



The Positive Development of Young People: Findings from the Reconnection and Replication of the 4-H Study of Positive Youth Development

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Executive Summary

From 2002 to 2012, Richard M. Lerner and Jacqueline V. Lerner conducted the 4-H Study of Positive Youth Development (PYD), the first longitudinal study of positive youth development in the world. Findings from the study suggested that 4-H was the exemplar of a youth program that promoted PYD through: 1. Positive and sustained relationships between a young person and an adult; 2. Life-skill building activities; and 3. Opportunities for youth participation in and leadership of valued activities in family, school, or community settings (the “Big Three”). When PYD was promoted by youth development programs, youth would contribute positively to their communities and, by the end of the high-school years, become active and engaged citizens. Lerner, Lerner, and their colleagues also predicted that, as adults, 4-H youth would become leaders of a vibrant America.

We conducted the Reconnection and Replication of the 4-H Study of PYD to examine if this prediction is true. In the Reconnection part of the study, we re-contacted participants from the original 4-H Study of PYD to ascertain the life and work activities, health, and well-being, and, especially, the family, community, and national contributions and civic engagement of these young people through their third decade of life. In the Replication portion of the study, we extended the youth development leadership of 4-H programs to the current generations of American youth by assessing current 4-H engaged youth across adolescence. In both components of the new study, we capitalized on refinements in measurement that have occurred in the past decade in regard to indexing constructs central to the original 4-H Study of PYD (e.g., PYD, intentional self-regulation skills, the Big Three), as well as including new constructs (e.g., empathy, growth mindset) to the set of PYD-related constructs.

Highlights from the Reconnection Study

- 332 young adults completed the Reconnection survey and 20 participated in the follow-up interview.
- Young people who participated in 4-H when they were younger reported high levels of PYD, contribution, and well-being, as well as high levels of all PYD-related constructs examined in the study: Purpose, hopeful future expectations, relationship skills, intentional self-regulation skills, and leadership.
- These young people also reported that participation in 4-H programs greatly influenced their confidence and leadership skills, ability to develop a positive network, and participation in community service.
- Compared to young people who did not participate in 4-H, young adults who participated in 4-H when they were younger reported significantly higher levels of Connection to their social network, participation in community service, helping behavior, and purpose.
- Specifically, compared to young people who did not participate in 4-H, 4-H young adults were:

- 2.6 times more likely to report feeling connected to other people.
- 3.2 times more likely to report participating in community service and 1.8 times more likely to report helping people they do not know.
- 2.3 times more likely to report leading purposeful lives.
 - Compared to young adults who did not participate in 4-H, 4-H young adults reported that they were 1.9 times more likely to have the goal of being a leader, 2.3 times more likely to have the goal of helping others, 3.3 times more likely to have the goal of serving God/Higher Power, and 2.1 times more likely to have the goal of serving their country.

Highlights from the Replication Study

- 465 youth participated in the study, with 346 youth completing all three waves of surveys.
- Across three waves of data collection, 4-H youth reported high levels of PYD, the Big Three components of effective youth programming, well-being, contribution ideology, purpose, hopeful future expectations, and school engagement. 4-H youth also reported moderately high levels of contribution action, relationship skills, and intentional self-regulation skills at all three waves.
- 4-H youth also consistently reported high levels of engagement in 4-H programs. 4-H youth also reported that being a part of 4-H was highly important in their lives.
- Compared to non-4-H youth, 4-H youth reported significantly higher levels of Competence, safety in their program, well-being, feeling known and loved at one wave, purpose of serving their country at two waves, as well as overall health and hopeful future expectations at all waves.
- Specifically, compared to non-4-H youth, 4-H youth were:
 - 1.9 times more likely to report feeling competent at Wave 1.
 - 2.7 times more likely to report feeling safe in their program at Wave 2.
 - 2 times more likely to report feeling positively about their well-being at Wave 2.
 - 2.5 times more likely to report feeling known and 2.1 times more likely to report feeling loved at Wave 1.
 - 2.1 to 2.3 times more likely to report feeling it is their purpose to serve their country at Wave 2 and Wave 3.
 - 2.3 to 2.9 times more likely to report leading healthy lives across waves.
 - 2.1 to 2.5 times more likely to report feeling hopeful about the future across waves.
 - In addition, compared to non-4-H youth, 4-H youth reported that they were 2.1 to 2.5 times more likely to feel hopeful about their health across waves, 2.6 times more likely to feel hopeful about having friends they can count on at Wave 1, 1.6 to 2.1 times more likely to feel hopeful about

having a happy family life at Wave 2 and Wave 3, and 3.8 times more likely to feel hopeful about having a job that pays well at Wave 3.

