies show that close relationships, and even coresidency, between grandparents and their grandchildren, can have positive impacts on cognitive, mental, and health outcomes (Pope, Whiteside, and Brooks-Gunn 1993; Fuller-Thompson 2009; Mollborn, Fomby, and Dennis 2011). In addition, mo'opuna receive both material and social-emotional benefits from these relationships, including cultural transmission, stories, life skills and guidance, and love (Mokuau et al. 2015). Research shows that having close social ties with others in the community increases access to resources and information and provides critical emotional support to families (Hertzman 2010).

While a keiki's growth can be positively influenced by strong family bonds, it can also be detrimentally impacted by a lack of financial resources. Children in poverty often have less access to educational and developmental resources than do their counterparts in higher-income households. Children from lower-income households also tend to have relatively lower rates of academic success and higher rates of dropping out of high school (Kena et al. 2016).

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<sup>1</sup> Kūkulu Kumuhana, a convening that was sponsored by Native Hawaiian organizations, generated a framework for including critical elements of Native Hawaiian well-being to inform research and data-collection activities (Kūkulu Kumuhana Planning Committee 2017). Implementation of recommendations from Kūkulu Kumuhana is a work in progress.

Ensuring equitable access to high-quality early learning experiences such as preschool can help to address these gaps. High-quality early learning can boost kindergarten readiness and, later in life, can lead to improved likelihood of graduating from high school (Schweinhart et al. 2005) and completing postsecondary degree programs (Reynolds, Ou, and Temple 2018). Among Native Hawaiian keiki, preschool enrollment reached a high point (57 percent) in 2015 (see [fig. 2.16](#)), propelled by substantial public and private efforts. As preschool models continue to expand, the knowledge base will also expand, providing a fuller picture of the long-term impact of large-scale, public preschool programs.



Native Hawaiian preschool enrollment, after experiencing ups and downs over the past decade, was 52 percent in 2017, compared with the Hawai'i total of 46 percent.

Early childcare can benefit both children and families, freeing up caregivers to pursue employment and educational opportunities. In Hawai'i, the importance of childcare was amplified at the onset of COVID-19 restrictions and during the gradual reopening, demonstrating that viable childcare and schooling options are inextricably linked to caregiver employment.

Availability of community resources such as childcare, healthcare, education, healthy foods, safe physical environments, and transportation has an impact on the environment in which a child is raised. Large-scale data on community resources throughout Hawai'i are minimal, pointing to an ongoing need for further exploration of the link between community resources and the development and well-being of keiki.

Beyond community resources, a child's development is also shaped by a larger ecosystem of local, statewide, and national policies and laws. Systemic inequities experienced by children due to gender, ethnicity, disability, income, or location extend into adulthood. For example, children in remote locations and areas with high concentrations of Native Hawaiians experience inequities in the quality, experience, and tenure of schoolteachers. Kana'iaupuni, Malone, and Ishibashi (2005) note that "children in these areas receive a different education from that of other children, impeding the development of social capital . . . and thereby perpetuating the cycle of Native Hawaiian marginalization" (236). Furthermore, many Native

Hawaiian children grow up with comparatively few Native Hawaiian teachers to look to as role models. Even though Native Hawaiian students constitute nearly one-fourth (24 percent) of the student population in Hawai'i's public schools, just 10 percent of teachers are Native Hawaiian (Hawai'i Department of Education 2020b), perhaps contributing to feelings of ethnic bias and adversity experienced by some Polynesian students considered to be at risk (Mayeda, Chesney-Lind, and Koo 2001). Similarly, systemic adverse circumstances faced by adults and families may disadvantage the health and well-being of young children. Evidence of these patterns in the lives of Native Hawaiians is demonstrated throughout *Ka Huaka'i*.

Caring for and investing in young keiki has broad societal and intergenerational implications and is directly linked to their development and future roles as good citizens, policy makers, business leaders, workforce contributors, members of 'ohana, innovators, community developers, and land stewards. It is essential to understand and protect the well-being of young keiki, because our future as Native Hawaiians, and as caretakers of Hawai'i, lies in the hands of our young people. In this chapter, we first look at the population counts of young Native Hawaiian keiki, followed by an analysis of their social, material, educational, and physical well-being. Occasional references to how COVID-19 may impact the well-being of young Native Hawaiian keiki are also included throughout the chapter.

## POPULATION—YOUNG KEIKI

In 2018 there were a total of 17,026 births to Hawai'i residents, with an estimated 35 percent being Native Hawaiian.<sup>2</sup> This section gives a snapshot of the population of Native Hawaiians ages four and younger—estimated at 42,103 (fig 2.1). These counts and projections help to inform policy making and resource planning for childcare, preschool facilities, and access to healthcare and social services.

### Native Hawaiian Population and Growth

From 1980 to 2010, the Native Hawaiian population increased by more than 200 percent. Although multirace reporting options in US Census 2000 may have affected the increase between 1990 and 2000, steady growth has continued since that time.

In 2010, the population of Native Hawaiians in the United States reached 527,077, representing a 31 percent increase over the Native Hawaiian population in 2000 (table 2.1). In Hawai'i, the Native Hawaiian birth rate was relatively steady from 2000 to 2015, accounting for slightly more than one-third of all live births. Internal analysis of 2017 data provided by the Hawai'i Health Data Warehouse shows that during this period, the percentage of Native Hawaiian births among all births in Hawai'i reached a high point in 2009 (38 percent) before reverting to the 2000 rate of 36 percent.

**TABLE 2.1** Growth of the Native Hawaiian population in Hawai'i and the United States  
[1980 to 2010]

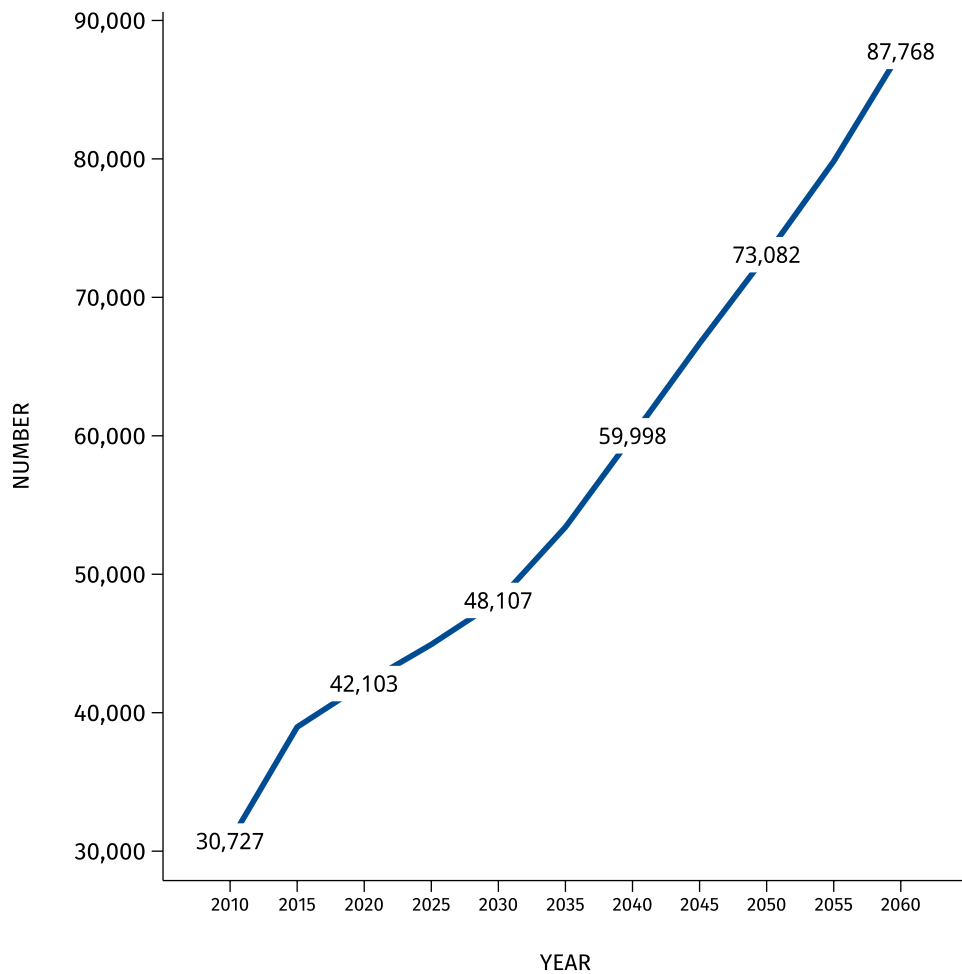
US Census year	Hawai'i	United States total
1980	115,500	166,184
1990	138,742	211,014
2000	239,655	401,162
2010	289,970	527,077

*Data source:* Gibson and Jung 2002; US Census Bureau 2010, Summary File 2

<sup>2</sup> This percentage is based on the three-year average proportion of annual Native Hawaiian births (6,402) from 2015 to 2017 (Hawai'i Health Data Warehouse 2019).

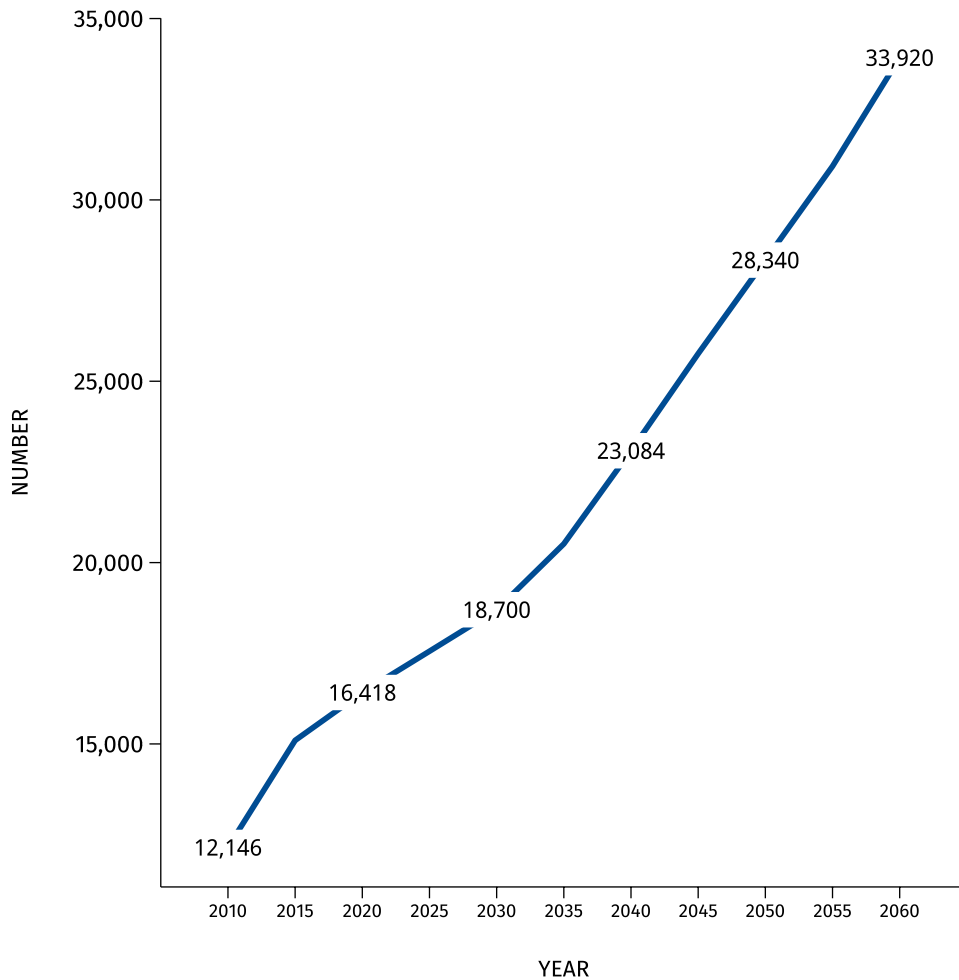
The Native Hawaiian population continues to grow. Estimates of projected growth indicate that there are about 42,000 young Native Hawaiian keiki as of 2020, a number that will grow moderately over the next decade and then rise more sharply in the following decades, reaching 87,768 by 2060 (fig. 2.1). These projections are based on the most recent available census data from 2010 and may vary with more recent estimates based on population samples. Forthcoming Census 2020 data will provide actual population counts and be available to calculate updated population projections.

**FIGURE 2.1** Projected number of young Native Hawaiian children in Hawai'i  
[Native Hawaiian children ages 0–4, 2010 to 2060]



Data source: Hong 2012

**FIGURE 2.2** Projected number of preschool-age Native Hawaiian children in Hawai'i  
[Native Hawaiian children ages 3–4, 2010 to 2060]



Data source: Hong 2012

The projections show that the number of Native Hawaiian children ages four and younger—as well as the preschool-age population—will double between 2020 and 2060 (figs. 2.1 and 2.2). These trends signal the need to plan ahead for the continued growth of the young Native Hawaiian population.

## SOCIAL WELL-BEING

In this section, we take a closer look at the social resources available to young keiki in two main areas: family characteristics and parent (including caregiver) involvement.

For Native Hawaiians, 'ohana is our greatest social resource and is a key protective factor for our keiki and community as a whole (Kanahele 1986; Mokuau 1990; Kana'iaupuni 2004). 'Ohana transcends biological ties and encompasses spiritual relations:

As Mrs. Pukui explains, "You may be 13th or 14th cousins, as we define relationships today, but in Hawaiian terms, if you are of the same generation, you are all brothers and sisters. You are all 'ohana."

This close tie among distant cousins indicates that in the past, 'ohana meant "family clan" more often than "nuclear" or "immediate" family. Today, the word means either.

The ties of 'ohana as an extended family were closest but not limited to the living or to those born into blood relationship. The core of the 'ohana were the living pili koko (blood relatives). However, non-related persons could be admitted to 'ohana status. And when a family member died, he remained—as a spirit—very much a part of the 'ohana. (Pukui, Haertig, and Lee 1979, 167)

With such an expansive worldview, the social capital of most Native Hawaiian 'ohana extends beyond a family unit and includes ties with the broader community, providing more avenues to connect to additional resources. For example, families with community ties can increase access to social support, advice, and soft skills. In turn, this may promote better parent-child interactions and healthier child development (Turley et al. 2017). Strong family networks in the community can also further feelings of safety, working together, and civic participation (Putnam 1995).

In Native Hawaiian 'ohana, kūpuna provide important social and cultural resources to young children. Culturally, kūpuna are revered and valued for their 'ike, which includes family and cultural practices and lived experiences that can be passed to future generations. The 'ōlelo no'eau (wise saying, proverb), "He hulu makua" (Pukui 1983, 69) alludes to this reverence, likening those of the older generations to the precious feathers used to make intricate lei hulu (feathered lei). Pukui also describes the role of grandparents as caretakers who carry "authority, knowledge, privilege, and clan responsibility" (Pukui, Haertig, and Lee 1979, 49). Traditionally, the hiapo, or firstborn, was given to the grandparents to raise as their own, solidifying the intimate bond between keiki and kūpuna. The practical benefits of kūpuna-mo'opuna bonds today are wide ranging, including material support, food, shelter, transportation and financial support; life skills and guidance; discipline; and the transmission of culture through values and stories, including spiritual support (Mokuau et al. 2015).



In this context, family structure refers to the relationships among, and characteristics of, families<sup>3</sup> and family households.<sup>4</sup> Family structure influences child well-being and is related to underlying mechanisms such as “parental resources, parental mental health, parental relationship quality, parenting quality, and father involvement” (Waldfogel, Craigie, and Brooks-Gunn 2010). While the association of family structure and child outcomes is evident, the association is complex and not always clear (Musick and Meier 2010). Factors mediating the relationship between family structure and child outcomes are difficult to measure, making it a challenge to draw causal claims and consistent findings (Musick and Meier 2010; Amato, Patterson, and Beattie 2015).

Previous research shows that children raised in households with two parents are generally more likely than those raised in households with a single parent to experience positive benefits such as a higher standard of living, more effective and cooperative parenting, emotional closeness to their parents, and fewer stressful events (Amato 2005). More recent findings indicate that living in poverty increases the likelihood of becoming a single parent and influences children’s academic performance (Amato, Patterson, and Beattie 2015). These considerations are relevant for Native Hawaiians, given that nearly half of young Native Hawaiian children are in single-mother or single-father families (see [fig. 2.4](#)).

Our findings indicate that Native Hawaiian families (along with Filipinos) are more likely to have young children and be headed by a single parent, compared with families of other major ethnicities in Hawai‘i (consistent with previous findings from *Ka Huaka‘i* 2005).

In discussing our findings, we acknowledge the disconnect between Western definitions of family and family structure—which tend to be linear and specific—and definitions of Native Hawaiian ‘ohana. Consistent with cultural values surrounding the importance of ‘ohana and the value and impact of kūpuna and mo‘opuna bonds, our findings show that many young Native Hawaiian keiki are in households where a grandparent is present. Multigenerational and extended ‘ohana living together can be an effective strategy to alleviate the effects of socioeconomic disadvantage among families with young children, specifically by increasing access to social networks and financial support (Kana‘iaupuni, Malone, and Ishibashi 2005). The benefits are especially pertinent to children in mother-only families (Mutchler and Baker 2009).

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<sup>3</sup> A family is defined as a householder and one or more other people living in the same household who are related to the householder by birth, marriage, or adoption.

<sup>4</sup> A family household is defined as a household consisting of a family and may also include people not related to the householder or a single person living alone. It is possible to have multiple families within a single household.

