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State Assessment of Demographic Data and Youth Development to Advance 4-H Programs

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Abstract

4-H youth development programs throughout the United States can be planned and delivered more effectively in their states by assessing demographic data and following research-based theories and models of positive youth development. A review of the research literature determined current youth development theories and models to effectively guide statewide 4-H program implementation. A state assessment was conducted for demographic areas of youth population age, race, socioeconomic status, health factors, child poverty (includes parent-guardian job status at the onset of COVID), and household structure. The Ohio 4-H Youth Development program utilized the demographic data to establish goals of becoming more diverse and inclusive. In addition, demographic data points help for targeted recruitment of youth to include families from diverse socioeconomic backgrounds, household structures, and those with health risks. Finally, implications and conclusions are presented to serve as an illustration for other states to advance their state 4-H programs and practices.

Key words: demographic data; theories, models, and frameworks of youth development; 4-H programs and practices

Introduction

To better serve more youth in Ohio's 4-H youth development program, conducting an assessment of youth and family demographics was important to inform effective outreach education that is inclusive and diverse. In doing so, demographic data revealed specifics about age, race, ethnicity, socioeconomic status, child poverty, and household structure of all youth in Ohio. Statewide demographic data provided specific goals for guiding programs to help ensure youth are served with diversity of age, race, ethnicity, family income, and structure. In addition to understanding Ohio's youth demographic data, a brief review of youth development models-theories was also conducted. The purpose of this review was to identify research and theory-based standards to promote positive youth development (PYD) for statewide 4-H program efforts.

A lifespan perspective (Berk, 2013; Sigelman & Rider, 2014) along with the human development ecoLogic model (Scheer, 2020) for planning outreach and extension education programs served as theoretical frameworks for this assessment. These frameworks highlight the critical role in which individual characteristics or demographics (ethnicity-race, gender, socio-economic class) and the surrounding contextual systems (family, community, peers) influence human development outcomes.

Methods

Assessment of Ohio's demographic data along with the review of youth development theories was carried out to improve 4-H PYD programs. The demographics selected were based on available characteristics and their known impact on youth development as available from Kids Count (2022), a project of the Annie E. Casey Foundation, which tracks the well-being of children for all 50 states.

The demographic variables used for this assessment were: youth population/age, race, socioeconomic status, health factors, child poverty (includes parent-guardian job status at the onset of COVID), and household structure. These demographic variables contribute to youth development as impacted by race and discrimination (Harris & Outley, 2021), socioeconomic status and poverty (American Psychological Association, 2010), physical and mental health (Office of Population Affairs, n.d.), and family structure (Beckmeyer & Russell, 2017). Most importantly, the primary purpose of assessing our state demographic data is to help the Ohio 4-H youth development program establish goals of becoming more diverse and inclusive for youth participation.

Youth Development Models, Frameworks, or Theories

A general definition of youth development is "the stages that all youth go through to obtain the necessary skills, values, and attitudes to become a successful adult" (U.S. Department of Education, 2007, p. 1). There are numerous positive youth development models, frameworks, or theories to help guide youth organizations. Yet currently, there is not one model that garners consensus as an ideal way to explain the process of PYD. Since youth development is a part of human development, we utilized the developmental sciences principle that an effective model should describe, explain, and optimize human development across the life span.

Most youth development models emphasize the interaction between youth and their surrounding contexts or systems. Three examples are briefly highlighted:

- Search Institute's Developmental Relationships framework (2018) and Developmental Assets model (Benson & Scales, 2009) focuses on youth developmental assets of skills, abilities, and strengths for positive youth development or "thriving" which occurs when the developmental assets of youth are supported through external environments (i.e., express care, challenge growth, provide support, share power, and expand possibilities) of developing youth.
- Stage-Environment Fit model highlights the "fit" between contextual variables (e.g., families, schools, programs) and individual characteristics (e.g., motivation, values, expectations) to promote healthy youth development (Eccles et al., 1993). Eccles and colleagues posit that social contexts in a developmentally appropriate setting are needed to foster youth development.
- The resiliency model offers a holistic framework across the life span with emphasis on age-relevant developmental tasks (Masten, 2014). When resilient youth experience adversity, they can adapt and constructively handle challenging situations. Attention in this model is paid to both positive and problematic behaviors in the formation of resilient youth.