The findings from the 4-H Study of Positive Youth Development (PYD): Reconnection and Replication aim to illuminate the strengths of youth that are linked to thriving, from the early years of adolescence to the young adult period of life, and the ways in which participation in 4-H programs promotes such flourishing. The results of this research aim to provide a foundation for translational research that will provide a 4-H program agenda promoting thriving and citizenship among the diverse youth of our nation.

Key Take-Aways from this Report for 4-H Programs and Procedures

4-H settings continue to promote the positive development of youth! The findings from the Reconnection and Replication of the 4-H Study of PYD suggest that 4-H continues to promote the development of young people who exemplify the mutually-beneficial relationships with their families and communities that reflect the American vision of individual flourishing and democratic citizenship that we hope to see among thriving young people.

Today's 4-H youth are hopeful about the future. Hope is something that every single young person needs, especially as we continue to face the effects of the pandemic, and especially in light of the mental health crisis in the country. In addition to 4-H continuing to promote the positive development of current generations of 4-H youth, 4-H programming also has an impact on young people into adulthood. In reconnecting with young people who participated in 4-H when they were younger, we learned that these young adults are active and engaged citizens in their communities, lead purposeful lives, and are connected to the people in their lives!

As adults, 4-H youth are leaders of a vibrant America. Together, these findings present an illustration that young people involved in 4-H are thriving, they are doing well for themselves and for the world around them.

“The potential for change is a core strength of all youth – a strength that can be built upon. This strength is cause for optimism for it means we can positively influence the life paths of all children.” Lerner et al., 2013

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We are grateful also for the support we received from the faculty and staff from numerous universities in the Extension/4-H system: Cornell University, Pennsylvania State University, Purdue University, University of Missouri, and University of West Virginia. We also thank Sanda Balaban, Co-Founder and Director of YVote, for her generous collaboration in helping identify and recruit non-4-H comparison youth for this project.

Finally, and most importantly, we are grateful to the young people and families involved in the 4-H Study of Positive Youth Development: Reconnection and Replication. They are creating a world wherein the strengths possessed by all young people are being used to promote positive development and contributions to civil society. Their energy and optimism are profound and impactful.

¹The lawyers at Tufts University and Boston College have asked Richard M. Lerner and Jacqueline V. Lerner to inform readers that they are married.