## Family Structure

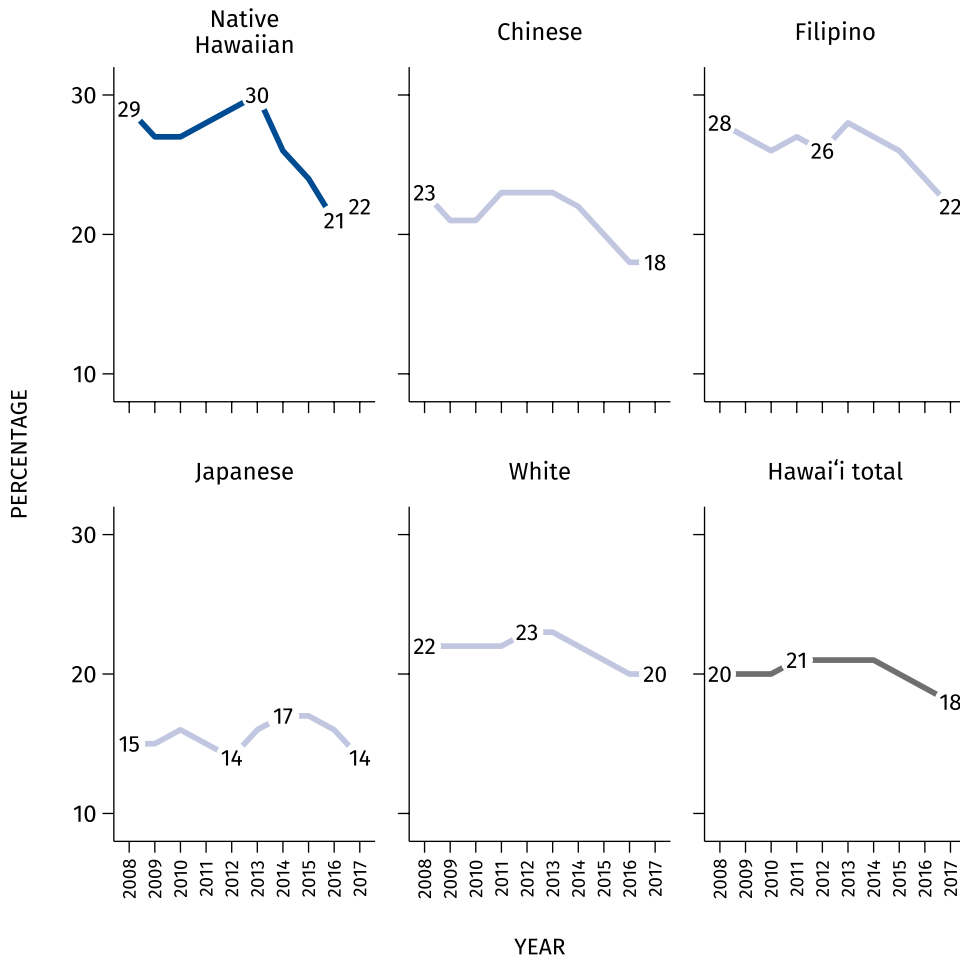
Across Hawai'i, the proportion of family households with children ages four and younger declined slightly over the past decade. For Native Hawaiians, however, the decrease was larger, declining from 29 to 22 percent between 2008 and 2017 (fig. 2.3). Despite this significant decline, Native Hawaiians, along with Filipinos, are still the most likely family households in Hawai'i to have young keiki.

Compared with their peers, young Native Hawaiian keiki are among the most likely to live in single-mother or single-father families.<sup>5</sup> For example, of all Native Hawaiian keiki ages four and younger, about one in three (34 percent) lives with a single mother, compared with roughly one in five (22 percent) across Hawai'i as a whole (fig. 2.4). Over time, the proportion of Native Hawaiian single-mother families—regardless of the number or age of children—has remained relatively constant from 2008 to 2017, accounting for roughly one in every three families (see [fig. 1.14](#)).

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<sup>5</sup>A single-mother family is defined as a family whose household is led by a female without a spouse present. A single-father family is defined as a family whose household is led by a male without a spouse present.

**FIGURE 2.3** Trends in family households with children ages 0–4  
 [as a percentage of family households, by family household ethnicity, Hawai‘i, 2008 to 2017]



Data source: US Census Bureau, American Community Survey, Public Use Microdata Sample 1-year file

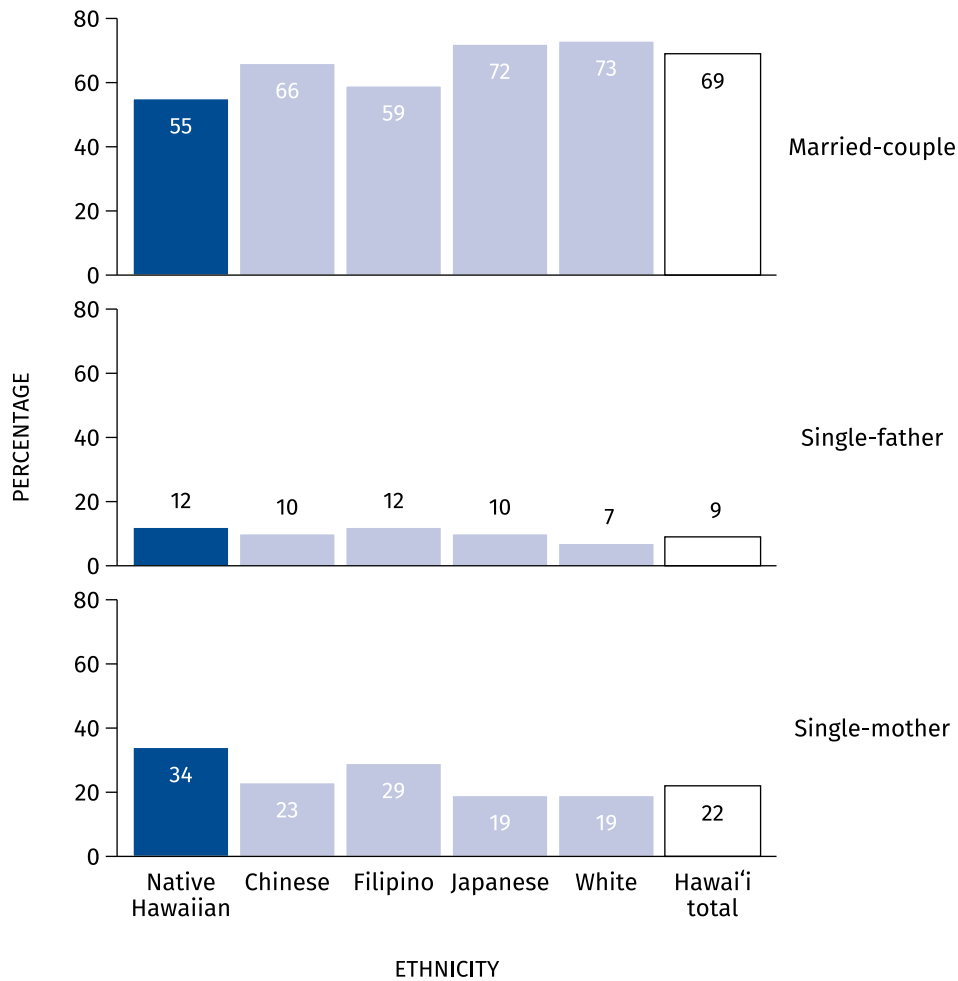
Note 1: A family household consists of a family and may also include people not related to the householder. A family is defined as a householder and one or more other people living in the same household who are related to the householder by birth, marriage, or adoption.

Note 2: The designation “White” in this chart refers to non-Hispanic Whites, alone or in combination with other ethnicities, as defined by the American Community Survey.

Note 3: Data labels are presented for the first and last points, the maximum and minimum points, and some inflection points where the trend changes.

- From 2008 to 2017, the percentage of family households with children ages four and younger decreased significantly across all major ethnicities (except Japanese).
- For Native Hawaiians, Chinese, and Filipinos, the years between 2013 and 2016 mark the greatest decrease in the percentage of family households with young children.

**FIGURE 2.4** Family types of young children  
 [as a percentage of children ages 0–4, by ethnicity, Hawai'i, 2017]



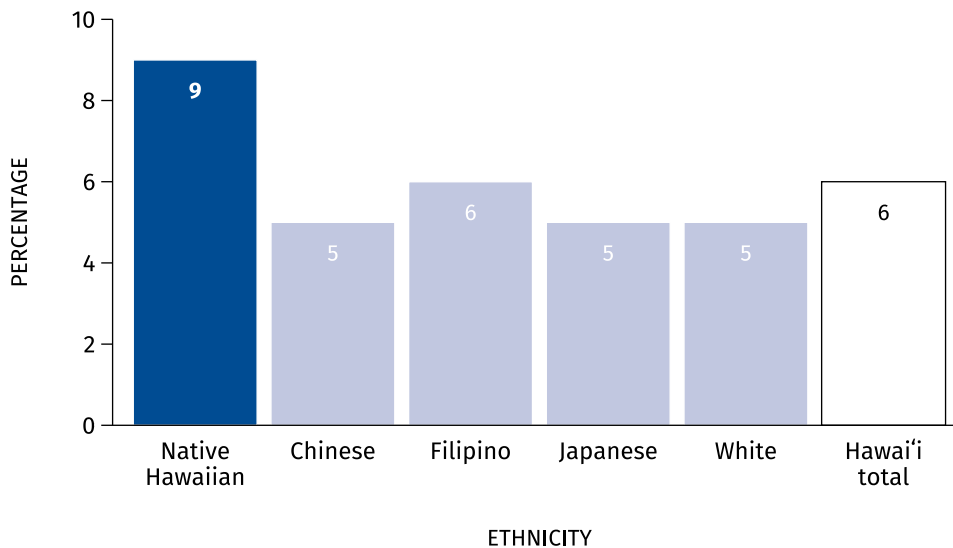
*Data source:* US Census Bureau, American Community Survey, Public Use Microdata Sample 5-year file  
 Note 1: The designation “White” in this chart refers to non-Hispanic Whites, alone or in combination with other ethnicities, as defined by the American Community Survey.

- About one-third (34 percent) of Native Hawaiian keiki ages four and younger live in single-mother families—the highest rate among the major ethnicities in Hawai'i.
- The combined proportion of young Native Hawaiian keiki living in single-mother or single-father families (46 percent) is the highest rate among all major ethnicities in Hawai'i.
- Young Native Hawaiian keiki are the least likely to live in married-couple families (55 percent), a rate that is slightly lower than that of Filipino children (59 percent).
- White and Japanese young children are the most likely to live in married-couple families (73 percent and 72 percent, respectively).

Generally speaking, most young Native Hawaiian keiki live with a biological parent. However, compared with children of other major ethnicities in Hawai'i, young Native Hawaiian keiki are the least likely to live with a biological parent (fig. 2.5).

The prevalence of Native Hawaiian keiki not living with a biological parent persists through childhood. A related analysis of Native Hawaiian keiki ages five to seventeen shows that one in eleven does not live with a biological parent (see [fig. 3.7](#)). In such circumstances, keiki may live with caregivers including relatives (e.g., grandparents or siblings) or nonrelatives (e.g., adopted parents or foster parents). Such caregivers tend to be about twenty years older than the caregivers of children living with their biological parents and have lower levels of income, education, and employment (Kamehameha Schools 2019).

**FIGURE 2.5** Young children not living with a biological parent  
[as a percentage of children ages 0–4, by ethnicity, Hawai'i, 2017]



*Data source:* US Census Bureau, American Community Survey, Public Use Microdata Sample 5-year file

Note 1: In this analysis, a biological parent may actually be present if they live in the same house as the child but are not married to the householder; in this case, the child may be living with one of their biological parents but not both of them.

Note 2: The designation “White” in this chart refers to non-Hispanic Whites, alone or in combination with other ethnicities, as defined by the American Community Survey.

- Approximately one in eleven Native Hawaiian children ages four and younger (9 percent) do not live with a biological parent—the highest rate among the major ethnicities in Hawai'i.
- For the Hawai'i total, nearly one in sixteen young children (6 percent) do not live with a biological parent.

## FOSTER CARE

Children who enter the foster care system receive temporary care with the end goal of finding a stable, supportive, and permanent long-term home. Native Hawaiian children historically have comprised nearly half of all children in foster care across Hawai'i. This percentage decreased slightly in recent years, from 49 to 46 percent between 2014 and 2018 (Hawai'i Department of Human Services 2019). Despite this downward trend, there remains "serious concern about the disproportionality of Native Hawaiians in the foster care system" (Hawai'i Department of Human Services 2017, 135).

## CHILD ABUSE AND NEGLECT

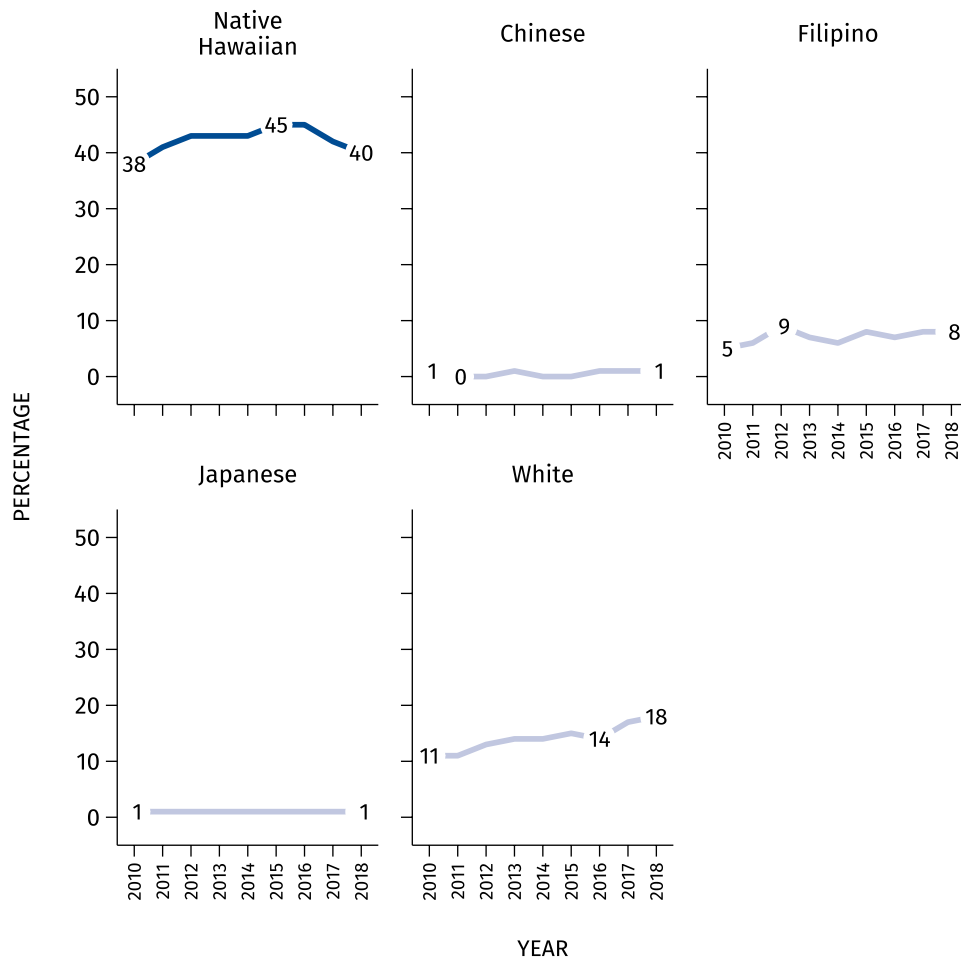
Child abuse and neglect represent a troubling extreme of social dysfunction and, while the vast majority of children do not experience it, Native Hawaiian and other low-income groups are disproportionately represented among those who do. In 2018, among all children in Hawai'i, there were 1,296 confirmed cases of child abuse and neglect.<sup>6</sup> Of these, four in ten cases (41 percent) involved children younger than age five, and roughly one in six (17 percent) involved children younger than one year old (Hawai'i Department of Human Services 2018).

Native Hawaiian keiki have historically been overrepresented among confirmed cases of child abuse and neglect, representing 40 percent (524) of all cases affecting children ages seventeen and younger in 2018. Looking at data from the past decade, we see that the proportion of child abuse victims who are Native Hawaiian increased in 2015 and has since decreased to 40 percent in 2018 (fig. 2.6).

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<sup>6</sup> A single child may be counted multiple times in these figures because each time they are indicated to be a victim.

**FIGURE 2.6** Trends in child abuse  
 [as a percentage of uniquely confirmed incidents, by ethnicity, Hawai'i, 2010 to 2018]



Data source: Hawai'i Department of Human Services, Audit, Quality Control and Research Office

Note 1: In this dataset, a child is counted only once, regardless of the number of responses or occurrences.

Note 2: Data labels are presented for the first and last points, the maximum and minimum points, and some inflection points where the trend changes.

- Looking at the span of years from 2010 to 2018, there was an upward trend in child abuse among Native Hawaiians.
- Native Hawaiians have the highest incidence of child abuse, constituting 40 percent of all confirmed cases in 2018.

A study by the Hawai'i Department of Human Services (2018) reports that among caregivers of abused or neglected children in Hawai'i, the biggest contributing factors to abuse include inability to cope with parenting responsibility (60 percent), unacceptable child-rearing method (59 percent), and drug abuse (42 percent). It is also possible that rates of child abuse and neglect in Hawai'i may escalate under conditions such as the COVID-19 pandemic due to increased stressors like unemployment, wage loss, stay-at-home protocols, and lack of childcare.

Research on reducing the risk of child abuse and increasing well-being for families and children cites successful programs, policies, and practices that build social networks, strengthen economic supports to families, provide quality care and education early in life, and enhance parenting skills (Fortson et al. 2016). Additionally, characteristics such as parental employment and education, adequate housing, and access to healthcare and social services also may reduce the likelihood of child abuse and neglect (National Center for Injury Prevention and Control 2020b). Holistic efforts to reduce child abuse must support family environments while addressing poverty and other root causes of stress and anxiety. Along with addressing systemic issues, policies and programs are needed to reinforce effective parenting strategies, galvanize available family support, and draw upon cultural assets as sources of strength.