Looking specifically at 4-H programs, Arnold and Silliman (2017) sorted eight positive youth development (PYD) frameworks into three categories:

- research-driven frameworks (e.g., Community Action Framework, Developmental Assets Framework, and Five Cs of PYD),
- research-referenced frameworks (e.g., Character Counts!, Essential Elements of 4-H Youth Development, and Targeting Life Skills), and
- research-adapted frameworks (e.g., California 4-H YD Framework and Oregon 4-H YD Framework).

They make an argument for the effective use of the translation and implementation of guiding frameworks rooted in developmental science for PYD.

Youth development models used in the national 4-H organization to guide programs have included the Targeting Life Skills model (Hendricks, 1996), Essential Elements of 4-H Youth Development (Kress, 2005), the Five Cs of Youth Development (Lerner & Lerner, 2013), and most recently the Thriving Model of 4-H Youth Development (Arnold, 2018; Arnold & Gagnon, 2020). The Targeting Life Skills model centers on the four "Hs" of Head, Heart, Hands, and Health, with each branching out into two areas then into life skills. For example, Heart leads to caring (life skills: empathy, sharing) and relating (life skills: communication, cooperation).

The Essential Elements model consists of eight critical elements required for positive youth development programs:

- positive relationship with a caring adult
- a safe emotional and physical environment
- an inclusive environment
- engagement in learning
- opportunity for mastery
- opportunity to see oneself as an active participant in the future
- opportunity for self-determination
- opportunity to value and practice service to others (Kress, 2005).

It is noteworthy that studies which define youth development programs by essential elements find positive effects of program participation compared to programs not incorporating these contextual components (Durlak & Weissberg, 2007; Roth & Brooks-Gunn, 2003, 2016).

The Five Cs of youth development (competence, confidence, character, connection, and caring) as mentioned earlier, were part of a national longitudinal study of 4-H. Researchers (Lerner et al., 2003) suggested that a sixth C, contribution (to oneself and others), results when the Five Cs are present. Gonzalez et al. (2020) have added a seventh C for critical consciousness to address the lack of understanding of how power, privilege, and oppression influence young people's development. The seventh C is encompassed in their critical positive youth development framework centering on critical consciousness. Their approach highlights the much-needed recognition of how systems of oppression and inequities (social, economic, and political) influence youth development (Gonzalez et al., 2020).

The most current model proposed for 4-H Youth Development is the 4-H Thriving Model (Arnold, 2018; Arnold & Gagnon, 2020). The strength of this model is that it attempts to explain how 4-H program contexts lead to positive youth developmental outcomes via a "thriving trajectory." The thriving trajectory consists of six indicators which lead youth from one indicator to another on their path to positive outcomes such as social competence, academic success, and personal standards. The six indicators were identified by the Search Institute (2014; as cited in Arnold, 2018, p. 150) as a thriving model orientation in a report for the Thrive Foundation for Youth. The six sequential indicators are

1. openness to challenge and discovery
2. hopeful purpose
3. transcendent awareness
4. positive emotionality
5. pro-social orientation
6. intentional self-regulation

The model was updated based on retesting it with youth in Oregon 4-H clubs using confirmatory factor analysis and structural equation modeling. Indicators increased from six to seven with the addition of growth mindset. While youth engagement did not factor as a developmental context feature it was found to be a moderator influence if youth were to thrive. At the national level, a task force was established in 2019 to advance the 4-H Thriving model by professional development, research validation, and organizational alignment by the 4-H Program Leaders Working Group. There have been positive reactions about the 4-H Thrive model in the nationwide 4-H system. Arnold & Gagnon (2020) state that additional research is needed to replicate findings, confirm and refine the model with diverse youth and settings, and further determine the processes by which youth are positively impacted by 4-H PYD programs.

It appears from existing models and research studies that PYD models which encompass an integrative approach of promotive (e.g., assets, life skills, competencies) and preventive (e.g., problem behaviors, substance use, school failure) aspects are more likely to explain and guide effective youth development organizations and programs. The relational developmental systems (RDS) metatheory (Lerner et. al., 2019) highlights PYD theories and resiliency science as established strength-based approaches to advance child and youth well-being. A metatheory is a theory of theories. Lerner et al. (2019) write, "we are at the end of the beginning of tests of RDS-based PYD models" (p. 9). More research is needed to ultimately address a multipart question of what PYD is as posed by Borstein to Lerner and his colleagues, "What interventions, with what components, of what duration, with what youth, at what age or developmental

levels, in what communities, at what historical time, will result in what positive individual psychological, social, cognitive, and physical outcomes?" (Lerner et al., 2018, p. 1694).