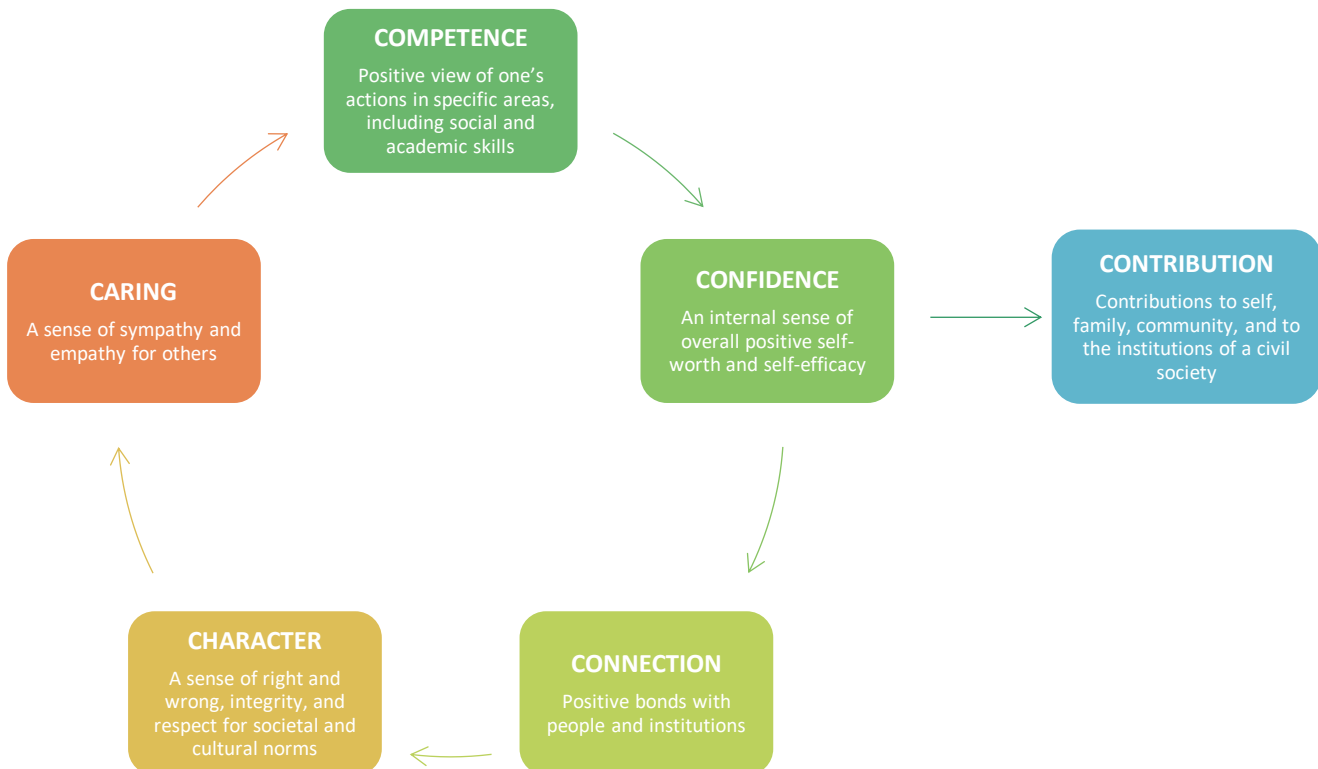
Background

The Five Cs Model of positive youth development (PYD) suggests that when PYD—defined as Competence, Confidence, Connection, Caring, and Character—is promoted by youth development programs, youth contribute positively to their communities and, by the end of the high-school years, become active and engaged citizens.

Effective youth development programs such as 4-H continue to put the research to work by focusing on three important areas:

1. Positive and sustained relationships between a young person and an adult;
2. Life-skill building activities; and
3. Opportunities for youth to participate in and lead valued activities in family, school, or community settings.

These hallmarks of the 4-H theory of change are often termed the “Big Three” in the youth program development field because when they are presented to young people, within safe spaces, youth thrive.



The New 4-H Study of PYD: What We Did and Why We Did It

The findings from the 4-H Study of Positive Youth Development (PYD) conducted by Richard M. Lerner and Jacqueline V. Lerner from 2002 to 2012 changed 4-H youth programs and other youth programs across the U.S. and internationally. For instance, today, Boy Scouts of America, Girl Scouts of the USA, Y-USA, Boys & Girls Clubs of America, Big Brothers Big Sisters and, as well, the United States Military Academy at West Point use the model of positive youth development formulated by Lerner and Lerner and the methods Lerner and Lerner employed to study youth.

Indeed, the work embodied in the 4-H Study of PYD has been broadly adopted: Many national, youth-serving organizations in the U.S. also aim to promote aspects of PYD in their programs! Moreover, around the world, the 4-H Study model and methods are being used in more than 60 countries, including the 25 nations served by Compassion International, which has revised its theory of change to correspond to the Lerner and Lerner model. In addition, USAID, UNICEF, and World Bank are also aiming their programs at promoting PYD. Lerner and Lerner have also received more than 500 requests from around the world for the measures (e.g., PYD, Hopeful Future Expectations, Contribution) used in the 4-H Study of PYD. Figure 18 (Page 79) presents a map of where the PYD measure has been shared. In short, the 4-H Study of PYD may be one of the most cited and influential studies of youth development in history.

Across more than 100 publications and even more talks around the nation and world, Lerner, Lerner, and their students have explained that 4-H is an exemplar of a youth program that transforms PYD into contributions vital for enhancing families, communities, and ultimately the institutions of civil society and democracy. After conducting the 4-H Study of PYD, Lerner and Lerner predicted that, as adults, 4-H youth would become leaders of a vibrant America.

It is certainly timely to demonstrate that this prediction is true. As such, we conducted a project with two parts. Part 1, called the **Reconnection Study**, was a follow-up assessment of young people who participated in the original 4-H Study of PYD. In this study, we ascertained the life and work activities, health, and well-being and, especially, the family, community, and national contributions and civic engagement of these young people through their third decade of life. In order to do this, we re-contacted as many of the youth participants in the original study as feasible.

Part 2 of the project, called the **Replication Study**, was a small replication of the original 4-H Study. The Replication Study extended the youth-development leadership of 4-H programs to the current generations of American youth. Using what is termed a cohort-sequential design, we assessed current 4-H participants across the Grade 5-Grade 12 span.