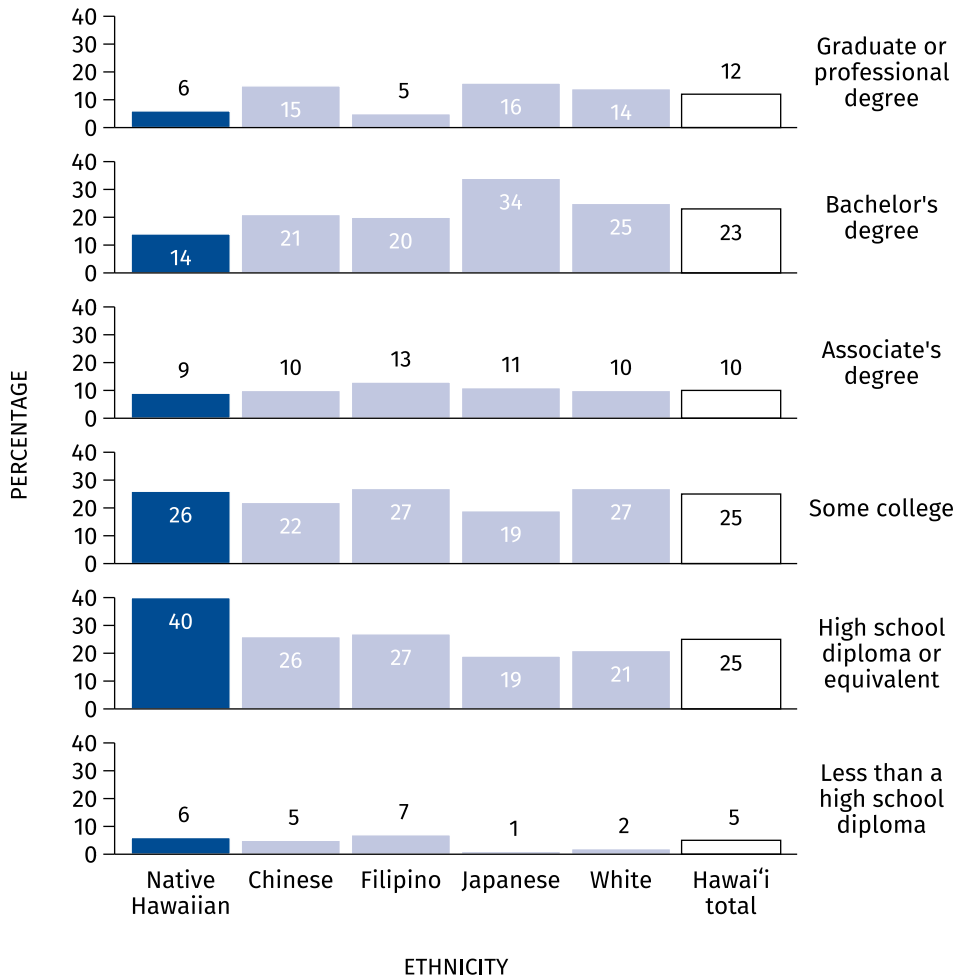
## Educational Attainment of Parents with Young Children

As suggested above, the educational attainment of parents and caregivers is associated with the social and economic resources available to children. Our findings reveal that young Native Hawaiian children are more likely to have parents with less formal education, compared with their non-Hawaiian peers. Figure 2.7 highlights these differences, showing that nearly three out of four Native Hawaiian parents with children ages four and younger (combined percentage of 72 percent) do not have a college degree, compared with the Hawai'i total of 55 percent. Native Hawaiian parents of school-aged children face similar disparities (see [fig. 3.9](#)).

However, Native Hawaiian parents have higher rates of obtaining a college degree in comparison with Native Hawaiian adults in general. For example, a combined proportion of 29 percent of Native Hawaiian parents with children ages four and younger have a college degree (fig. 2.7), compared with 17 percent of the total population of Native Hawaiian adults ages twenty-five and older (not shown). Further analysis shows that college degree attainment among the Native Hawaiian population is most likely to happen at younger ages and before having children (Kamehameha Schools 2019).



**FIGURE 2.7** Educational attainment of parents with young children living at home  
 [as a percentage of parents with children ages 0–4 living at home, by ethnicity, Hawai‘i, 2017]



Data source: US Census Bureau, American Community Survey, Public Use Microdata Sample 5-year file

Note 1: The designation “White” in this chart refers to non-Hispanic Whites, alone or in combination with other ethnicities, as defined by the American Community Survey.

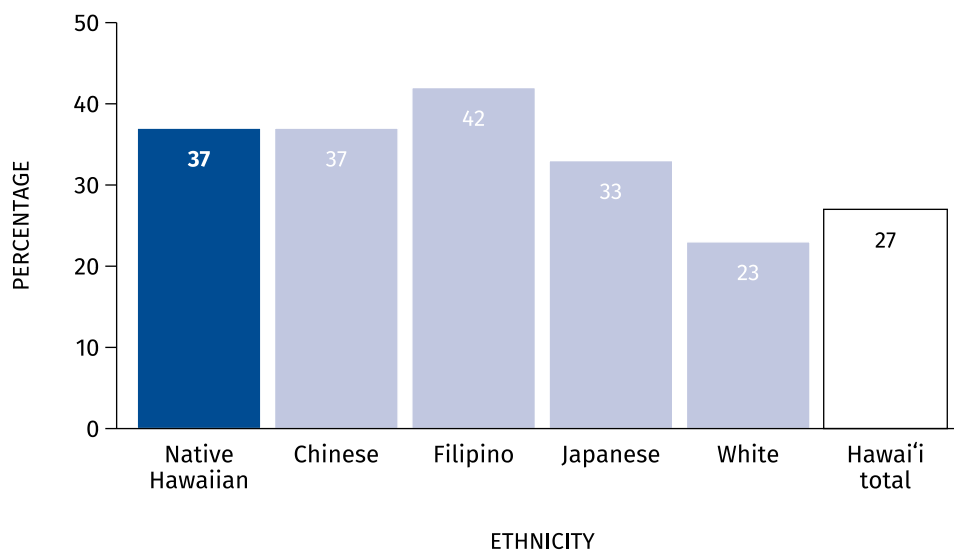
- Among Native Hawaiian parents with children ages four and younger living at home, 29 percent have a college degree (combined percentages), compared with the Hawai‘i total of 45 percent.
- Comparing ethnicities, Japanese and White parents with young children living at home are the most likely to have a high school diploma or higher.
- Half (50 percent) of Japanese parents with young children living at home have a bachelor’s degree or higher (combined percentages)—the highest rate among the major ethnicities in Hawai‘i.

The educational attainment of Native Hawaiian parents of young keiki has fluctuated over the past fifteen years, perhaps reflecting the effects of the recession years (2007 to 2009). For example, based on 2017 data, 20 percent of Native Hawaiian parents with young children living at home have a bachelor's degree or higher, compared with 27 percent in 2010 and 21 percent in 2005 (not shown). Looking ahead, we anticipate college attendance of Native Hawaiians to be impacted by the economic upheaval and restructuring of schooling and learning caused by COVID-19.

## Young Keiki and Grandparents

Many young Native Hawaiian keiki live with their grandparents, which may provide increased access to the social support and networks offered by their kūpuna. Figure 2.8 shows that more than one-third (37 percent) of Native Hawaiian households with children ages four and younger have kūpuna living in the same home—a rate that has remained constant since 2005 (Kana'iaupuni, Malone, and Ishibashi 2005) and is higher than the Hawai'i total of 27 percent. The data show that the same is true for Native Hawaiian households with children ages seventeen and younger (see [fig. 1.7](#)).

**FIGURE 2.8** Households with young children where a grandparent is present  
[as a percentage of households with children ages 0–4, by household ethnicity, Hawai'i, 2017]



*Data source:* US Census Bureau, American Community Survey, Public Use Microdata Sample 5-year file

Note 1: Grandchildren are defined as the grandparents' own grandchildren who are younger than 18 years old.

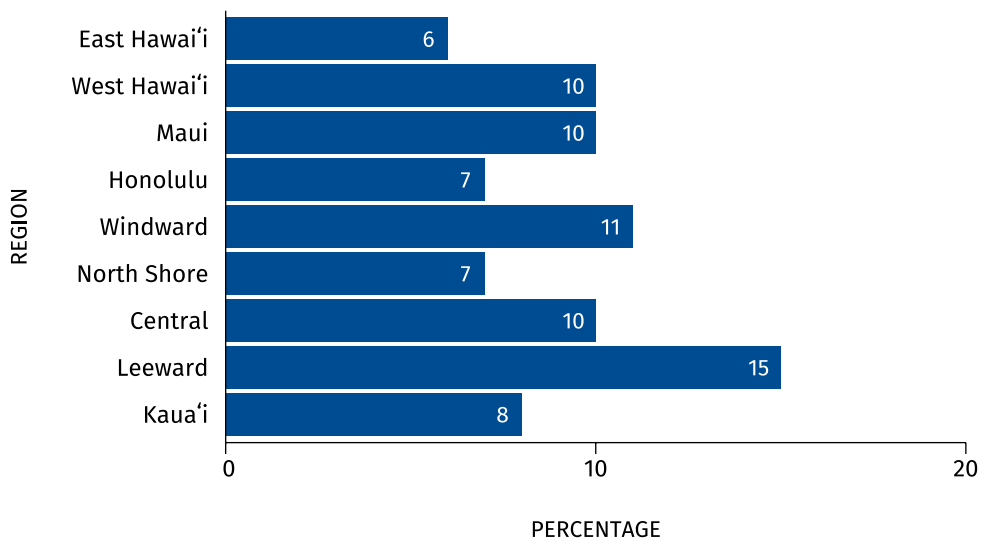
Note 2: The designation "White" in this chart refers to non-Hispanic Whites, alone or in combination with other ethnicities, as defined by the American Community Survey.

- For the Hawai‘i total, 27 percent of households with young children have a grandparent living in the household.
- Among Native Hawaiian and Chinese households with young children, 37 percent have a grandparent living in the household—10 percentage points higher than the Hawai‘i total.
- Comparing households across ethnicities, White households with young children have the lowest prevalence of a grandparent living in the household (23 percent).

### YOUNG KEIKI AND GRANDPARENTS—REGIONAL HIGHLIGHTS

Coresidency among kūpuna and mo‘opuna is reflected in a similar analysis based on individuals rather than households. Looking across regions, the prevalence of Native Hawaiians ages thirty and older who are grandparents living with their grandchildren is highest in Leeward and Windward (fig. 2.9). Over time, we find a downward trend in these multigenerational living arrangements across all regions except for West Hawai‘i, Maui, and Central (fig. 2.10).

**FIGURE 2.9** Native Hawaiian grandparents living with their grandchildren—regional comparison  
 [as a percentage of Native Hawaiian individuals ages 30 and older, by region, Hawai‘i, 2015]

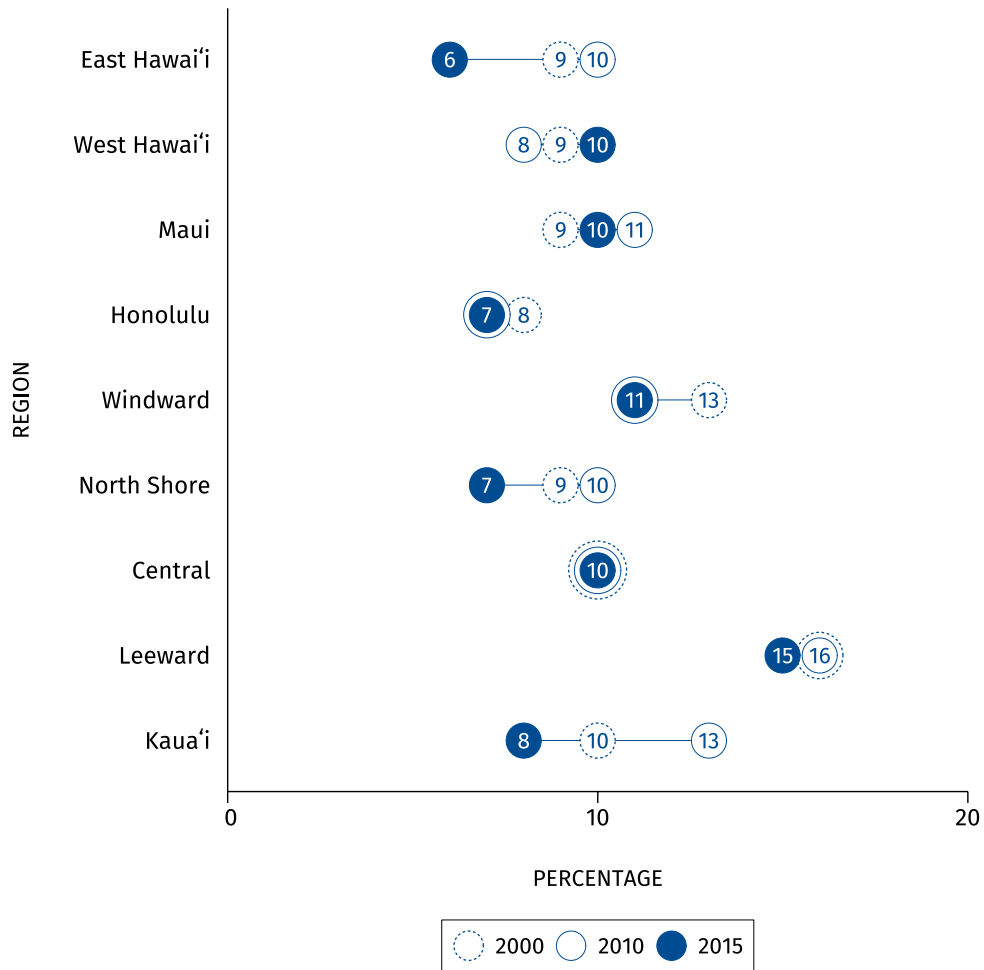


Data source: US Census Bureau, American Community Survey, Selected Population Tables

Note 1: Grandchildren are defined as the grandparents’ own grandchildren who are younger than 18 years old.

- In the Leeward region, more than one in seven Native Hawaiians ages thirty and older (15 percent) are grandparents who live with their grandchildren—the highest rate across regions.
- Regions with the lowest proportion of Native Hawaiians who are grandparents living with their grandchildren are East Hawai‘i (6 percent), Honolulu (7 percent), and North Shore (7 percent).

**FIGURE 2.10** Trends in Native Hawaiian grandparents living with their grandchildren—regional comparison  
 [as a percentage of Native Hawaiian individuals ages 30 and older, by region, Hawai'i; 2000, 2010, 2015]



Data source: US Census Bureau, 2011 to 2015 American Community Survey, Selected Population Tables; US Census Bureau, 2006 to 2010 American Community Survey, Selected Population Tables; Census 2000, Summary File 4

Note 1: Grandchildren are defined as the grandparents' own grandchildren who are younger than 18 years old.

- From 2000 to 2015, Maui, West Hawai'i, and Central were the only regions that did not experience a downward trend in the percentage of Native Hawaiians who are grandparents living with their grandchildren.
- On Kaua'i, the percentage of Native Hawaiians ages thirty and older who are grandparents living with their own grandchildren decreased from 13 to 8 percent between 2010 and 2015.

While the mutual benefits of caregiving are clear, there are notable risks and challenges facing grandparents who function as “second-time parents.” For example, it can be difficult for grandparents to manage health needs associated with aging while caring for their grandchildren in their earliest, and often most demanding years (Mokuau et al. 2015). As such, and among all scenarios where keiki do not live with their biological parents, it is important to assess and holistically support the wide range of needs of these caregivers, including financial assistance, culturally appropriate respite, and grandparent rights (Yancura 2009; Mokuau et al. 2015).

The social well-being of young keiki starts at home. A well-supported family structure, paired with loving and appropriate caregiver involvement, can provide a strong foundation for the healthy development and nurturance of young keiki. The foregoing analysis has shown that, compared with many of their peers, young Native Hawaiian keiki are more likely to live without a biological parent, in single-parent families, and in households where a grandparent is present. Young Native Hawaiian keiki, on the whole, are disproportionately more likely than their peers to have less-educated parents and to have experiences with child abuse and neglect—situations that may be mitigated somewhat by the presence of additional supports such as grandparents. Taken together, our findings underscore the need for systemic support to promote and strengthen the whole ‘ohana as a child’s most important social resource.

## MATERIAL AND ECONOMIC WELL-BEING

The economic resources available to 'ohana, including savings, income, and assets, ensure a child's basic needs are being met, enhance the quality of a child's physical environment, and facilitate access to stimulating learning materials like books and technology, as well as healthy developmental services such as childcare and medical care. Research finds that economic status and available material resources influence behavioral and cognitive outcomes of preschool-age children (Yeung, Linver, and Brooks-Gunn 2002). As such, child outcomes are influenced by the financial stability of parents, which is influenced by parental educational attainment and employment status.

Our findings show that Native Hawaiian adults in general have lower rates of bachelor's degree attainment and household income in comparison with other major ethnic groups (see Chapter 1). The same is true for Native Hawaiians with young keiki, where rates of poverty among Native Hawaiian households and use of public assistance such as the Preschool Open Doors program are higher than for other ethnic groups. Caregiver educational attainment levels may partially explain why the rate of young Native Hawaiian keiki living in poverty is the highest among their peers of other ethnic backgrounds. Recent findings show that four in every seven Native Hawaiian households are living below the ALICE (asset limited, income constrained, employed) threshold, where income levels are above the federal poverty level but below the basic cost of living (Aloha United Way 2020).

Additionally, high usage rates of public assistance benefits such as the Supplemental Nutrition Assistance Program (SNAP) (see [fig. 1.42](#)), public assistance income (see [fig. 1.40](#)), and Child Care Connection Hawai'i subsidies (see [fig. 2.18](#)) suggest that many Native Hawaiian families have difficulty financing the needs of their young children.

A prominent need in Hawai'i is obtaining early childhood care, which is costly and, for some, unaffordable—especially for ALICE households. Among families with children ages four and younger, about one in six (16 percent) were considered low income in 2017 (see [fig. 2.12](#)). For many such families, barriers to early learning are multifaceted and include, among other factors, availability, accessibility, quality, and expense. A 2017 study by the University of Hawai'i Center on the Family found that the average cost of center-based care for one child is about \$9,500 per year. This expense represents 13 percent of the Hawai'i median family income, 32 percent of the median income of a single mother, and 50 percent of the

annual minimum-wage salary for a full-time worker (DeBaryshe et al. 2017). For a Hawai'i family with an infant and a preschool-age child in center care, the average cost is nearly \$23,000 annually.

High costs for early childhood care exacerbate an already strained economic situation for many Native Hawaiian families. However, perhaps as a testament to community organizations mobilizing to support young keiki, enrollment rates of Native Hawaiian preschoolers are higher than the Hawai'i total (see "[Preschool Enrollment](#)" later in this chapter).