Demographics Important for Youth Development

To better understand the full range of diversity of youth in Ohio to inform goals and implementation of the 4-H program, demographic data was primarily retrieved from Kids Count (2022). The Kids Count Data Center (https://datacenter.kidscount.org/) generates reliable and valid information that was readily available online for important demographic areas of ethnicity, health, income, education, and other areas. Demographic data for this state assessment included areas of age/population, ethnicity, socioeconomic status, health factors, child poverty (along with parent/guardian job status at onset of COVID by ethnicity), and family household structure.

Age and Population

The youth population (age 5 to 17) in Ohio was centered around the major urban centers of Columbus, Cleveland, Cincinnati, Dayton, and Toledo. From 2011 to 2020, the youth population has decreased in Ohio by about 100,000 (Kids Count, 2022), to approximately 1.9 million youth with slightly more males (51%) than females (49%) in 2020. The distribution of youth by age in Ohio was similar in the United States. Refer to Table 1 for percentages based on population totals for 0 to less than 18 years of age with a focus on those 5 to 17 years old.

Table 1. Percent and Frequency of Age Distribution in Ohio and United States in 2020

Age range	Ohio	United States
5 to 11	39% 995,772	39% 28,384,878
12 to 14	17% 442,711	17% 12,607,256
15 to 17	17% 445,800	17% 12,528,687

Note. Excludes age 0-4 years old. Adapted from "Kids Count: Child population by age group," by the Annie E. Casey Foundation, 2022.

Ethnicity

Ohio's youth population was largely non-Hispanic White (70%), followed by a minority of non-Hispanic Black (15%) and Hispanic/Latinx youth (7%). Non-Hispanic Black youth live mostly in

the urban centers of Ohio (i.e., Cleveland, Cincinnati, Columbus, Toledo, and Dayton–in rank order). Meanwhile, the population of Hispanic/Latinx youth were centered around Northern Ohio (Kids Count, 2022). As a trend, the youth population in Ohio is becoming more diverse over time, with the percentage of Ohio youth who are Black, Asian, and Hispanic/Latinx increasing since 2010 (Kids Count, 2022). In comparison to the United States, Ohio was whiter with a significantly smaller Hispanic/Latinx youth population.

Socioeconomic Status

The counties with the highest median household income in Ohio were largely the suburbs of major urban centers such as Columbus, Cincinnati, and Cleveland (Kids Count, 2021). The counties with the lowest median household income are all located in Southeastern Ohio, also known as the Appalachian region of Ohio (Kids Count, 2021).

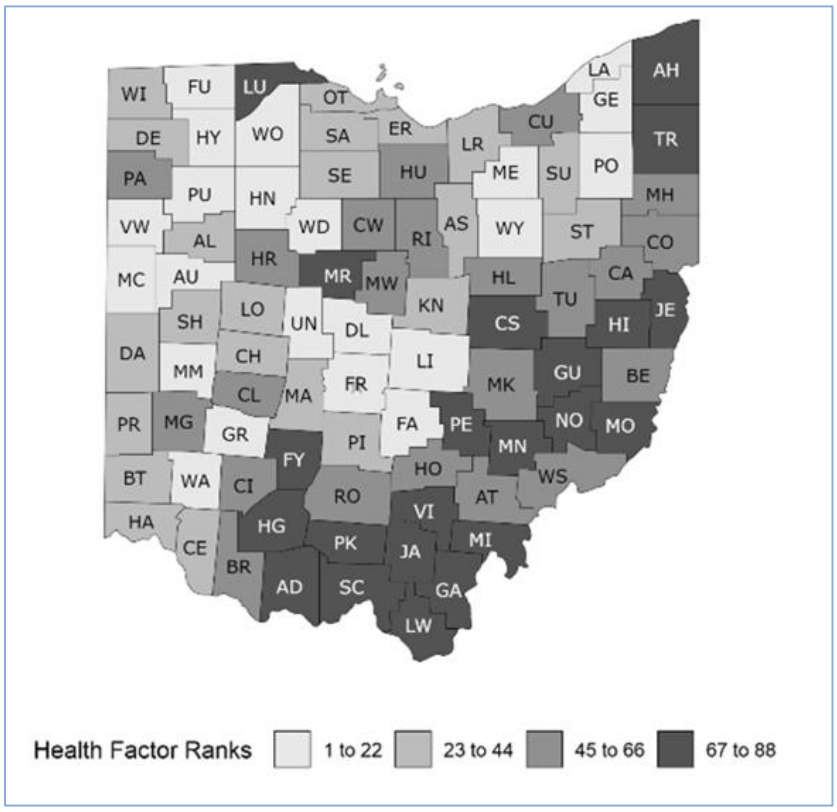
As a comparison to the median household income of the United States, Ohio has a lower median income by approximately $13,500 and has recovered at a slower pace than the rest of the country (Kids Count, 2021). In 2017, the median income for an Ohio household was $54,077, while the median income for the general United States was $71,400.