In both the Reconnection Study and the Replication Study, we capitalized on refinements of measurement that have occurred in the current decade in regard to indexing constructs central to the original 4-H Study of PYD (e.g., PYD, intentional self-regulation skills, hopeful future

expectations, youth contribution, and the above-noted Big Three). In addition, keeping up with recent youth development research, we also included new constructs (e.g., empathy, growth mindset) to the set of influences on PYD.

Reconnection Study

Brief Overview of Method

The Reconnection Study took place from March 2021 to May 2023. The study had both a quantitative (survey) component and a qualitative (interview) component.

Quantitative Component

We used contact information from the original 4-H Study of PYD and various recruitment methods (e.g., email, phone call, text, newsletter announcements) to recruit young people to take part in the Reconnection Study. We began reaching out to participants of the original 4-H Study of PYD in late September 2021 via the email addresses participants provided in the original study ($n = 4,100$). Reaching these participants via email was challenging given that these email addresses were ten or more years old. As such, we had to adjust our strategies and use additional recruitment techniques such as phone calls, text messages, and outreach through 4-H newsletters to recruit participants. These additional recruitment methods, especially phone calls, were very helpful in reaching past participants. We called all participants who provided their phone numbers in the original study ($n = 623$) three to five times if their numbers were still in service, and participants provided us with new email addresses or called back to express interest in participating.

Whereas each of these steps may be regarded as customary in longitudinal research, the decade-long gap in communication required all of these steps to be used repeatedly, and thus the Reconnection Study proved to be costly in regard to both time and money. However, persistence paid off. We were able to recruit 332 young adults who participated in the original study of PYD (i.e., based on the phone numbers we were able to access, we had a 53.3% success rate after 10 years).

After giving their consent to participate, participants were directed to the online Qualtrics survey. The survey began with demographic questions (such as questions about marital status, education, and employment status), followed by questions related to our key constructs. We assessed participant views about the importance of youth programs and the role of youth development program experiences on decisions in adulthood. The survey also contained questions about PYD, contribution behaviors and attitudes, intentional self-regulation skills, relationship skills, health, and well-being, among other constructs. This one-time survey took participants about 30-40 minutes to complete.

Qualitative Component

As part of the consent form for the quantitative component, we asked participants if they would like to be contacted about an interview. These interviews would allow us to gain a better understanding of how being a part of a 4-H program has shaped participants' lives (e.g., goals and purpose, skills, contribution activities, relationships). We contacted a subset of participants who had both previously participated in 4-H programs and who expressed interest to invite them to participate in a follow-up interview ($n = 20$). The semi-structured interview started with generic background questions/life updates and was followed by more in-depth questions about the constructs included in the survey, such as program engagement, contribution behaviors and attitudes, purpose/goals, and well-being. The interviews lasted about 60-75 minutes.

Information on Reconnection Study Participants

Quantitative Component

332 participants took part in the quantitative survey. This sample size represents 46.7% of the 711 participants who took part in Wave 8 and 49.3% of the 673 participants who took part in Wave 9 of the original 4-H Study of PYD. This success rate compares quite favorably to other longitudinal research that attempted to reconnect with participants after a 10 year gap, where a 41.5% participation rate occurred after 10 years (Dimakos et al., 2022).

Below is the demographic information for these 332 participants represented by percentages.