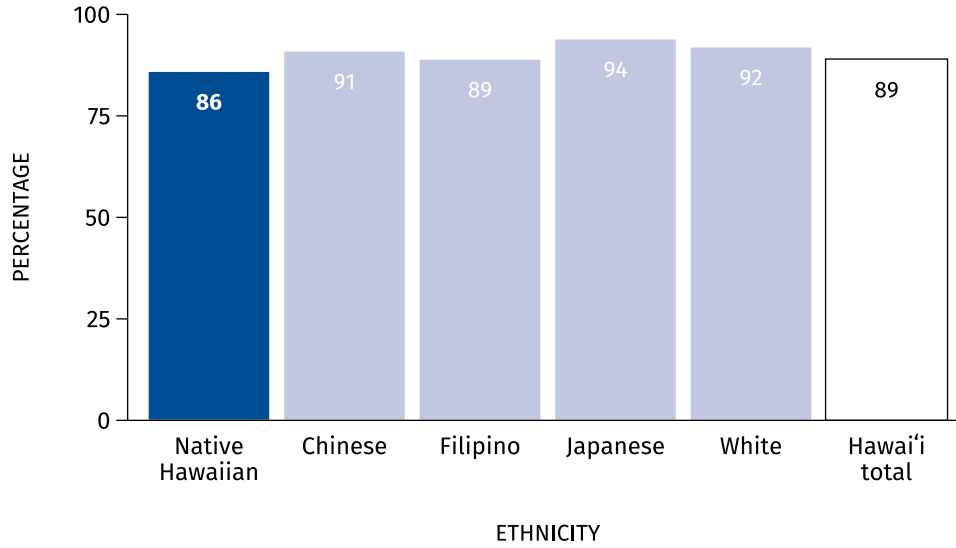
Threats to Hawai'i's economy greatly compromise the availability of quality early learning. For example, pandemics like COVID-19 can shut down 100 percent of all preschools in Hawai'i and also impact longer-term job security. Between March and April 2020, Hawai'i's seasonally adjusted unemployment rate increased from 3 to 22 percent (Gomes 2020; Kawano 2020; McAvoy 2020). Such pervasive unemployment among Hawai'i's families is likely to influence the economic resources available to support healthy development for young children.

In the following section, we examine economic indicators such as employment, income, poverty, and public investments in early learning, which influence the educational successes of young Native Hawaiian children. Overall, we see some encouraging movement toward greater potential for early learning for Native Hawaiians.

## Employment

For most families, employment is a key determinant of material and economic well-being. For Native Hawaiian 'ohana in general, relatively lower employment rates and wages are part of the context in which many children are raised (see [figs. 1.28](#) and [1.25](#)). For example, compared with their peers from other ethnicities, young Native Hawaiian children are the least likely to have a parent who works ([fig. 2.11](#)).

**FIGURE 2.11** Young children with at least one working parent  
 [as a percentage of children ages 0–4, by ethnicity, Hawai'i, 2017]



Data source: US Census Bureau, American Community Survey, Public Use Microdata Sample 5-year file

Note 1: Children, in this context, refers to “own children,” which are defined as children ages 17 and younger who have never married and are sons or daughters by birth, marriage, or adoption.

Note 2: The designation “White” in this chart refers to non-Hispanic Whites, alone or in combination with other ethnicities, as defined by the American Community Survey.

- Among Native Hawaiian children ages four and younger, 86 percent have at least one working parent—the lowest percentage among all major ethnicities in Hawai'i.
- Nearly nine out of ten young children in Hawai'i (89 percent) have at least one parent who works.

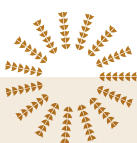


## Income and Poverty

Income is directly related to employment and is a key factor in measuring economic well-being. In the analysis below, we use the following categories to examine trends in income:

1. Livable income: annual income required to provide the basic necessities for a comfortable life (based on the concept of living wage)
2. Gap: income that is more than 185 percent of the poverty guideline, but below the threshold for a livable income
3. Low income: income between 101 and 185 percent of the poverty guideline (the cutoff used for most income subsidy benefits in Hawai'i)
4. Poverty: income at or below poverty guidelines defined by federal guidelines for Hawai'i

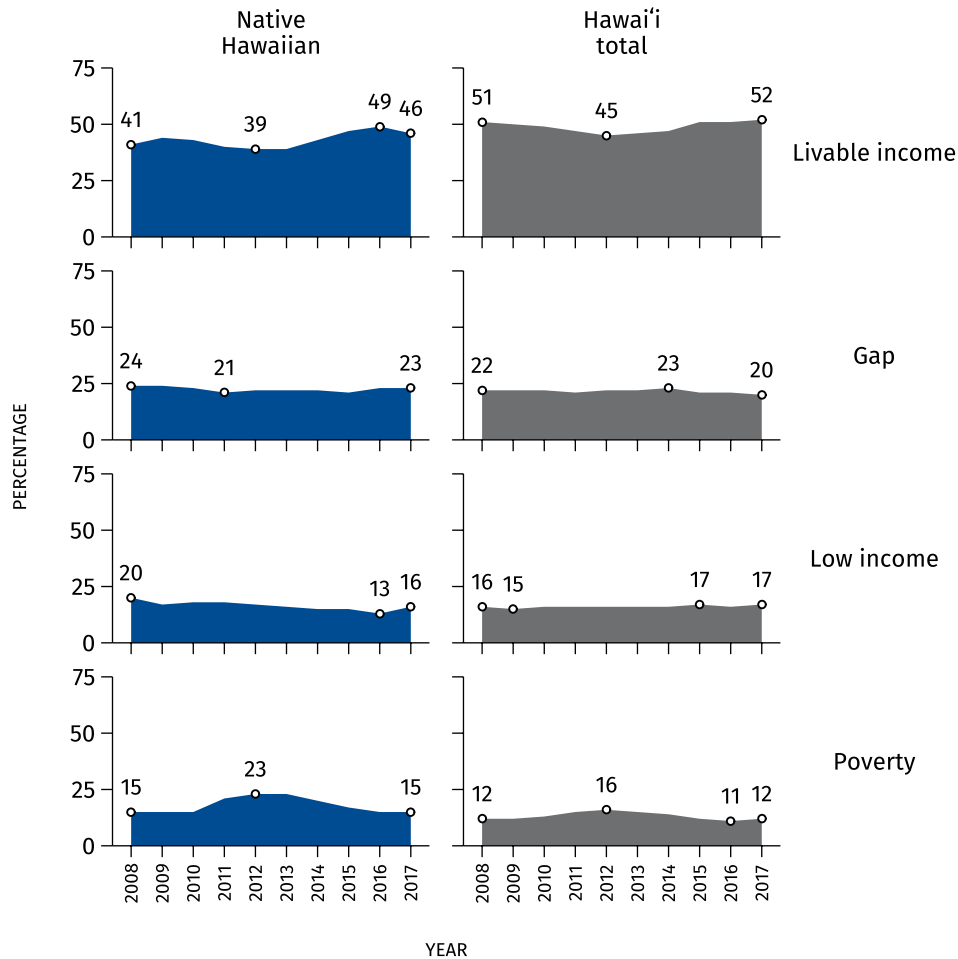
Similar to Native Hawaiian adults in general, Native Hawaiian families with young children experience disproportionately high rates of poverty. For example, from 2008 to 2017, Native Hawaiian families with children ages four and younger were consistently overrepresented in the poverty category—exceeding the Hawai'i total and the percentages of all other major ethnic groups in Hawai'i. During the same time period, Native Hawaiian families with young children experienced an upward trend in the livable income category (i.e., being able to afford basic necessities for a comfortable life); however, the proportion of such families remained significantly below the Hawai'i total (fig. 2.12).



Native Hawaiian families with young children experienced a slight upward trend in livable income, rising slowly from 41 to 46 percent between 2008 and 2017.



**FIGURE 2.12** Trends in income categories of families with young children  
 [among families with children ages 0–4, by ethnicity, Hawai'i, 2008 to 2017]



Data source: US Census Bureau, American Community Survey, Public Use Microdata Sample 1-year files

Note 1: The data include subfamilies, which are defined as families that do not maintain their own household but live in a household where the householder or householder's spouse is a relative.

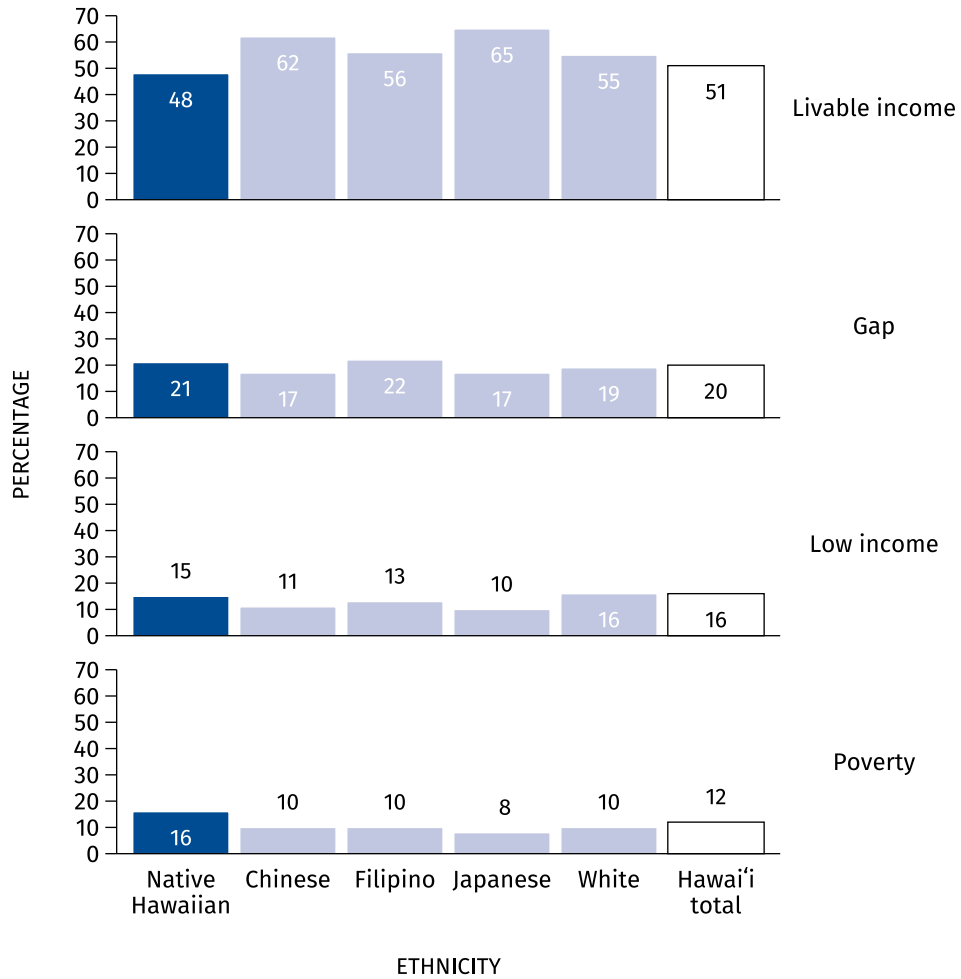
Note 2: Data labels are presented for the first and last points, the maximum and minimum points, and some inflection points where the trend changes.

- From 2008 to 2017, Native Hawaiian families with children ages four and younger experienced an upward trend in livable income rates and a downward trend in low-income rates.
- During the ten-year period from 2008 to 2017, livable income rates among Native Hawaiian families with young children were at the highest point (49 percent) in 2016.
- Among Native Hawaiian families with young children, poverty rates increased significantly (8 percentage points) from 2008 to 2012 but began to decline in 2013, reaching 15 percent in 2017—the same percentage it was in 2008.

- Among Native Hawaiian families with young children, there is an inverse relationship between poverty and livable income; for example, in 2012, when poverty rates were highest (23 percent), livable income rates were lowest (39 percent).
- Comparing families with young children across ethnic groups (not shown), Native Hawaiians were consistently underrepresented in the livable income category from 2008 to 2017 and mostly overrepresented in the poverty category.

Despite upward movement in livable income over time, poverty remains a persistent issue for Native Hawaiians as a whole. For example, when averaging the most recent five years of Census data ending in 2017, the poverty rate among Native Hawaiian families with young children (16 percent) is significantly higher than the Hawai'i total of 12 percent (fig. 2.13).

**FIGURE 2.13** Income categories of families with young children  
 [among families with children ages 0–4, by ethnicity, Hawai'i, 2017]



Data source: US Census Bureau, American Community Survey, Public Use Microdata Sample 5-year file

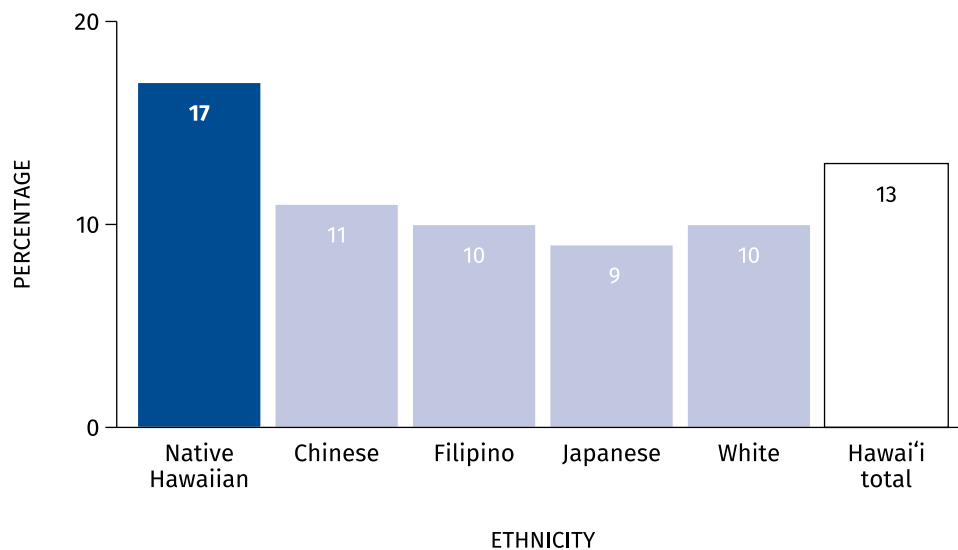
Note 1: The data include subfamilies, which are defined as families that do not maintain their own household but live in a household where the householder or householder's spouse is a relative.

Note 2: The designation "White" in this chart refers to non-Hispanic Whites, alone or in combination with other ethnicities, as defined by the American Community Survey.

- Among Native Hawaiian families with young children, the percentage of those with a livable income (48 percent) is close to the Hawai'i total (51 percent) but is the lowest among the major ethnicities in Hawai'i.
- Looking across ethnicities, Native Hawaiian families with young children have the highest rates of poverty (16 percent).

Poverty among Native Hawaiians reflects a troubling reality for our youngest keiki: 17 percent of Native Hawaiian keiki ages four and younger live in poverty (fig. 2.14), followed by 16 percent of school-age Native Hawaiian children (not shown) and 14 percent of Native Hawaiians ages fifteen and older (not shown). Overall, 10 percent of Native Hawaiian family households are impoverished (Kamehameha Schools 2019), suggesting the relative disadvantage faced by young Native Hawaiian children and underscoring the need for more jobs that pay a living wage.

**FIGURE 2.14** Young children in poverty  
[as a percentage of children ages 0–4, by ethnicity, Hawai‘i, 2017]



*Data source:* US Census Bureau, American Community Survey, Public Use Microdata Sample 5-year file

*Note 1:* The designation “White” in this chart refers to non-Hispanic Whites, alone or in combination with other ethnicities, as defined by the American Community Survey.

- Among Native Hawaiian children ages four and younger, 17 percent are in poverty—the highest rate among the major ethnicities in Hawai‘i.
- The poverty rates of young children are similar among Chinese (11 percent), Filipinos (10 percent), Whites (10 percent), and Japanese (9 percent).

## EDUCATIONAL WELL-BEING

The 'ōlelo nō'eau, "Ka 'ōpu'u pua i mōhala—*A flower that began to unfold*" (Pukui 1983, 164), which is a poetic way to refer to a baby, can be likened to the cognitive development of young keiki. Like a flower beginning to bloom into its full expression, so too do the minds of young children blossom in this critical developmental period.

Even before birth, neural connections in the brain begin to form an architecture that lays a foundation to support positive physical, cognitive, and emotional development through adulthood (Center on the Developing Child 2017). In this section, we gather available data to analyze inputs that affect the educational development of young children.

It is well documented that safe, affordable, and high-quality early childcare and learning experiences support the positive growth of young children. Quality care is marked by key effectiveness factors including "a language-rich environment, with warm and responsive serve-and-return interactions" and "structural factors, such as a safe physical setting, small group sizes, and high ratios of adults to children" (Center on the Developing Child 2016, 25). Educational settings are also transitioning to include more virtual and personalized opportunities. For example, COVID-19 catalyzed increased possibilities for online and remote learning opportunities in early childcare and preschool environments.

Regarding preschool, research strongly suggests that high-quality programming promotes school readiness (Baydar, Brooks-Gunn, and Furstenberg 1993; Magnuson, Ruhm, and Waldfogel 2007; Barnett 2011; Yoshikawa, Weiland, and Brooks-Gunn 2016). Additionally, research confirms that the benefits of preschool depend not only on children's experiences prior to preschool, but also on their experiences after, and that benefits are more likely to last if prekindergarten is followed by high-quality elementary schooling (Weiland et al. 2019). A substantial body of research identifies elements of quality among preschool and early learning programs that successfully prepare children for school (Lamy 2013; Wechsler et al. 2016). For example:

- Sufficient learning time and small class sizes with low student-to-teacher ratios
- Well-prepared teachers who provide engaging interactions and classroom environments that support learning
- Ongoing support for teachers, including coaching and mentoring, with program assessments that measure the quality of classroom interactions and provide actionable feedback for teachers to improve instruction

- Research-based, developmentally appropriate early learning standards and curricula
- Assessments that consider children’s academic, social-emotional, and physical progress and that contribute to instructional and program planning
- Meaningful family engagement (Meloy, Gardner, and Darling-Hammond 2019)

Hawaiian culture-based education, though not included in the list above, also supports the development of a keiki’s cultural identity. In a study of nearly three thousand children across Hawai’i high schools, culture-based educational strategies were linked to student educational outcomes in a set of “nested relationships,” whereby culture-based education positively impacts socioemotional well-being, which in turn positively affects math and reading test scores (Kana’iaupuni, Ledward, and Jensen 2010). As such, Hawaiian culture-based education is becoming an increasingly effective component of learning materials, processes, and family engagement for Native Hawaiian learners. For example, Hawaiian culture-based education is central to the operations of many preschools and k–12 schools serving Native Hawaiians, such as Hawaiian-focused charter schools, immersion schools, and Kamehameha Schools. Measures to gauge Native Hawaiian success and the effectiveness of Hawaiian culture-based education, including in early learning settings, are in development.