Health Factors

Ohio counties with high health factor ranks (poor health) tend to be in southern and eastern parts of the state, while counties with lower health factor ranks (better health) were typically in urban areas such as Cincinnati, Cleveland, Columbus, and Toledo (See Figure 1). The health factor rankings were made up of four indices: health behaviors, clinical care, social and economic factors, and physical environment as determined by the County Health Rankings and Road Maps program (University of Wisconsin Population Health Institute, 2022).

In 2016, 4% of youth had no health insurance in Ohio, and 70 per 1,000 youth ages 15 to 19 were mothers (Kids Count, 2021). Other Ohio youth health statistics indicated 43% of youth do not exercise regularly, 33% of 10- to 17-year-olds were overweight or obese, and 23% have special healthcare needs (Kids Count, 2021).

Figure 1. Health Factor Ranks in Ohio by County in 2021



Note. Lower health factor ranks indicate better health.

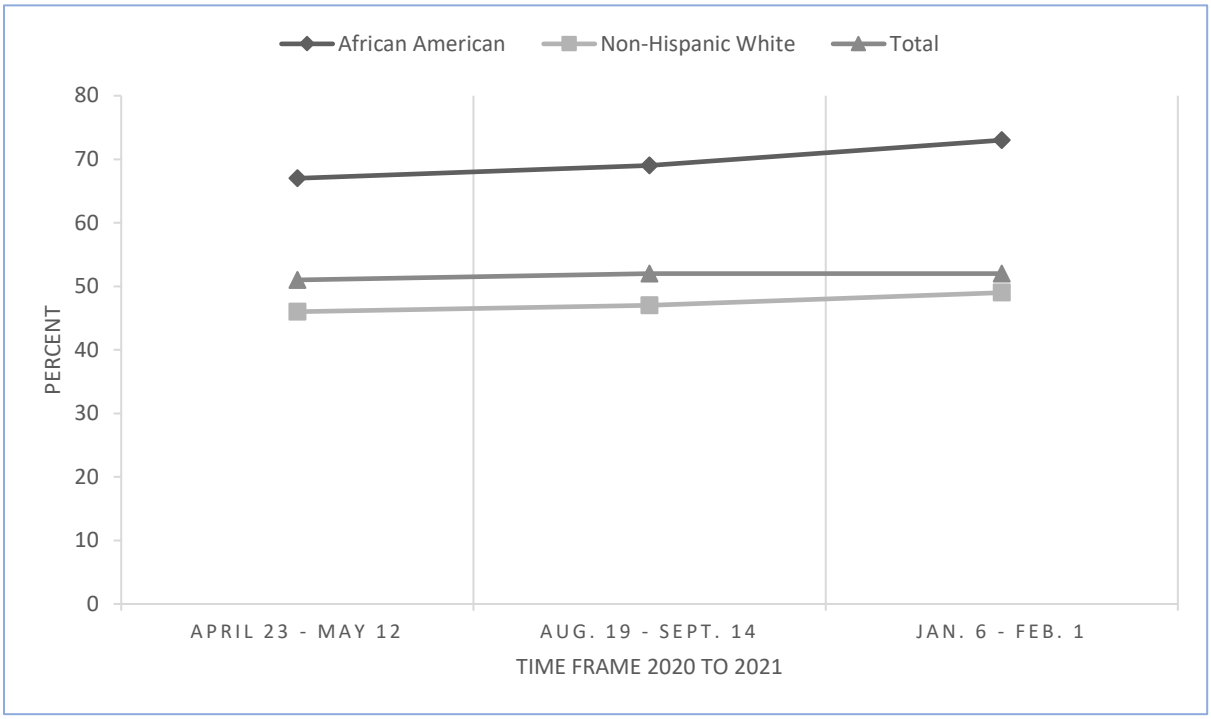
Source: University of Wisconsin Population Health Institute, 2022.