FIGURE 1. GENDER OF RECONNECTION STUDY PARTICIPANTS

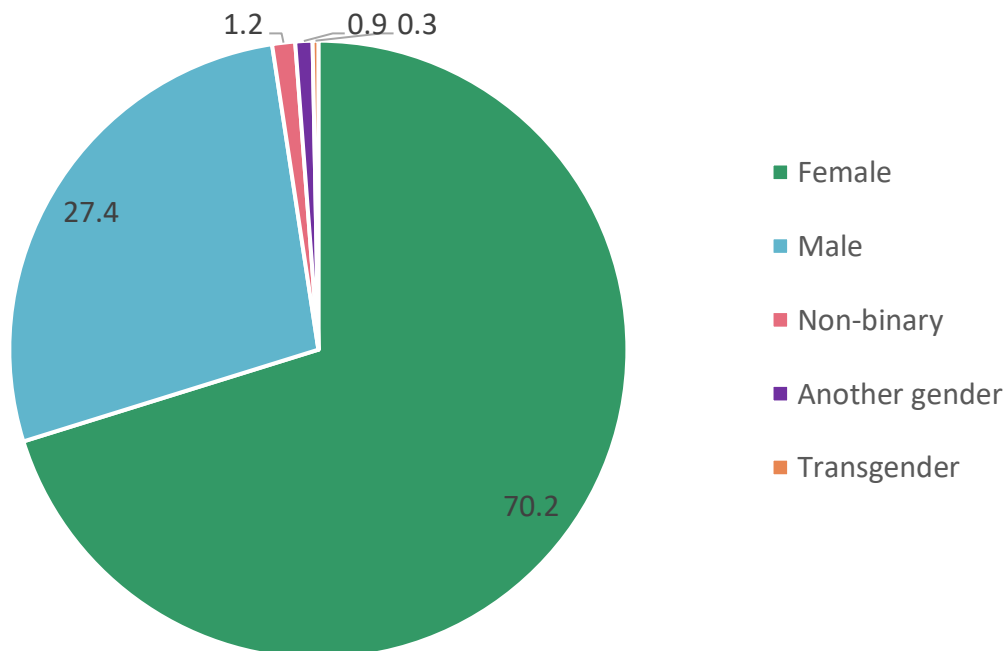


FIGURE 2. SEXUAL ORIENTATIONS OF RECONNECTION STUDY PARTICIPANTS