Rigorous longitudinal analyses show positive results from three small-scale, high-quality preschool programs (the Perry Preschool study, the Abecedarian study, and the Chicago Child–Parent Centers study). These studies showed that program participants, compared with students who did not participate in a quality early learning program, later experienced higher rates of high school graduation and college attendance (Campbell and Pungello 2000; Campbell et al. 2012) and completion (Reynolds, Ou, and Temple 2018), as well as improved health and reduced joblessness, crime, and teen parenthood (Barnett 1995; Muennig et al. 2011).

The following section provides an overview of early learning considerations and opportunities. Outcome and trend data are limited; however, information about enrollment and access is included, followed by a call to action to expand access to public preschool as a first step toward a statewide system for quality early childhood development and learning that serves all learners and is accessible by all families.

## Early Learning Access and Equity

A review of Hawai'i's learning system in *Our Keiki, Our Future: Hawai'i Early Childhood State Plan 2019–2024* identifies a strong foundation of existing collaborative efforts, diverse providers and settings, and established public and private sources of financial support for childcare settings. Challenges include limited access and equity (especially for vulnerable populations), regional shortages of childcare options, and workforce shortages in care (Executive Office on Early Learning 2019a). This workforce gap is perpetuated by low incentives to enter or stay in the field, with Hawai'i childcare workers earning the lowest hourly pay in the nation. For example, wages for childcare workers in Hawai'i, after adjusting for the cost of living, are approximately \$8 per hour. Preschool teachers earn about \$13 per hour, and directors of preschools or childcare centers make about \$17 per hour (Whitebook et al. 2018).

Availability and access are important considerations for childcare. Availability refers to the quantity of open seats and proximity of care options in existence. In Hawai'i, for every two children under the age of six who potentially need childcare, there is only one seat available. In effect, 65,000 children are vying for 30,706 open seats (Child Care Aware of America 2019). Taking a look across all licensed facilities in Hawai'i, enrollment in 2019 was near full desired capacity at 93 percent (PATCH 2019), signaling healthy demand and dwindling supply.

Geographic areas with a limited availability of childcare options are referred to as “childcare deserts.”<sup>7</sup> Compared with other states across the nation, Hawai'i has the third-highest share of families living in childcare deserts (68 percent), with low-income families being disproportionately impacted (Malik et al. 2018). This deficit points to the well-known absence of licensed infant-toddler childcare centers available in rural areas, including Kaua'i, Moloka'i, and Lāna'i (Executive Office on Early Learning 2019a). These data suggest that greater public investment in Hawai'i's early learning landscape is a pressing need to ensure greater equity for all young learners.

Compounding scarce availability, access can be an even greater barrier for families with limited economic, time, and social resources. In this context, access refers to the ability of families to enroll their child in a program of their choice. Options for and access to specialized care are especially limited for children with special needs, such as mental and/or behavioral challenges. Taken together, a lack of program availability, in addition to barriers to access, results in families needing to make difficult choices between limited care options.

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<sup>7</sup> A childcare desert is any census tract with more than fifty children ages five and younger that contains either no childcare providers or so few options that there are more than three times as many children as licensed childcare seats.



Program types include both licensed and unlicensed: family childcare (family or group home care), center-based childcare (before- and after-school programs), family–child interaction learning programs, public or private preschool, and other initiatives that provide opportunities to learn and enhance kindergarten readiness.

Family childcare (FCC) providers may care for up to six children at a time from their own home. In many communities across Hawai‘i, this type of care is the only option for parents needing infant-toddler, evening, or weekend care. The University of Hawai‘i Center on the Family estimates that licensed FCC providers care for more than 2,400 keiki statewide, and more than three in four providers have a wait list. While less expensive than center care, the average cost for FCC is just under \$8,000 a year—the equivalent of 76 percent of the annual undergraduate tuition at UH–Mānoa (DeBaryshe et al. 2017b).

Center-based childcare includes both infant-toddler centers (serving children ages six weeks to two years old) and group childcare centers (serving children ages two through five). Roughly 12 percent of center seats in Hawai‘i are federally funded as part of the Head Start or Early Head Start programs, which serve children living in poverty (DeBaryshe et al. 2017). However, for the vast majority of families who do not qualify for assistance, affording this type of care may be out of reach. Hawai‘i leads the nation in having the least affordable center-based care (Schulman and Blank 2016), averaging about \$9,500 a year, with annual tuition for infant care exceeding \$13,000 (DeBaryshe et al. 2017). Despite high costs to families, there still exists a shortage in the number of infant-toddler center seats available for children under age three—a wait list of thirty-seven children per every available seat (DeBaryshe et al. 2017a).

Family–child interaction learning (FCIL) programs are offered free of charge and provide a high-value, part-time alternative to other forms of early learning. In this model, parents are considered the child’s first teacher, and young keiki and their family members attend group meetings twice a week (for a total of four to six hours). The family strengthening program model mirrors its name in encouraging simultaneous parent participation and child learning.

FCILs in Hawai‘i serve more than 3,400 young children, representing about 3 percent of the total early childhood population. Many FCILs target families who are low income, immigrant, or homeless. FCILs also serve a large proportion of Native Hawaiians, with meeting sites located predominantly in areas with a high concentration of Native Hawaiians (DeBaryshe et al. 2017c). Programming in FCIL programs tends to include Native Hawaiian cultural content, suggesting that these programs may be an important community asset that can provide insights on the needs and learning capabilities of young keiki and their families.

Program evaluations of Tūtū and Me, a well-established FCIL program of Partners in Development Foundation, suggest program efficacy, with graduates exhibiting gains in both language and engagement scores (Porter and Vuong 2008) and, more recently, showing that 97 percent of 2019 graduates met all Hawai'i State School Readiness Assessment benchmarks (Ray 2019). Another program called Keiki Steps, administered by INPEACE, reports that 95 percent of its 2019 graduates met the majority of the Hawai'i State School Readiness Assessment benchmarks (INPEACE 2020).

Public and private preschools offer a relatively structured learning environment, with the latter posing significant cost barriers. A 2019 tuition report reveals prekindergarten tuition costs for private schools across Hawai'i range from \$5,000 to \$30,000 annually (Hawai'i Association of Independent Schools 2019).

Many families in Hawai'i struggle to find preschool options that are affordable and available in their community. In addition, the number of preschool applicants is often higher than the number of available seats. These limitations result in only 46 percent of three- and four-year-olds in Hawai'i attending preschool (see [fig. 2.15](#)). Among four-year-olds, preschool enrollment is higher, at 60 percent, but still falls far short of access for all. Equitable access is especially challenging in rural areas across Hawai'i, where the largest gaps exist (see [table 2.2](#)). The establishment of a universal prekindergarten system may be a viable solution to this issue. Evidence suggests that investment in universal prekindergarten can yield strong economic growth (Dickens, Sawhill, and Tebbs 2006) and cognitive gains (Gormley et al. 2005). Additionally, it may reduce inequities for vulnerable communities and at-risk children whose access to any kind of early learning may be limited or nonexistent. One effort that addresses such inequities, in the absence of universal prekindergarten in Hawai'i, is Ka Pa'alana, a unique model of accredited preschool programs for homeless families that provides services at beach sites and campgrounds and serves about five hundred homeless and at-risk young children and caregivers annually (*Hawai'i Tribune Herald* 2019).

At the national level, states vary in their application of universal prekindergarten and their capacity to support every eligible child. For prekindergarten to be considered fully universal, every child must be able to enroll, with virtually all doing so. According to the Education Commission of the States, fully universal prekindergarten programs exist only in Florida, Vermont, and the District of Columbia; states that have mostly universal prekindergarten programs include Georgia, Illinois, Iowa, New York, Oklahoma, West Virginia, and Wisconsin (Parker, Diffey, and Atchison 2018). As more states move toward implementing and studying statewide preschool programs, research on their long-term impacts will continue to grow. Currently, "the available evidence about the long-term effects of state pre-k programs offers some promising potential but is not yet sufficient to support confident overall and general conclusions about long-term effects" (Phillips et al. 2017, 27).

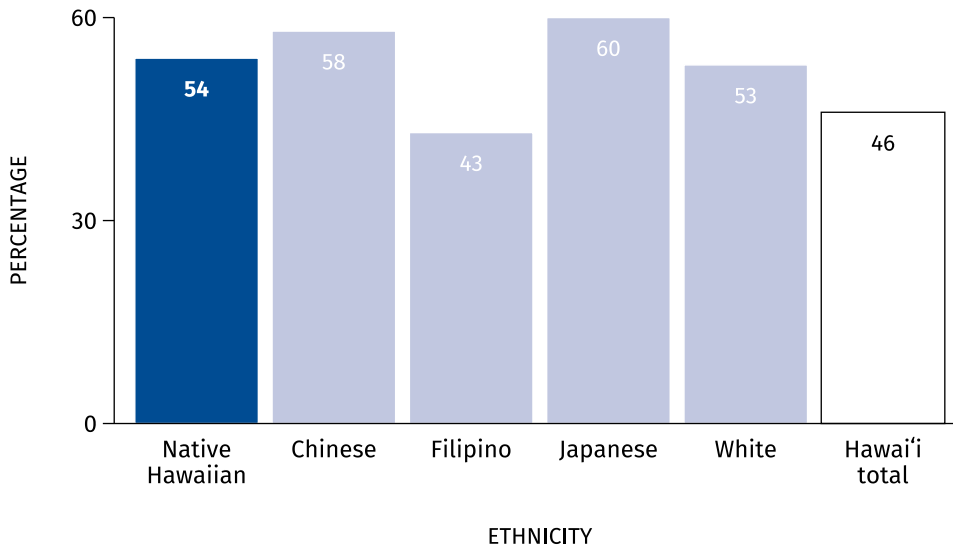
While Hawai'i does not yet have universal prekindergarten, forward progress is evident through efforts such as the 2012 establishment of the Executive Office on Early Learning and the collaborative development of *Our Keiki, Our Future: Hawai'i Early Childhood State Plan 2019–2024*. The five-year plan focuses on supporting keiki, from prenatal through their eighth year, and complements proposed legislation (House Bill 2543, "Access to Learning") to expand affordable childcare so that, "by the end of this decade . . . every three- and four-year-old in Hawai'i [will] have the opportunity to attend a childcare or preschool program" (Ige 2020). As of this writing, this bill has been delayed due to COVID-19 and the resulting disruption of the 2020 legislative session.

Charged with "developing an early learning system that shall ensure a spectrum of high-quality, developmentally appropriate early learning opportunities for Hawai'i's children throughout the state" (Moriguchi 2019, 1), the Executive Office on Early Learning launched Hawai'i's first publicly funded prekindergarten program in fall 2014. As of this writing, the program serves 880 students in the year prior to their kindergarten eligibility and operates across forty-four prekindergarten classrooms statewide in partnership with the Hawai'i Department of Education (DOE) and the Hawai'i Public Charter School Commission (Executive Office on Early Learning 2019b). In the most recent school year (2019–20), 439 students were served in Hawai'i DOE schools (an increase from the prior year's enrollment of 426), with 231 students served in charter schools (Moriguchi 2019). Ongoing programmatic challenges include an absence of extended or after-school care and a shortage of DOE-licensed staff to accommodate expansion statewide.

## Preschool Enrollment

With this backdrop of a universal early learning system under development in Hawai'i, we now turn to a review of preschool enrollment figures. Many things play into the decision of whether to enroll a child in preschool, including affordability, accessibility, and availability of seats. A Kamehameha Schools study finds that parental educational attainment, income, ethnicity, and the presence of caregivers at home are all correlated with preschool enrollment in Hawai'i. These variables do not represent all the factors affecting preschool enrollment but are considered to be the strongest predictors (Kamehameha Schools 2017). Recent data indicate that 54 percent of young Native Hawaiian keiki enroll in preschool, compared with the Hawai'i total of 46 percent (fig. 2.15).

**FIGURE 2.15** Preschool enrollment  
[as a percentage of children ages 3–4, by ethnicity, Hawai'i, 2017]



*Data source:* US Census Bureau, American Community Survey, Public Use Microdata Sample 5-year file

*Note 1:* The designation “White” in this chart refers to non-Hispanic Whites, alone or in combination with other ethnicities, as defined by the American Community Survey.

- Among Native Hawaiian three- and four-year-olds, more than half (54 percent) are enrolled in preschool.
- Filipino three- and four-year-olds have the lowest preschool enrollment rate (43 percent) among the major ethnicities in Hawai'i.
- The rates of preschool enrollment among Chinese and Japanese children are the highest in Hawai'i.

Trend data from 2008 to 2017 show a similar pattern, with Native Hawaiian preschool enrollment higher than the Hawai'i total but generally lower than that of other major ethnicities (except Filipinos). Looking at the ten-year period as a whole, preschool enrollment among Native Hawaiian keiki was relatively stable, increasing slightly from 51 to 52 percent between 2008 and 2017. Over a shorter time frame, from 2009 to 2015, there was a pronounced increase in Native Hawaiian preschool enrollment—perhaps resulting from collective efforts during those years as public and private collaborators worked together to address gaps in Native Hawaiian early childhood education—but these gains subsided, resulting in a downward trend from 2015 to 2017. Even at the highest point of Native Hawaiian preschool enrollment, nearly half of all keiki did not access preschool education (fig 2.16).

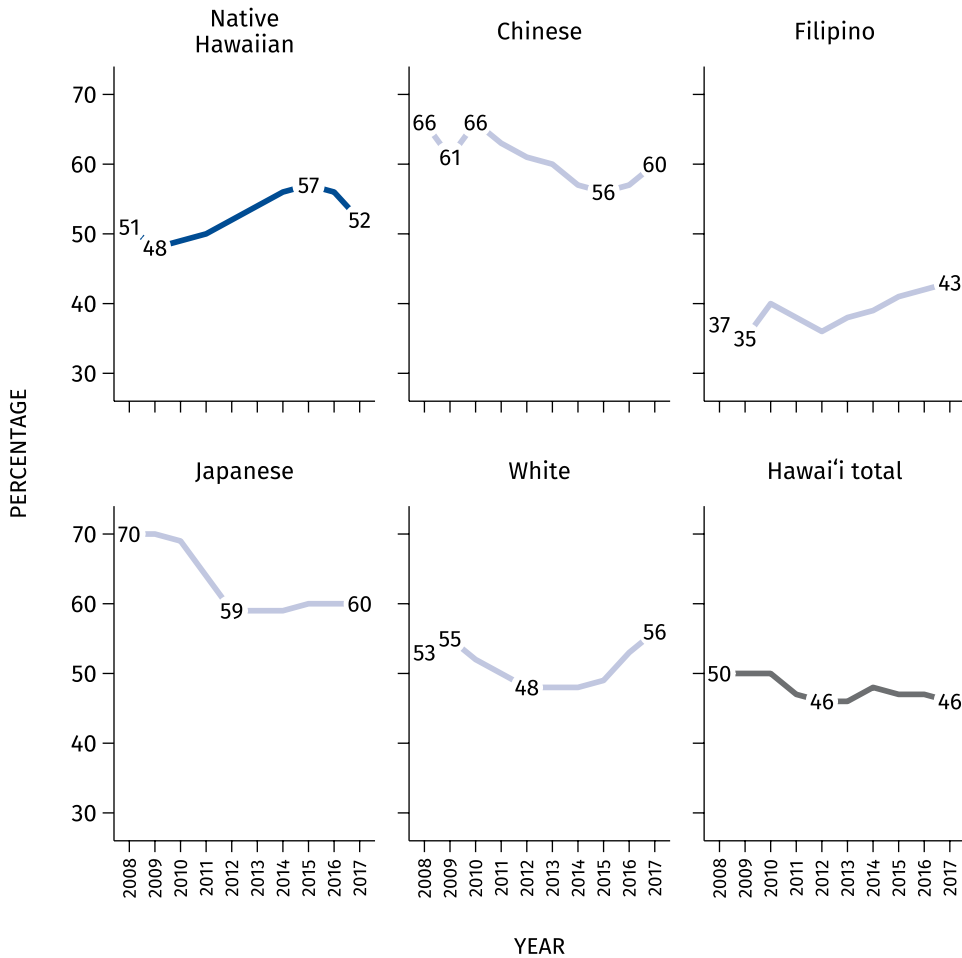
Among Hawai'i's other major ethnic groups, trends in preschool enrollment have varied over time. For example, enrollment rates of Chinese and Japanese<sup>8</sup> preschoolers trended downward over the past decade, while Whites trended upward and Filipinos realized gains (fig. 2.16).

When looking specifically at ethnicity, 39 percent of all preschoolers in Hawai'i are Native Hawaiian, with White being the most common ethnicity (fig. 2.17).

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<sup>8</sup> We are not able to explain the notable decline in enrollment among Japanese preschoolers in Hawai'i. It could be related to a variety of factors (e.g., parental educational attainment, income, presence of caregivers in the home, and the affordability, accessibility, and availability of preschool seats). In examining parental educational attainment specifically, we find that Japanese college completion rates are among the highest in Hawai'i and are rising, making the decline in preschool enrollment seem counterintuitive.