Child Poverty

Child poverty in Ohio was centered around the major urban centers of the state and in the Appalachian region (Kids Count, 2021). Many of the counties with the highest poverty rates were located along the Ohio River in the southeastern area of the state and the Appalachian region (Kids Count, 2021). There were 19 of 88 counties with 25% to 32% of the children in these counties living in poverty and 25 counties with 18% to 24% of children living in poverty.

The United States declared a national emergency on March 13, 2020, because of the COVID-19 pandemic. The pandemic has made it more difficult for families with children, especially for job income or loss. Data from Kids Count (2021) reported an indicated loss of income for families with children in Ohio (see Figure 2). In particular, families of color were impacted at higher rates of income loss than non-Hispanic Whites and total population. Data points for other racial groups were not available for Ohio. Income loss since the pandemic was widespread among both Black and non-Hispanic families.

Figure 2. Households with Children That Lost Employment Income Since Start of COVID-19 in Ohio by Race



Family Households

In Ohio, two-parent households made up the majority, yet were slowly on the decline. Mother-only and father-only households were becoming more prevalent over time (see Table 2). There were approximately 13,725 youth in foster care in Ohio, and 113,000 youth in kinship care. In addition, 187,000 youth live in crowded housing, 105,000 had at least one unemployed parent, and 920,000 youth live in single-parent households (Kids Count, 2021).

Table 2. Percentages of Ohio Households Led by Two Parents or Single Parents

Households	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Two-parent	65	65	64	64	63	62	64	63	63	63
Mother-only	27	27	28	27	28	29	27	27	28	28
Father-only	7	7	7	8	8	8	8	9	9	9

Note. Values given in percentages. Adapted from "Kids Count," by the Annie E. Casey Foundation, 2021.

Trends of Youth Development in Ohio

There were about 1.9 million 5- to 17-year-olds in Ohio, with slightly more males (51%) than females (49%). Most youth fell in the age group of 5 to 11 at 39%, with 12 to 14 (17%), and 15 to 17 (17%); these percentages were similar to those of the overall U.S. youth population

for those age groups. Cuyahoga, Franklin, and Hamilton counties had the largest concentration of youth with neighboring counties in the next tier.

Ohio youth were mostly White (non-Hispanic) 70%, with 15% Black (non-Hispanic) and 7% Hispanic/Latinx. As a trend, Ohio was becoming more diverse for ethnicity, but in comparison to the U.S. population Ohio was more White and less Hispanic/Latinx. Black youth lived mostly in urban areas and Hispanic/Latinx in Northern Ohio.

Households in Ohio had a lower median income ($54,000) than the United States ($71,000) and has recovered more slowly than the rest of the country from the last recession. Highest income families were mostly in the suburbs of Columbus, Cincinnati, and Cleveland. Lowest household incomes were in rural Southeastern Ohio and the Appalachian region and correspond to the child poverty rates in Ohio.

Southern and Eastern Ohio had lower health factors than the rest of the state. Factors were made up of health behaviors, clinical care, social and economic factors, and physical environment. For youth health statistics, children not exercising (43%) and teens overweight and obese (33%) had the highest percentages of health risk factors.

The number of youth growing up in two-parent households was about 63%, the number of youth in mother-only homes was 28%, and 9% in father-only homes. From 2019 estimates, there were over 900,000 youth living in single-parent households. The trend in Ohio was declining for two-parent households and increasing for single-parent homes.

An online search reveals there were thousands of youth development organizations in Ohio ranging from those that served tens of thousands of youth statewide to those that served a few youth in one or just a few communities. Not all youth organizations had a focus on PYD; some had goals whose primary mission was to learn a skill or knowledge with focus on music, sport, art, religion, and other areas.

Using percent participation in youth organizations from national studies (Balsano et al., 2009; Lerner et al., 2005; Scales et al., 2011) we estimated the number of youth in Ohio who are involved in some type of organized activity after school (e.g., Young Artists at Work, The First Tee, Contemporary Youth Orchestra) and those in "youth development" organizations (e.g., Boys and Girls Clubs, 4-H Youth Development, Boy and Girl Scouts). We took the average percent between the two studies for each to estimate 80% youth involvement in an out-of-

school organized activity and 29.5% in a "youth development" organization. For the number of school-aged youth (ages 5 to 17) in Ohio we used the Kids Count population estimates. Based on the national percentages of youth involvement, we estimated that 1,507,436 or 80% of Ohio's youth were involved in some type of organized youth activity and 555,863 or 29.5% in a youth development organization or program. It was noteworthy that the 29.5% figure represented all youth development organizations combined such as 4-H Youth Development, Boys and Girls Clubs, Boys Scouts, Girl Scouts, YMCA, YWCAs, and similar organizations.