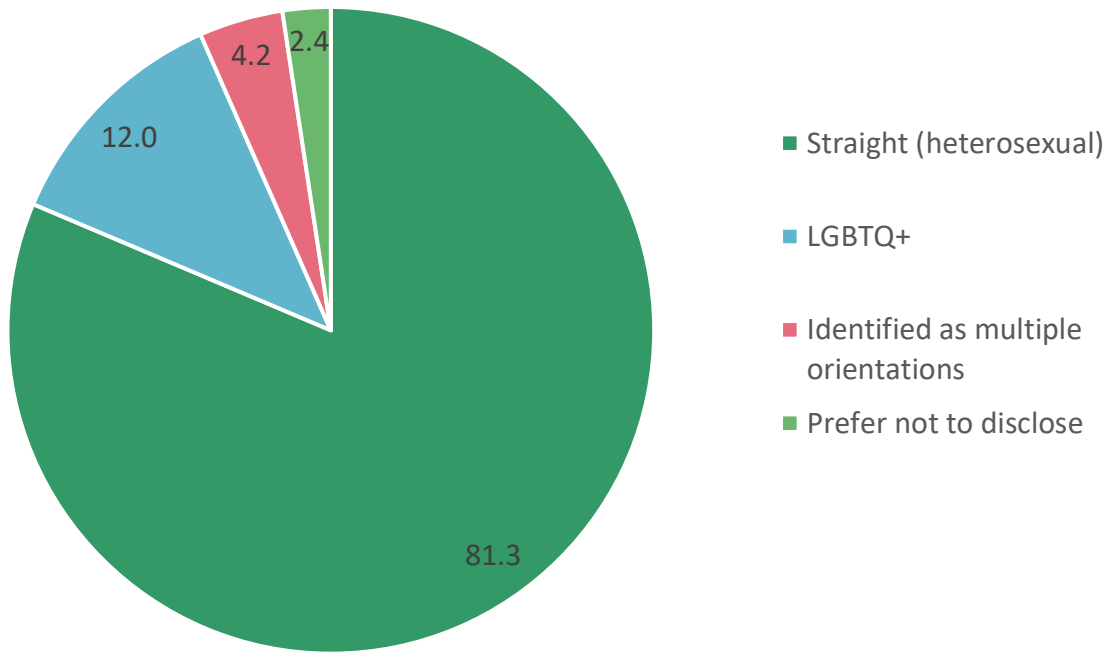


FIGURE 3. RACIAL/ETHNIC BACKGROUNDS OF RECONNECTION STUDY PARTICIPANTS

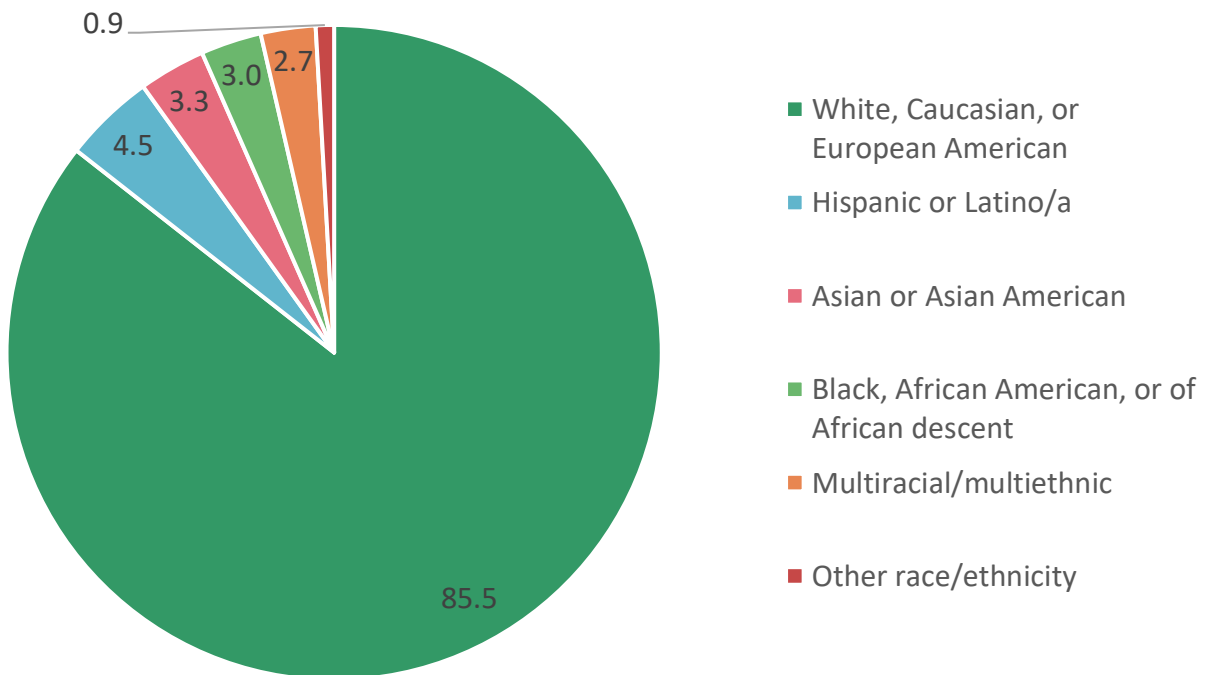