**FIGURE 2.16 Trends in preschool enrollment**  
 [as a percentage of children ages 3–4, by ethnicity, Hawai'i, 2008 to 2017]



Data source: US Census Bureau, American Community Survey, Public Use Microdata Sample 1-year files

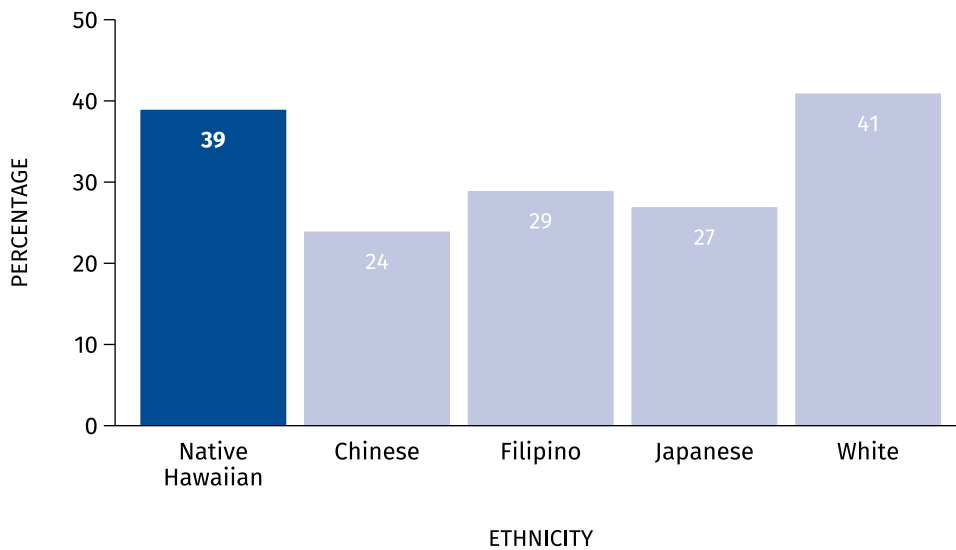
Note 1: The designation “White” in this chart refers to non-Hispanic Whites, alone or in combination with other ethnicities, as defined by the American Community Survey.

Note 2: Data labels are presented for the first and last points, the maximum and minimum points, and some inflection points where the trend changes.

- Comparing 2008 with 2017, preschool enrollment among Native Hawaiian three- and four-year-olds did not change significantly.
- Starting in 2009, preschool enrollment among Native Hawaiian keiki began a significant upward trend, reaching a high point of 57 percent before declining from 2015 to 2017; during the same three-year period, preschool enrollment among other major ethnicities increased or remained steady.
- Although enrollment rates among Japanese preschoolers are relatively high, the percentage of Japanese children enrolled in preschool decreased from 69 to 59 percent between 2010 and 2012.

- In 2008, Native Hawaiian preschool enrollment was comparable to the Hawai'i total; however, by 2017 there was a difference of 6 percentage points, with 52 percent of Native Hawaiian keiki enrolled in preschool, compared with the Hawai'i total of 46 percent.
- Compared with other ethnicities, Filipinos realized the greatest gains (6 percentage points) in preschool enrollment from 2008 to 2017.

**FIGURE 2.17** Ethnicity of preschoolers  
[as a percentage of children enrolled in preschool, Hawai'i, 2017]



*Data source:* US Census Bureau, American Community Survey, Public Use Microdata Sample 5-year file

Note 1: These percentages represent a distribution; the total percentage exceeds 100 percent, because children who have more than one ethnicity are counted in multiple ethnic groups.

Note 2: The designation "White" in this chart refers to non-Hispanic Whites, alone or in combination with other ethnicities, as defined by the American Community Survey.

- Among children enrolled in preschool, 39 percent are Native Hawaiian—the second-most common ethnicity of all preschoolers in Hawai'i.
- The most common ethnicity of preschoolers in Hawai'i is White (41 percent).

## PRESCHOOL ENROLLMENT—REGIONAL HIGHLIGHTS

Across regions, out of all Native Hawaiian children ages zero to four, the greatest proportion (21 percent) reside in Central O'ahu. Central also has the highest proportion (20 percent) of all Native Hawaiian keiki enrolled in preschool. Comparing regions, North Shore and Kaua'i have much smaller proportions of the overall population of Native Hawaiian keiki enrolled in preschool (4 percent and 3 percent, respectively) (table 2.2). In general, research shows that childcare availability varies greatly by location and is less available in rural areas and Kaua'i, Moloka'i, and Lāna'i (DeBaryshe et al. 2017).

**TABLE 2.2** Regional distribution of young Native Hawaiian children and preschool enrollment  
[number and percentage of Native Hawaiian children ages 0–4, and number and percentage of Native Hawaiian children in preschool, by region, Hawai'i, 2015]

Region	Native Hawaiian children ages 0–4		Native Hawaiian children enrolled in preschool	
	Number	Percentage ages 0–4	Number	Percentage enrolled
East Hawai'i	3,138	10	861	11
West Hawai'i	2,882	10	819	10
Maui	3,778	13	1,142	14
Honolulu	4,303	14	1,282	16
Windward	3,421	11	1,021	12
North Shore	1,742	6	335	4
Central	6,290	21	1,652	20
Leeward	3,160	10	799	10
Kaua'i	1,456	5	276	3
Total	30,170	100	8,187	100

Data source: US Census Bureau, American Community Survey, Selected Population Tables

- Native Hawaiian preschool enrollment in each region is mostly proportionate to that region's population of young Native Hawaiian keiki ages zero to four.
- Among all Native Hawaiian keiki ages zero to four in Hawai'i, slightly more than one in five (21 percent) live in the Central region—approximately the same as Central's proportion of all Native Hawaiian keiki enrolled in preschool (20 percent).
- Nearly two-thirds (62 percent) of all Native Hawaiian children ages zero to four—and of all Native Hawaiian preschoolers—live on O'ahu (combining percentages from five regions).
- One-fifth (20 percent) of all Native Hawaiian children ages zero to four live on Hawai'i Island; slightly more than one-fifth (21 percent) of all Native Hawaiian preschoolers live on Hawai'i Island (combining percentages from two regions).

In sum, our findings show that preschool enrollment among Native Hawaiian keiki exceeds that of the Hawai'i total. Slightly more than half (52 percent) of all Native Hawaiian three- and four-year-olds were enrolled in preschool in 2017—similar to enrollment rates in 2008. Out of all Native Hawaiian keiki enrolled in preschool, the largest proportion is in Central O'ahu.



## Preschool Outcomes

Because Hawai'i does not have a universal preschool system with shared measures of success, data collection and monitoring vary from program to program and over time, making preschool outcomes difficult to quantify. However, there are encouraging results from Hawai'i's first publicly funded prekindergarten program that was initiated in 2014 at eighteen Hawai'i DOE schools by the Executive Office on Early Learning.

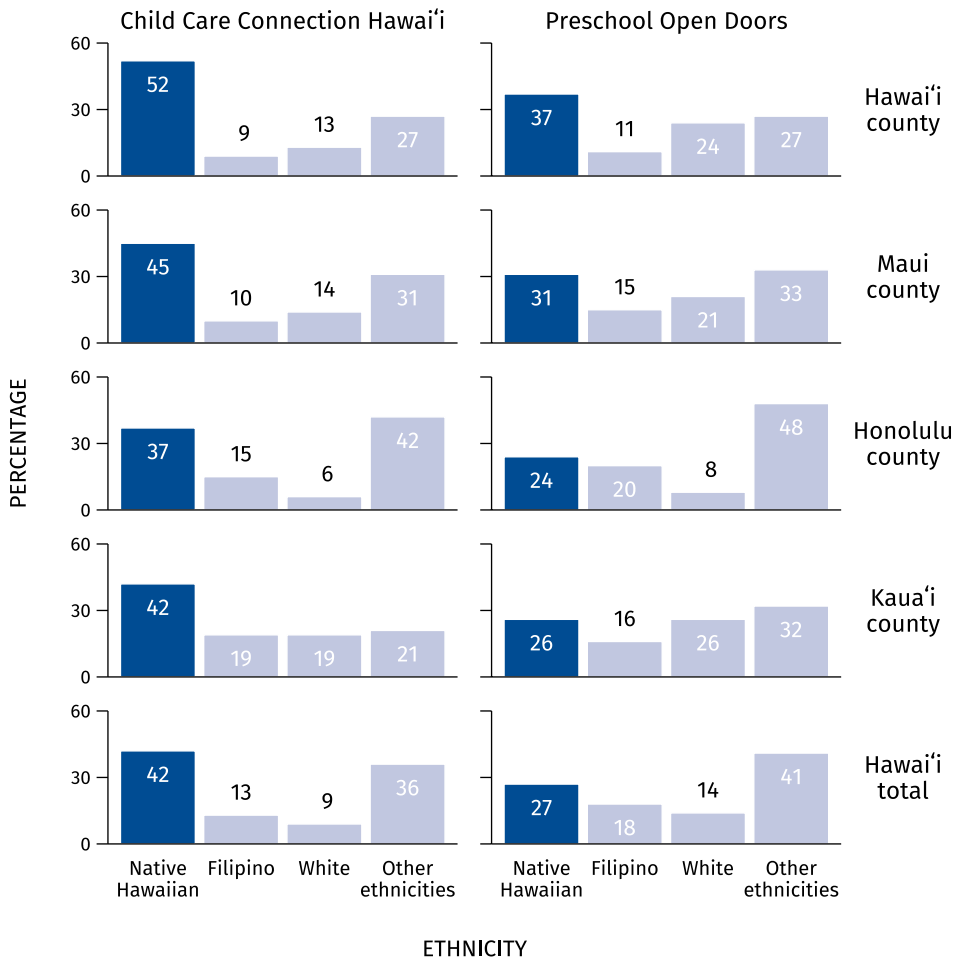
A study by the Hawai'i P-20 Partnerships for Education found that participants in the public prekindergarten program for school year 2014–15 were more likely to meet or exceed standards on third grade standards-based assessments and remain enrolled at the same school from kindergarten to third grade, compared with their peers at the same elementary school who did not participate in the program. Results among Native Hawaiian students mirror these statewide findings, with Native Hawaiian participants scoring 6 percentage points higher in meeting or exceeding English standards by grade three, and 3 percentage points higher in math standards. Although these are preliminary findings from only one year of implementation without controlling for prior prekindergarten experiences, findings illustrate the potential for positive cognitive development outcomes associated with early learning (Hawai'i P-20 Partnerships for Education 2020).

## Public and Private Investments in Early Learning

The urgent need for quality early learning programs in Hawai'i has been articulated by the Hawai'i Early Learning Advisory Board and Connors-Tadros et al. (2012), emphasizing that the Hawai'i DOE and other state agencies are committed to coordinating funding. Despite progress over the past decade, including the formation of Hawai'i's Executive Office on Early Learning, only 46 percent of Hawai'i's three- and four-year-olds attend preschool (see [fig. 2.15](#)). Because more than half of Hawai'i's children do not attend preschool, a closer examination of public and private options and support is warranted, including funding resources for preschool.

Affordability of early learning for Native Hawaiians is a goal shared among public officials and organizations statewide. One such effort to increase access to early learning opportunities for families in need is the Preschool Open Doors program, a subsidy program offered through the Department of Human Services Child Care Connection Hawai'i program. While the program provides subsidies to families with children ages twelve and younger (or, in some cases, up to age eighteen if the child is unable to perform self-care and lives with their parents or caretakers), Preschool Open Doors supports school readiness by providing subsidies for young children to attend a licensed childcare program (including preschools) during the year prior to kindergarten. About one-fourth of Preschool Open Doors participants are Native Hawaiian, with the highest proportion of Native Hawaiian participants (37 percent) in Hawai'i county ([fig. 2.18](#)). Focused attention and collaborations such as these, as well as public-private initiatives, may contribute to expanded and more accessible options for early learning.

**FIGURE 2.18** Ethnic distribution of childcare and preschool subsidy recipients—county comparison [by program, ethnicity, and county, Hawai'i, 2017]



Data source: Hawai'i Department of Human Services, Benefit, Employment, and Support Services, via special request by Kamehameha Schools (years 2015, 2016, and 2017 combined)

- For the Preschool Open Doors program, Native Hawaiians represent slightly more than one-quarter of all program participants—27 percent of the Hawai'i total.
- Across counties, Hawai'i county has the highest proportion of Native Hawaiian participants (37 percent) in the Preschool Open Doors program.
- For Child Care Connection Hawai'i recipients, Native Hawaiians represent 42 percent of the Hawai'i total—the highest proportion among Hawai'i's major ethnicities.
- In Hawai'i county, more than half (52 percent) of Child Care Connection Hawai'i recipients are Native Hawaiian.

Scholarships and financial aid are additional mechanisms to expand options for Native Hawaiian 'ohana and increase access to preschools. For example, about four thousand young Native Hawaiian keiki receive preschool scholarships, financial aid, and subsidies from Kamehameha Schools each year. This impacts about one-third of the total population

of Native Hawaiian three- and four-year-olds, contributing to the high representation of Native Hawaiian keiki among the preschool-attending population. Kamehameha Schools' substantial contributions toward early learning also include public and private collaborations and investments in FCILs.

Affordable and subsidized early learning opportunities have a direct benefit to families and society as a whole. For example, when children are enrolled in early learning, parents have the option to return to work—potentially strengthening the workforce, increasing savings, and decreasing reliance on social services and remediation. Such conditions open avenues for enhanced formal and informal learning opportunities for keiki, supporting greater educational gains over time.

On the whole, there has been notable progress in Hawai'i in increasing access to early childhood programs, especially through the establishment of the Early Learning Board and continued expansion of prekindergarten classrooms under the five-year *Hawai'i Early Childhood State Plan* enacted in 2019. However, even with increased access, families still experience deep equity gaps that need to be addressed to provide choice and expanded opportunities for our youngest learners to grow and thrive. To do this, existing tools can be implemented and optimized, and resources can be leveraged collaboratively. This includes:

- Expanding public and private funds to increase the number of public preschool programs and classrooms to support high-quality learning opportunities, including in rural and remote areas, eliminating childcare deserts
- Streamlining need-based financial assistance for childcare via Department of Human Services' Child Care Connection Hawai'i and Preschool Open Doors
- Allocating state funding for multigenerational programs that bring together young keiki, caretakers, and elders
- Expanding high-quality early learning opportunities throughout Hawai'i with availability to adequately provide families with options, especially those in rural communities
- Developing pathways for early childhood educators within higher education institutions
- Strengthening the current workforce, in collaboration with the business community, to give families greater ability to direct resources toward early learning
- Engaging philanthropic support for collaborative community-driven and system-building efforts in early learning

Overall, it is clear that young children need rich, engaging, and high-quality experiences in preschool and subsequent grades that capitalize on their readiness to learn so that they make meaningful gains.

## PHYSICAL WELL-BEING

The healthy development of young keiki hinges in large part on the physical health and well-being of their parents and immediate caregivers and surroundings. Socioeconomic status, lifestyle, environment, genetics, history, and social environments have been shown to impact the development, educational achievement, and overall well-being of young children throughout all life stages (Adler and Newman 2002; Huynh et al. 2005; Poston, Harthoorn, and van der Beek 2011; Stephenson et al. 2018).

Research has shown that maternal health conditions prior to conception, such as the absence of asthma, diabetes, high blood pressure, and stress (Hayes et al. 2014), as well as actively abstaining from alcohol, drugs, and cigarettes, are linked to positive childbirth outcomes, including a healthy birthweight (Denny et al. 2012; Hayes et al. 2014) and reduction of infant mortality (Hirai et al. 2013), a widely used indicator of overall population health. Our findings show that in Hawai'i, Native Hawaiian adults are disproportionately affected by diabetes and high blood pressure (see [figs. 1.69](#) and [1.71](#)). Furthermore, maternal health measures such as obesity and substance use are higher among Native Hawaiian women who gave birth than the Hawai'i total. These aspects of maternal health and physical well-being are an important part of the multidimensional influences affecting our youngest keiki.

Timely prenatal care is essential to healthy child development (Kahn et al. 2002). Research demonstrates that prenatal care during the first trimester of pregnancy improves the chances of survival for the fetus, helps to ensure the good health of the mother, and enhances child development (US Public Health Service 1989). Our findings indicate that prenatal care for Native Hawaiian women—although not as prevalent as it is for some ethnicities in Hawai'i—is generally on par with the Hawai'i total in terms of timely and adequate care.

Receiving perinatal care during the weeks preceding and following birth has positive impacts on the physical health of both mother and child and is linked to health and behavioral developmental gains for children (Kahn et al. 2002).

The following analysis describes some of the conditions that set the stage for early childhood development among Native Hawaiian keiki. Overall, we find several areas of parity, where indicators for Native Hawaiian women are similar to Hawai'i totals, such as prenatal care, alcohol consumption and use of illicit drugs during pregnancy, abortion rates, preterm deliveries, normal birthweight, and postpartum depression. There is a downward trend in infant mortality among Native Hawaiians; however, disproportionate rates of death among

Native Hawaiian infants persist. Areas of concern for Native Hawaiian maternal health include obesity, unintended pregnancies, binge drinking and smoking during pregnancy, and low rates of breastfeeding.

In the analyses that follow, we examine factors that influence the physical well-being of young children by comparing maternal characteristics (e.g., ethnicity, age, prenatal care) and birth outcomes (e.g., preterm birth, infant deaths, birthweight, and breastfeeding) of Native Hawaiian women against the Hawai'i total. Similarities between Native Hawaiians and the Hawai'i total can be partially explained by the fact that Native Hawaiian births constitute more than one-third of all births in Hawai'i. Thus, data on Native Hawaiian mothers may heavily inform statewide findings.

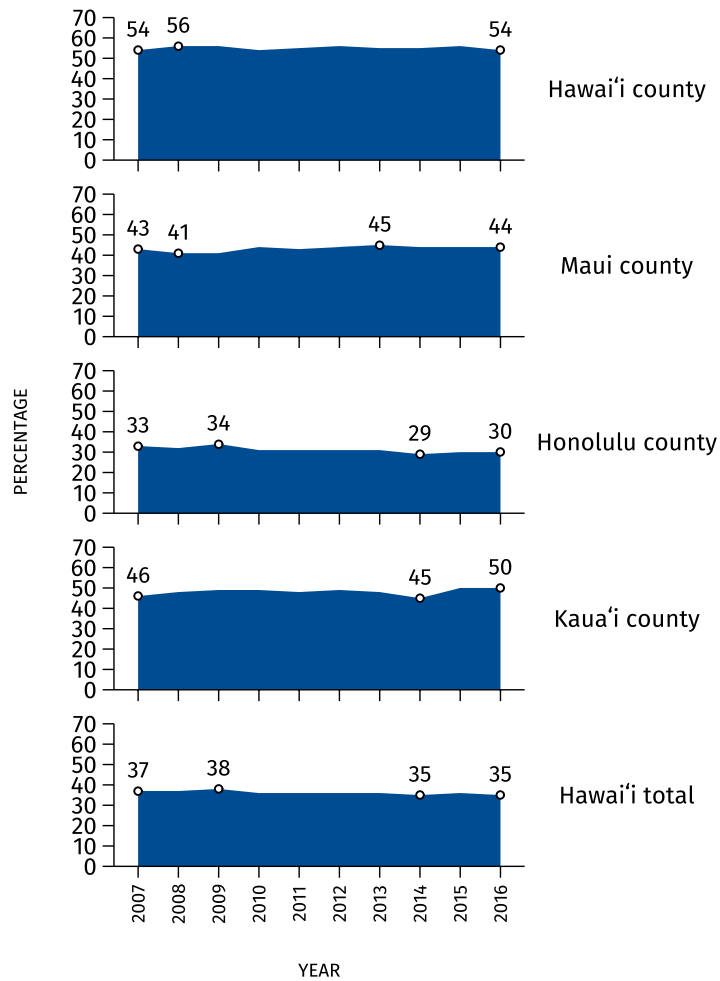
## Maternal Characteristics

The Office of Hawaiian Affairs (2018) notes that Native Hawaiian wāhine, or women, play an essential role in nurturing both keiki and the lāhui (nation, people) through the unique mana they possess as wāhine. Monitoring maternal characteristics can help anticipate changes in well-being for subsequent generations. “When one of us [wāhine] is well, in balance and full of ola [life], and eight of us, and four thousand of us, so too shall [be] our ‘ohana, our Hawaiian communities and our lāhui” (Office of Hawaiian Affairs 2018, 118).