Implications for Statewide 4-H Program Implementation

We have found it critical to bring together robust youth development theories with our state's demographic data to better serve youth throughout Ohio. In doing so, shortcomings were noted in areas of diversity and inclusion along with following positive youth development principles and practices.

The Ohio 4-H Youth Development program has utilized the demographic data to establish goals of becoming more diverse and inclusive. Specific goals include not only doubling total 4-H statewide membership enrollment over the next decade, but to also match the state and county racial/ethnic groups according to percent break down. For example, 4-H statewide programs currently reach 86% White, non-Hispanic; 9% African American, Black; and 4% Hispanic youth. The goal is to increase/exceed the percent of African American, Black youth that are reached from 9% to 15% (current population estimate) participation and Hispanic from 4% to 7% (current population estimate). These are state averages; however, data are available to set targets by population proportions for each Ohio county to increase the racial diversity of 4-H participants statewide.

Other data points allow for similar targeted recruitment of youth to include families from diverse socioeconomic backgrounds and household structures. The demographic data also adds guidance to assist and be aware of families with youth who are struggling financially and with health issues. Examples include the promotion and development of curriculum to improve health (physical and mental) and well-being for youth and families.

An illustration is the Coping with COVID: Lesson Plans for Mental, Emotional, and Social Health curriculum developed by the Ohio 4-H Healthy Living and Design Team (2020). It consists of 10 lesson plans and supporting information to help youth improve their mental health brought on by COVID and other challenges. Some of the lessons are Disappointment and Feelings (i.e., opportunity for youth to share about their feelings related to changes/cancellations of

activities), Just Breathe (i.e., deep breathing exercises and techniques) and Growing Our Gratitude (i.e., identify things to be thankful for and thanking others). The curriculum was designed by 4-H professionals to be implemented by 4-H volunteers-advisors with their youth participants. The material is available without charge through an online request survey.

Ohio has a lengthy history of following nationally recommended PYD theories and models to ensure effective outcomes. To illustrate, for a number of years the Ohio 4-H program worked to ensure that all county program efforts followed the Essential Elements of 4-H Youth Development (Kress, 2005) and most recently the five Cs of Youth Development (Lerner & Lerner, 2013). In 2020, the Ohio 4-H program moved to adopt the Thriving Model of 4-H Youth Development (Arnold, 2018; Arnold & Gagnon, 2020). The 2020 day-long, statewide professional development in-service was dedicated to strategies for using the 4-H Thriving Model. The professional development was led by Dr. Mary Arnold, the lead researcher for developing the 4-H Thriving Model.

Conclusions

The state assessment of demographic data provided important goal markers for the Ohio 4-H program. Specific information about youth population, race, socioeconomic status, health factors, and family structure will help guide efforts in reaching targeted 4-H youth participants. As a result, the Ohio 4-H youth development program will be more inclusive and reach diverse youth and families.

It was also important to assess current models and theories of PYD for planning and implementing effective 4-H programs. There are various models and approaches for youth organizations to follow. After reviewing existing approaches, the Ohio 4-H program found the Thriving Model of 4-H Youth Development provided research-based foundations to explain how to positively impact youth.

Using existing research (Balsano et al., 2009; Lerner et al., 2005; Scales et al., 2011), we estimated that youth development organizations in the United States are reaching only about 30% of youth nationwide. Therefore, it is critical for youth development organizations to work together and partner to serve more of Ohio's youth. A cooperative, rather than a competitive approach is recommended among youth development organizations. In addition, it is beneficial for youth involvement in more than just one youth program or organization to promote overall PYD (Hamilton, 2014). To increase PYD exposure and outcomes, organizations must look

beyond youth development programs alone, and work in tandem with programs that target families, parents, businesses, and communities.

In closing, we recommend youth-serving organizations and programs access readily available demographic youth data in their state from national resources such as Kids Count (2022). Information from this data reveals demographic trends and helps programs better serve diverse youth populations in areas such as race and youth living in poverty (e.g., increase access to programs by addressing program participation costs). These demographic data-based strategies, grounded in PYD theories and models, ultimately help youth programs function better and serve youth more effectively.

Author Note

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