FIGURE 4. RELIGIONS OF RECONNECTION STUDY PARTICIPANTS

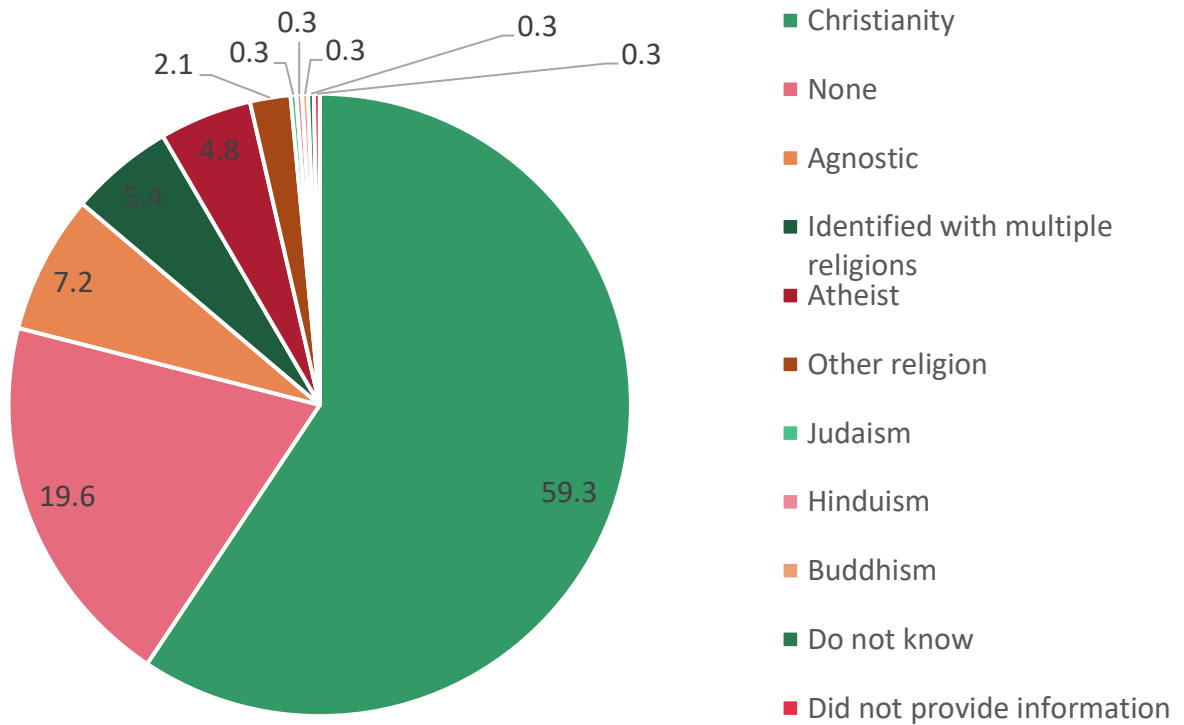
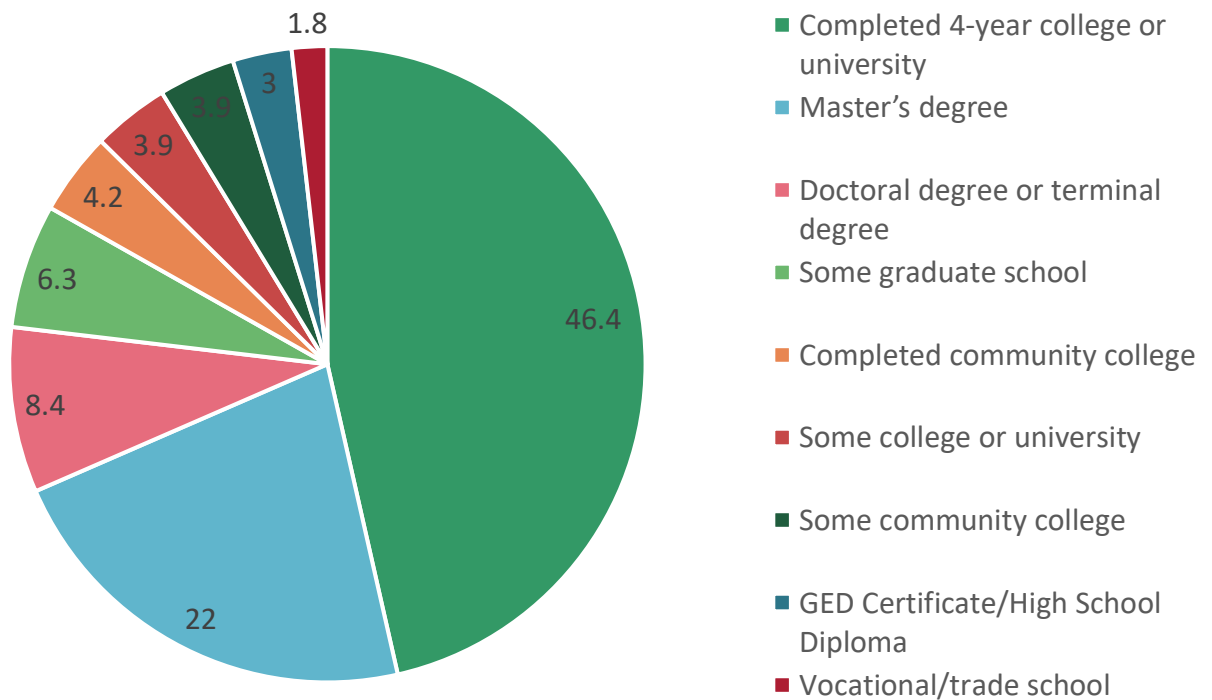
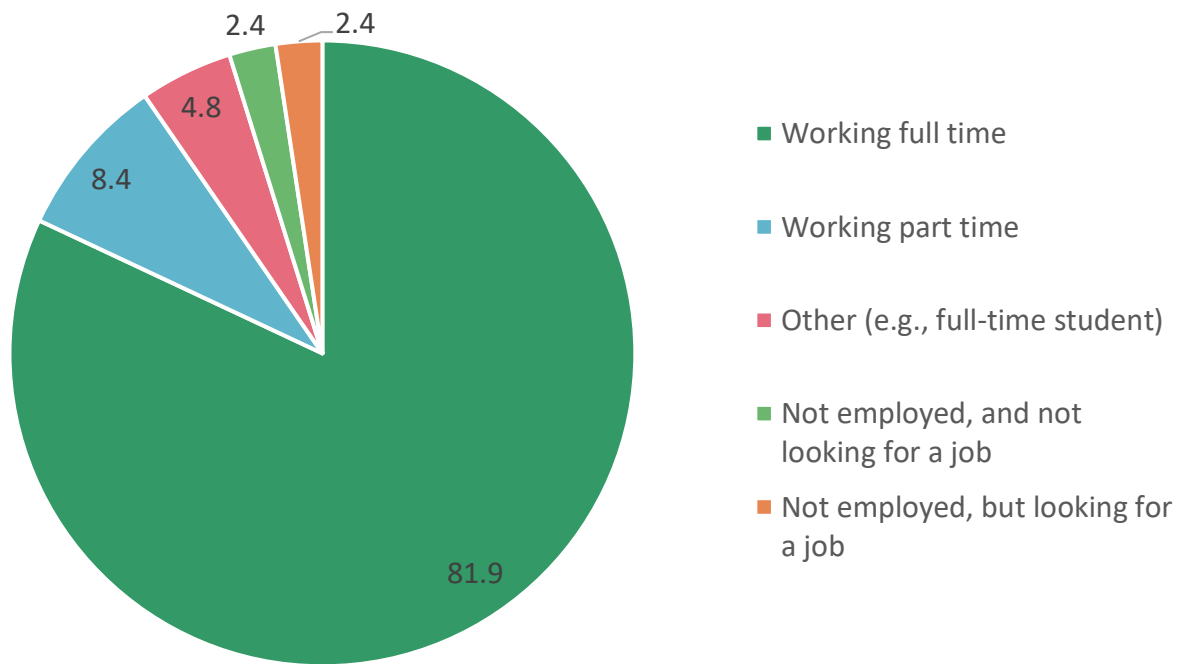