Maternal characteristics such as age of childbearing and ethnicity highlight differences among racial groups and demographics. From a demographic perspective, women who give birth at younger ages may delay their career and education progression, which impacts their current and future income and employment status. For example, women with college degrees tend to have children an average of seven years later than women without and focus on education completion and career establishment before having children (Bui and Miller 2018). From a cultural perspective, there may be additional implications for Native Hawaiians with regard to the decision to start a family later in life, such as the time available for kūpuna to spend with their mo'opuna—a scenario that could affect some of the known benefits of grandparent–grandchild interaction.

Based on the Hawai'i total in 2016, more than one-third (35 percent) of all births in Hawai'i are to Native Hawaiian mothers (fig. 2.19), followed by 21 percent among “other” ethnicities and 19 percent among Whites (not shown). There is variation from county to county in the proportion of births attributed to Native Hawaiian women. For example, in 2016, out of the 2,341 total births in Hawai'i county, 1,265 (54 percent) were to Native Hawaiian women, compared with 30 percent in Honolulu county (fig. 2.19).

**FIGURE 2.19** Trends in Native Hawaiian mothers who gave birth—county comparison  
 [as a percentage of all births, by county and year, Hawai'i, 2007 to 2016]



Data source: Hawai'i Department of Health, *Vital Statistics Report*, Hawai'i Health Data Warehouse, Office of Health Status Monitoring, 2018

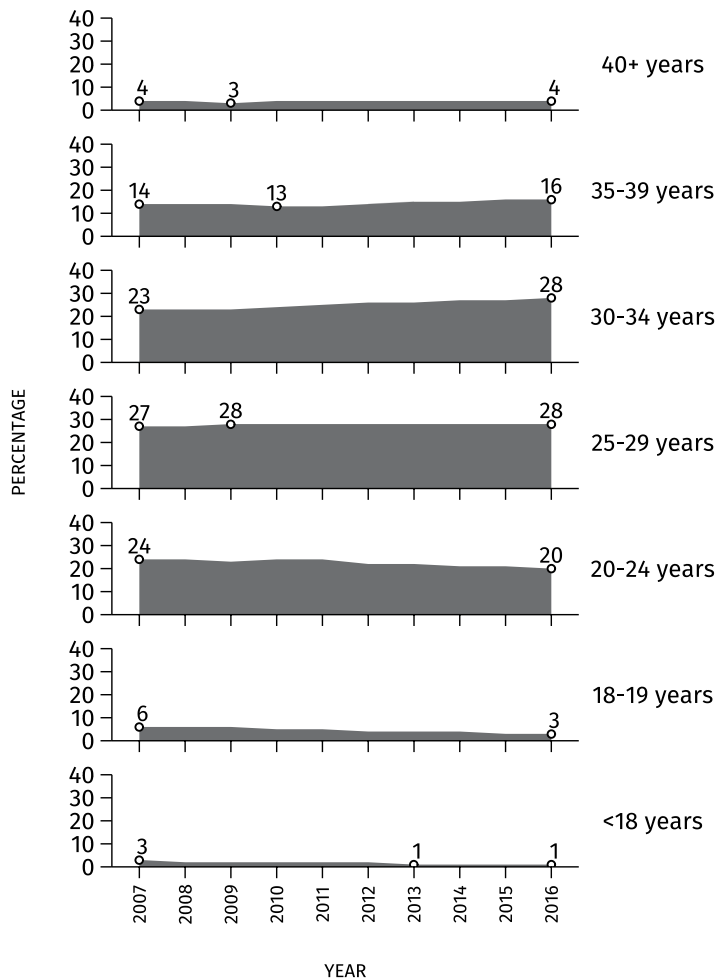
Note 1: These percentages are based on actual counts, not sample data.

Note 2: Data labels are presented for the first and last points, the maximum and minimum points, and some inflection points where the trend changes.

- For the Hawai'i total, approximately one-third (35 percent) of all births in 2016 were to Native Hawaiian women—a slight decrease from the 2007 rate (37 percent).
- From 2007 to 2016, Honolulu county consistently had the lowest rate of Native Hawaiian mothers who gave birth, while Hawai'i county consistently had the highest rate.
- Of all births in Hawai'i between 2007 and 2016, the most common ethnicity of women who gave birth was Native Hawaiian (not shown).

The ages at which women give birth in Hawai'i mirror national (Mathews and Hamilton 2016) and international trends (Organisation for Economic Co-operation and Development 2019), suggesting that women are waiting longer to have children. For example, out of all births in Hawai'i, the percentage of births to women ages thirty to thirty-four increased from 23 to 28 percent between 2007 and 2016. Conversely, giving birth at age twenty-four and younger is becoming less common, declining from 24 to 20 percent over the same period of time (fig. 2.20).

**FIGURE 2.20** Trends in the age of mothers at childbirth  
[as a percentage of all births, by year, Hawai'i, 2007 to 2016]



Data source: Hawai'i Department of Health, *Vital Statistics Report*, Hawai'i Health Data Warehouse, Office of Health Status Monitoring, 2018

Note 1: These percentages are based on actual counts, not sample data.

Note 2: Data labels are presented for the first and last points, the maximum and minimum points, and some inflection points where the trend changes.

- On the whole, women in Hawai'i are increasingly likely to give birth at older ages.
- From 2007 to 2016, there was an increase in the proportion of births to women in their thirties; during the same span of years, there was a decrease in the percentage of births to women ages twenty-four and younger.
- Compared with other age groups, women ages thirty to thirty-four saw the greatest increase (5 percentage points) in the proportion of births from 2007 to 2016.

Based on county-level data sources from the Hawai'i Department of Health in 2018, Maui shows the greatest increase in the proportion of births to women ages thirty to thirty-four, rising from 21 to 29 percent between 2007 and 2016. Hawai'i county—which has a high concentration of Native Hawaiians—has a relatively greater proportion of women giving birth at younger ages. Among Native Hawaiians specifically, the majority of births (56 percent) are to women in their twenties, and teenage births are more prevalent than they are among Hawai'i's other ethnicities (not shown).

In the analyses that follow, we present select measures of maternal health and behavioral characteristics that are tracked by the Hawai'i Pregnancy Risk Assessment Monitoring System (PRAMS), a population-based data surveillance system.

## PRECONCEPTION OBESITY

Native Hawaiian mothers have the second-highest rate of preconception obesity (28 percent), which is significantly higher than the Hawai'i total (19 percent) (Hawai'i PRAMS 2019). Preconception obesity is associated with pregnancy complications including hypertension, diabetes, preeclampsia, increased cesarean delivery rates, and a range of other multi-generational impacts. For example, children born to obese mothers are also more likely to experience obesity as they grow older, and daughters born to obese mothers are more likely to experience diabetes and obesity during their own pregnancies (Zeng et al. 2010). In Hawai'i, preconception obesity is also correlated with poverty, meaning that higher poverty generally equates to higher likelihood of preconception obesity (Hawai'i PRAMS 2019). This has negative implications for young Native Hawaiian keiki, given that Native Hawaiians, on average, face disproportionate rates of poverty and obesity (see [figs. 1.34](#) and [1.61](#)).

## PRENATAL SUBSTANCE USE

Prenatal substance use such as alcohol consumption, smoking, and drug abuse has detrimental effects on mothers and their children. Data from 2015 show that Native Hawaiian women are more likely to report binge drinking prior to pregnancy (24 percent compared with the Hawai'i average of 19 percent) but slightly less likely to binge drink in the last three months of pregnancy (7 percent compared with the Hawai'i average of 9 percent) (Hawai'i PRAMS 2019). Alcohol consumption is linked to complications and conditions such as birth



defects, developmental disabilities, miscarriage, stillbirth, preterm birth, and sudden infant death syndrome.

Compared with mothers of other ethnicities in Hawai'i, Native Hawaiians have the highest proportion of mothers who smoked at least one cigarette per day in the last three months of pregnancy (9 percent)—a rate that is higher than the Hawai'i total (5 percent) (Hawai'i PRAMS 2019). Smoking during pregnancy exposes the mother and baby to harmful chemicals and leads to health problems such as reduced birthweight, preterm birth, birth defects, and loss of the baby. Risks continue after birth, with an increased likelihood of sudden infant death syndrome, colic, asthma, and childhood obesity (Mayo Clinic 2020b).

The use of illicit drugs is associated with a range of negative birth outcomes. Among Native Hawaiian mothers, nearly one in ten (9 percent) used illicit drugs at least one time in the month before pregnancy, although this rate did not differ significantly from the Hawai'i total (5 percent) (Hawai'i PRAMS 2019).

## UNINTENDED PREGNANCIES AND ABORTION

In 2015, nearly half (48 percent) of pregnancies in Hawai'i were unintended—a slight decrease from 2012 findings (51 percent). Unintended pregnancies are most common among mothers ages twenty-four and younger, as well as those facing the greatest levels of poverty. The rate of unintended pregnancies among all Native Hawaiian mothers (60 percent) is significantly higher than the Hawai'i average and is the third-highest relative to other ethnicities (Hawai'i PRAMS 2019).

Based on 2018 data sources from the Hawai'i Department of Health, abortion rates in Hawai'i are generally highest among women of younger ages. Among women younger than age eighteen, the Hawai'i total is 42 abortions performed for every 100 live births, compared with 7 per 100 among women ages thirty to thirty-four. Within the youngest age groups (i.e., twenty-four and younger), Native Hawaiians have the lowest abortion rates of the major ethnicities in Hawai'i. When looking at averages for all age groups, Native Hawaiians and Japanese have the lowest abortion rates among Hawai'i's major ethnicities—9 abortions for every 100 live births (not shown).

## TIMELY PRENATAL CARE

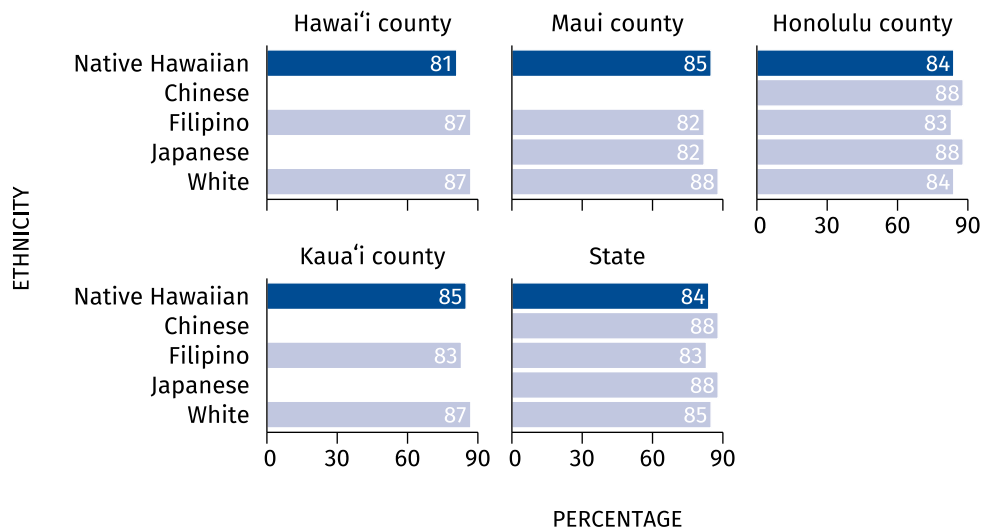
More than eight in ten Native Hawaiian women receive prenatal care as early as they want—a positive indication that soon-to-be mothers are getting the support and care they need for a successful pregnancy and birth (fig. 2.21). Regular doctor visits, prenatal tests, counseling, discussion of medical history and conditions, and taking folic acid supplements are routine practices for healthy prenatal care.

### Risk Factors and Prenatal Care—County Highlights

County-specific data show certain counties are at greater risk for issues related to health during pregnancy. For example, Kaua'i has the highest proportion of mothers who use alcohol during pregnancy. Maui has the highest rate of illicit drug use among mothers. Hawai'i county has the greatest prevalence of smoking among mothers and unintended pregnancies (Hawai'i PRAMS 2019). These findings, although not specific to Native Hawaiians, provide contextual information particularly relevant to counties with high concentrations of Native Hawaiians.

The percentage of timely prenatal care among Native Hawaiians across counties does not show variation with the Hawai'i total of 84 percent (not shown). Among women who gave birth in Hawai'i county, Native Hawaiian mothers were the least likely to receive timely prenatal care (fig. 2.21).

**FIGURE 2.21** Women who received prenatal care as early as they wanted—county comparison  
[as a percentage of women who recently gave birth, by ethnicity and county, 2011]



Data source: Hawai'i Health Data Warehouse, Hawai'i Department of Health, Pregnancy Risk Assessment Monitoring System, 2011 (years 2009 to 2011 combined)

Note 1: Missing lines or bars indicate data that are unavailable, not applicable, or suppressed due to small sample size.

- Among women who gave birth in Hawai'i county, Native Hawaiian mothers were the least likely to receive prenatal care as early as they wanted.
- At the state level, 84 percent of Native Hawaiian women who gave birth received prenatal care as early as they wanted—the same proportion as the Hawai'i total for all ethnicities (not shown).

## Birth Outcomes

Positive birth outcomes and nurturing parent practices help to further the health and well-being of infants. Available data within this area include preterm delivery, birthweight, breastfeeding, postpartum depression, and infant mortality.

### PRETERM DELIVERY

Based on data from the Hawai'i Pregnancy Risk Assessment Monitoring System, 9 percent of Native Hawaiian women who gave birth had a preterm delivery (Hawai'i PRAMS 2019)—a percentage that is on par with the Hawai'i total and with national rates from 2018 (Centers for Disease Control and Prevention 2019d). Preterm birth is related to a variety of health problems such as breathing and feeding difficulties, developmental delays, hearing and vision problems, and other conditions that can persist for a lifetime, leading to emotional hardships and financial pressures that affect one's quality of life (Hawai'i PRAMS 2019; Centers for Disease Control and Prevention 2019d).

Across Hawai'i, disparities are seen across ethnic groups, with Japanese women having the lowest percentage of preterm deliveries (7 percent) and Filipino women having the highest percentage (12 percent). A regional perspective shows that in Hawai'i county, 13 percent of Native Hawaiian women who recently gave birth had a preterm delivery—the highest percentage among Native Hawaiian women across counties (Hawai'i PRAMS 2019).

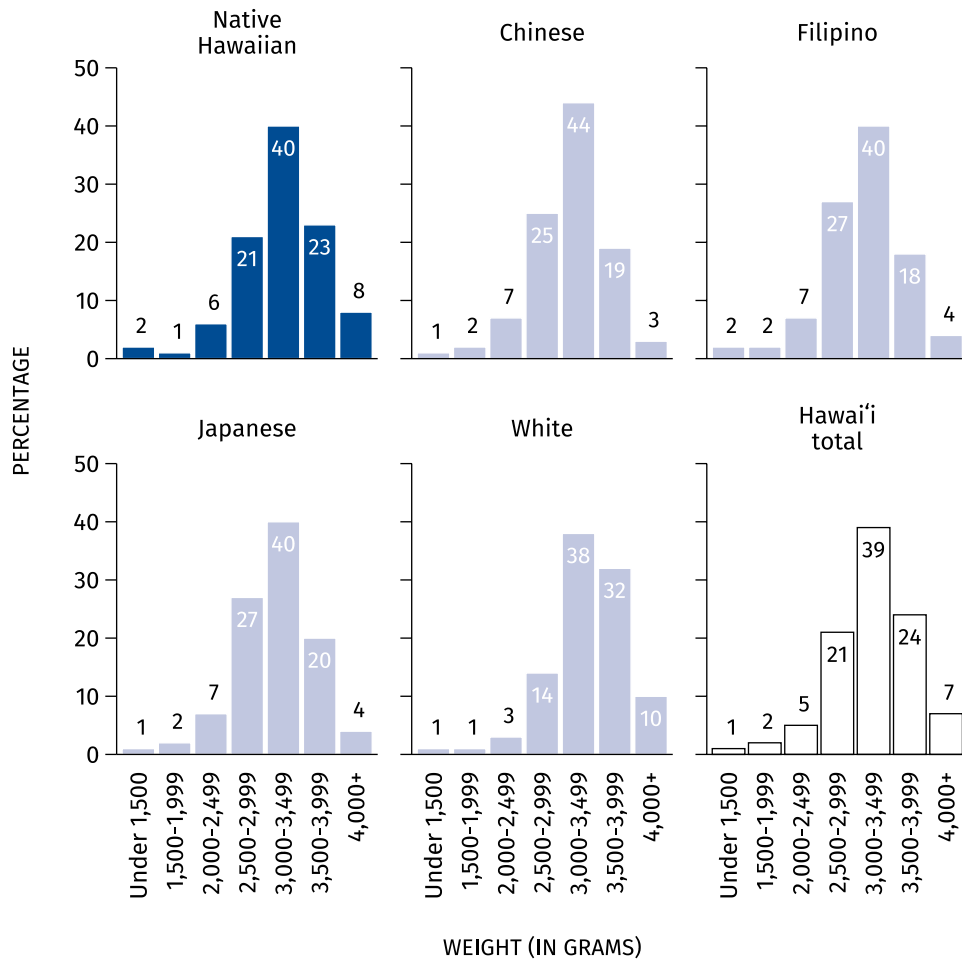
### BIRTHWEIGHT

Birthweight is an important measure of physical well-being. The average weight of a newborn is around eight pounds, or 3,600 grams, with normal birthweight considered to be between 2,500 and 4,000 grams (Desiraju 2018). Of Hawai'i births in 2015, more than four out of five Native Hawaiian newborns (84 percent) were born within this normal range.<sup>9</sup> This percentage is on par with the Hawai'i total (84 percent) (fig. 2.22).

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<sup>9</sup> Figure 2.22 shows this range to be 2,500 to 3,999 grams, per available data presented by the Hawai'i Department of Health, Office of Health Status Monitoring.

**FIGURE 2.22 Birthweight of newborns**  
 [as a percentage of all live births, by ethnicity, Hawai'i, 2015]



Data source: Hawai'i Department of Health, *Vital Statistics Report*, Hawai'i Health Data Warehouse, Office of Health Status Monitoring, 2015, via special request by Kamehameha Schools

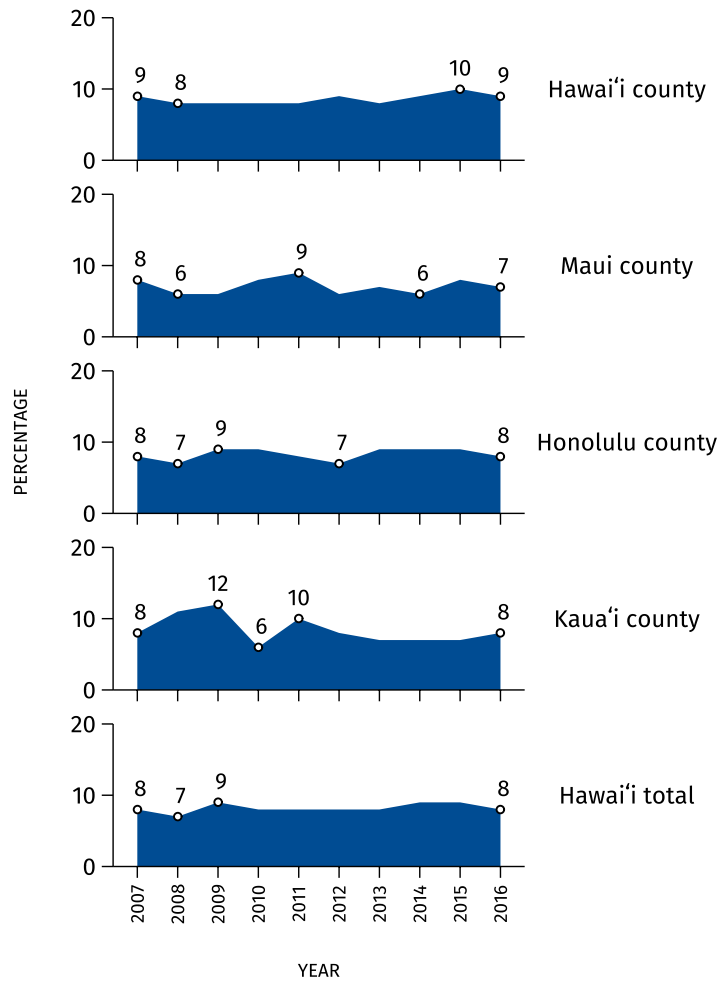
Note 1: These percentages are based on actual counts, not sample data.

- The proportion of Native Hawaiian newborns with a birthweight at or above 3,000 grams (71 percent) is similar to the Hawai'i total (70 percent).
- Compared with other ethnicities, Chinese, Filipino, and Japanese newborns are the most likely to have birthweights of less than 3,000 grams.
- Relative to other ethnicities, White newborns have the highest percentage (80 percent) of birthweights at or above 3,000 grams.

Low birthweight, defined as a newborn weighing less than 5.5 pounds (2,500 grams) at birth, can be caused by premature birth and has implications for early childhood development. In the decade spanning 2007 to 2016, the proportion of Native Hawaiian newborns with low birthweight remained relatively steady (fig. 2.23). In 2016, the percentage of low-birthweight Native Hawaiian infants (8 percent) was lower than that of other major ethnicities except for Whites (not shown).

Low birthweight among Native Hawaiian infants is statistically associated with infant mortality (Hirai et al. 2013) as well as a range of health challenges with eating, gaining weight, fighting infection, breathing, and digestive and nervous system problems (University of Rochester Medical Center, n.d.).

**FIGURE 2.23** Trends in Native Hawaiian newborns with low birthweight—county comparison  
 [as a percentage of all births, by county and year, Hawai'i, 2007 to 2016]



Data source: Hawai'i Department of Health, *Vital Statistics Report*, Hawai'i Health Data Warehouse, Office of Health Status Monitoring, 2018

Note 1: Low birthweight is defined as a newborn weighing less than 2,500 grams (5.5 lbs.) at birth.

Note 2: These percentages are based on actual counts, not sample data.

Note 3: Data labels are presented for the first and last points, the maximum and minimum points, and some inflection points where the trend changes.

- Compared with other counties, Kaua'i saw the greatest fluctuation in the proportion of Native Hawaiian newborns with low birthweight in the years between 2007 and 2016.
- In 2016, Maui county had the lowest rate of Native Hawaiian newborns with low birthweight, while Hawai'i county had the highest rate.
- The proportion of Native Hawaiian newborns with low birthweight in Honolulu and Kaua'i is on par with the Hawai'i total (8 percent), while Hawai'i county was 1 percentage point higher than the Hawai'i total, and Maui county was 1 percentage point lower.

## BREASTFEEDING

Breastfeeding is associated with numerous benefits to both child and mother. For Native Hawaiians, breastfeeding and lactation practices are viewed as a longstanding cultural tradition that is reinforced by scientific fact (Office of Hawaiian Affairs 2018). In addition to providing nutrition, breastfeeding can increase survival rates of infants and protect them from infection and illness. Breastfeeding can also help mothers heal following childbirth and improve their health by lowering the risk of type 2 diabetes, ovarian cancer, and certain types of breast cancer (American College of Obstetricians and Gynecologists 2013; Schwarz et al. 2009). Beyond physical benefits, breastfeeding is related to societal benefits such as increased workforce productivity (breastfed infants have lower risk of sickness, so mothers are less likely to miss work to care for a sick child) and lower healthcare costs due to fewer doctor or hospital visits (United States Breastfeeding Committee, n.d.).

More mothers in Hawai'i are breastfeeding for at least eight weeks after delivery, with data showing an increase from 71 to 80 percent between 2009 and 2015 (Hawai'i PRAMS 2019). Among Native Hawaiian mothers, breastfeeding was somewhat less likely, trailing about 10 percentage points below the Hawai'i average from 2009 to 2015 (not shown). A study of breastfeeding among a small group of Native Hawaiian mothers on the Wai'anae Coast found that access to resources and information, physical discomfort, time, and feeling comfortable asking for help were among the factors that influenced their decision to breastfeed (Oneha and Dodgson 2009).

## POSTPARTUM DEPRESSION

Following the birth of a child, some mothers experience prolonged, severe depression that affects their ability to care for their infant, complete daily tasks, and maintain a healthy outlook to keep both mother and baby safe (Mayo Clinic 2018b). The prevalence of postpartum depression among Native Hawaiian mothers (12 percent) is slightly above that of other ethnicities and the state total (9 percent) (Hawai'i PRAMS 2019).

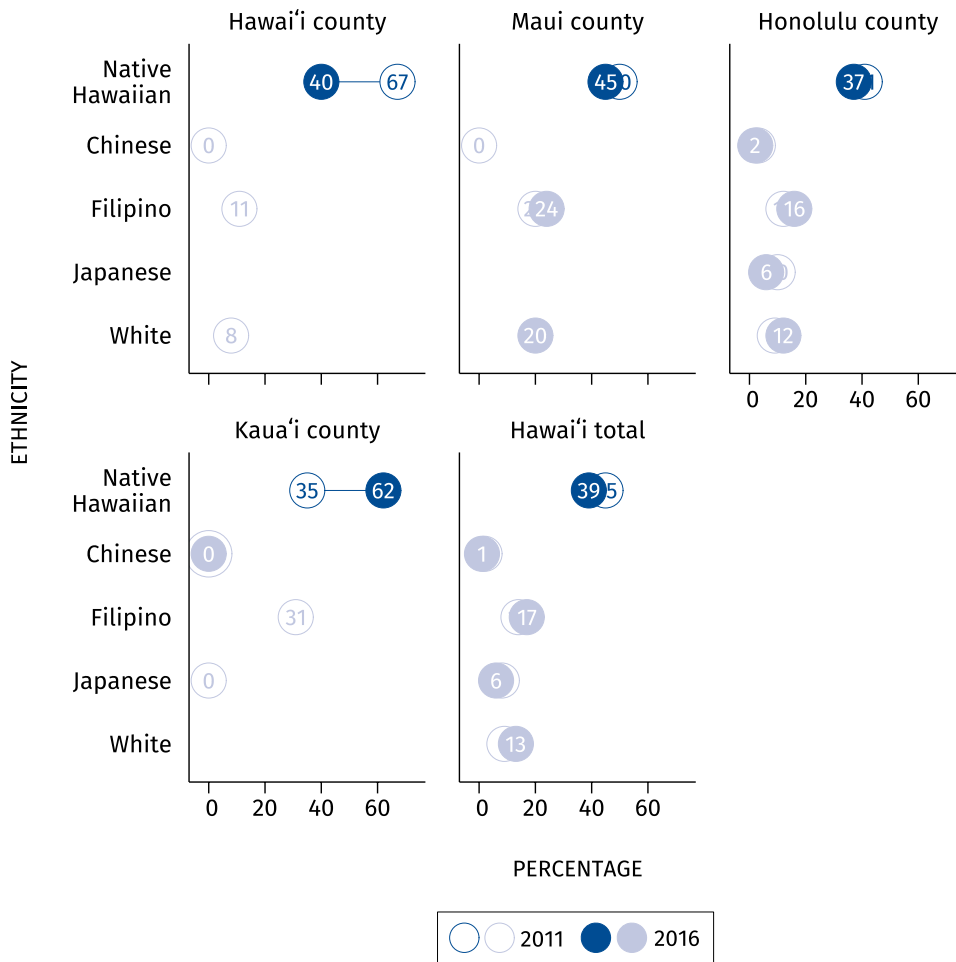
## INFANT DEATH

Recent data indicate that Native Hawaiians experience the greatest proportion of infant deaths in Hawai'i, accounting for 39 percent of the Hawai'i total in 2016. This percentage is disproportionately high, even when considering that Native Hawaiians account for slightly more than one-third of all births. Despite this, there has been improvement in recent years. For example, compared with other ethnic groups in Hawai'i, Native Hawaiians had the greatest decrease (6 percentage points) in the proportion of overall infant mortality, declining from 45 to 39 percent between 2011 and 2016 (fig. 2.24).

In a study of infant mortality among Native Hawaiians, educational disparities among mothers accounted for part of the neonatal mortality gap (Hirai et al. 2013), underscoring the critical role of education in infant health.



**FIGURE 2.24** Ethnicity of infants who have died—county comparison  
 [as a percentage of infants who died before age 1, by county and year, Hawai‘i, 2011 and 2016]



Data source: Hawai‘i Department of Health, *Vital Statistics Report*, Hawai‘i Health Data Warehouse, Office of Health Status Monitoring, 2011 (years 2007 to 2011 combined) and 2016 (years 2012 to 2016 combined)

Note 1: These percentages are based on actual counts, not sample data.

Note 2: Missing circles indicate data that are unavailable, not applicable, or suppressed due to small sample size.

Note 3: This chart includes overlapping and sometimes obscured data points. The most recent data points are all visible; older data points that are not discernible suggest little or no change over time.

- Across counties and time periods, Native Hawaiians experience the highest incidence of infant deaths.
- Compared with other major ethnicities in Hawai‘i, Native Hawaiians had the greatest decrease (6 percentage points) in the proportion of overall infant mortality, declining from 45 to 39 percent between 2011 and 2016.
- Among Native Hawaiians, the most notable changes in the proportion of overall infant deaths from 2011 to 2016 were in Hawai‘i county (decreasing from 67 to 40 percent) and Kaua‘i (increasing from 35 to 62 percent).

## BIRTH OUTCOMES—COUNTY HIGHLIGHTS

Compared with other counties, Hawai'i county has the highest rate (13 percent) of preterm deliveries among Native Hawaiian mothers (Hawai'i PRAMS 2019). Hawai'i county also had the greatest decline in the proportion of Native Hawaiian infant deaths, decreasing from 67 to 40 percent between 2001 and 2016. Kaua'i county, however, had a notable uptick in the proportion of Native Hawaiian infant deaths, increasing from 35 to 62 percent during the same period (fig. 2.24).

Physical health of young keiki is shaped by a multitude of factors including individual genetics; 'ohana characteristics, lifestyles, and structures; community resources, including access to quality healthcare; and local and national policies. Prior to birth, the health and lifestyle of a mother shape childbirth outcomes, which in turn impact a child's future physical growth and development. Optimal physical development during this critical life stage can be supported through the care and well-being of a young keiki's immediate caregivers, 'ohana, and community.



Infant mortality rates among Native Hawaiians decreased from 45 to 39 percent between 2011 and 2016—the greatest decline among Hawai'i's major ethnicities.



## CONCLUSION

The writings of Dr. Kekuni Blaisdell remind us of life in Hawai'i before Western contact: "Each Kanaka Maoli (Indigenous Hawaiian) as a child learned to be self-sufficient, living off of the land and the sea. But each Native also learned to share with others in the ahupua'a geographical unit, which extended from the ocean to the inland mountain ridge. The essence of wellness was lōkahi (oneness) and pono (harmony) with self, others and all in the cosmos. Lōkahi was inherent, having resulted from the mating of sky father Wākea with earth mother Papa. Since all things had this common parentage, all things were also living, conscious and communicating siblings" (Blaisdell 1997).

Spiritual relationships in this worldview are reflected in the concept of nā piko 'ekolu, or three body points: The piko po'o, at the top of the head—also evident as the open fontanel in an infant's skull—represents the past. This piko connects the individual to that from which they came and to 'aumākua, departed but ever-present ancestors, since the beginning of time. Piko waena, or the navel, represents the present. This piko is the umbilical connection to mākua, or parents, and covers the na'au (gut), which is the seat of knowledge, wisdom, and emotions. Piko ma'i is the genitalia, linking us to our descendants forever into the future (Blaisdell 1997). Thus, a keiki's birth at once represents these most precious connections to our past, present, and future. Mākua, kūpuna, and extended 'ohana share in the responsibility to mālama (care for) each child and ensure they know how to navigate a complex web of social, spiritual, and physical relationships.

The early years of life are pivotal for each individual and the well-being of the broader collective lāhui. In thriving conditions, young Native Hawaiian keiki grow and develop rapidly, their young minds soaking in as much as they can, creating neural synapses that will last a lifetime. Much of their development depends on the environment around them. Our review of early childhood well-being suggests challenges in these environmental conditions amid pockets of tentative progress. Overall, the policy implications clearly indicate that greater levels of focused commitment are required to combat long-standing inequities and to sustain gains in well-being more widely, rather than bursts of activity that generate short-term improvements for a few. For example, despite signs of progress, Native Hawaiian families with young keiki continue to face economic disadvantage, with livable income rates that are significantly below the Hawai'i total. Income of young children's households increased slightly in the years between 2008 and 2017, with the proportion earning a livable income

climbing 5 percentage points, resulting in a 4 percentage point decline in the proportion of low-income households among Native Hawaiian families with young keiki (from 20 to 16 percent).

In the area of health, the past decade has brought some improvements for young Native Hawaiian keiki. For instance, infant mortality rates among Native Hawaiians decreased by 6 percentage points from 2011 to 2016. However, Native Hawaiian infant mortality rates, as a critical indicator of overall well-being in a population, remain unacceptably high and vary greatly by county. In looking at foster care, fewer Native Hawaiian keiki were in the system between 2014 and 2018; however, Native Hawaiians remain disproportionately represented overall.

Other indicators related to the well-being of young Native Hawaiian keiki have remained consistent over time, including the percentages of single-parent households, coresidency of grandparents and grandchildren, and preschool enrollment. Although the proportion of single-parent families among Native Hawaiians in 2017 mirrors the rates seen in 2005, Native Hawaiians continue to make up the largest proportion of single-mother and single-father households among Hawai'i's major ethnicities, which often means that children have lengthier exposure to poverty. On the brighter side, we see stability in the percentages of Native Hawaiian households with keiki ages four or younger living with their grandparents in recent decades. About one in every three young Native Hawaiian keiki is able to build intergenerational relationships and benefit from strong social support networks within their households, provided there are adequate resources and support to assist such families. In the area of early learning, preschool enrollment among Native Hawaiians did not change significantly between 2008 and 2017, despite a positive spike in between these years. These results suggest a continued need to double down on efforts to improve access to early childhood education.

Finally, there are some areas that have worsened over time for young Native Hawaiian keiki, including parent educational attainment and child abuse. Rates of child abuse among Native Hawaiians increased by 4 percentage points from 2010 to 2017—which is particularly concerning, given that four in ten confirmed cases in Hawai'i involve children younger than age five. And in the area of education, there has been a decrease in the attainment of a bachelor's degree or higher among Native Hawaiian adults with young keiki at home—suggesting that our youngest learners may have fewer advantages associated with having more educated parents as they grow up, relative to their peers.

On the whole, well-being indicators for young Native Hawaiian keiki show mixed results: We see promising trends, improvement, and stability, all set against a stubborn backdrop of disparity that has persisted across generations and geographies. As the COVID-19 pandemic unfolds, we expect that Native Hawaiian families with young children may be relatively more vulnerable to conditions such as unemployment and poverty, which would have implications for early learning and other aspects of well-being. Together, existing data and newly emerging impacts of COVID-19 call for heightened monitoring of socioeconomic and other indicators of well-being and wellness, and their effect on our youngest keiki.