FIGURE 5. EDUCATION LEVEL OF RECONNECTION STUDY PARTICIPANTS



A note about education level: As was the case in the original 4-H Study of PYD, the Reconnection participants are more highly educated than the educational levels found in a random sample of the U.S. population. This sample characteristic is prototypic of many other samples of participants in long-term longitudinal studies; simply, highly-educated individuals are more likely to be willing to participate in research and more likely to remain in longitudinal studies (Gustavson et al., 2012). In this regard, it is important to note that the educational levels of 4-H participants did not differ from the educational levels of non-4-H participants.

FIGURE 6. EMPLOYMENT STATUS OF RECONNECTION STUDY PARTICIPANTS



A note about employment status: The employment demographics of the Reconnection sample closely resemble the employment status represented in a random sample of the U.S. population.

Qualitative Component

Twenty participants took part in a follow up interview for the Reconnection Study. Below is their demographic information represented by percentages.

FIGURE 7. GENDER OF RECONNECTION STUDY INTERVIEWEES

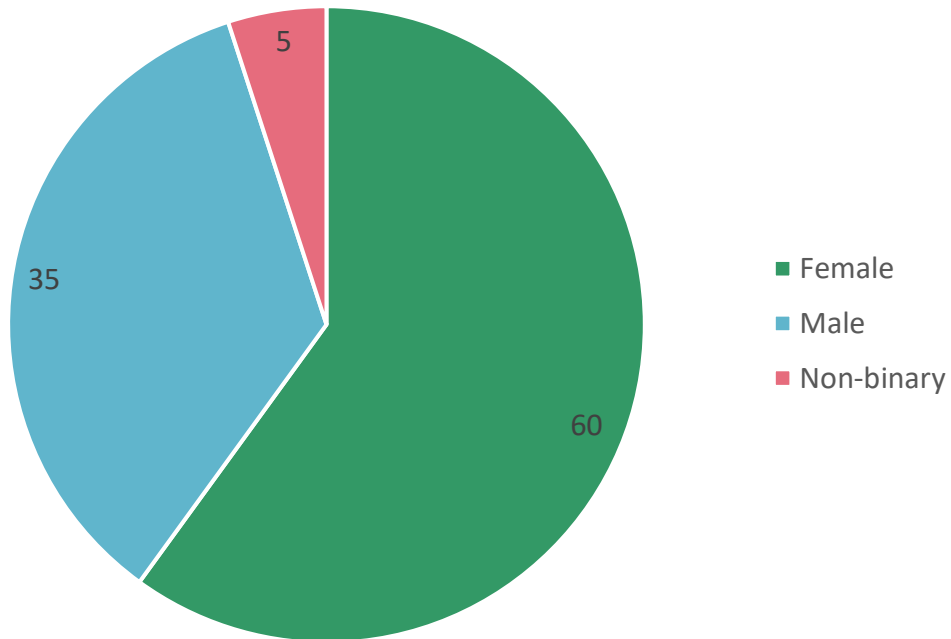


FIGURE 8. SEXUAL ORIENTATIONS OF RECONNECTION STUDY INTERVIEWEES

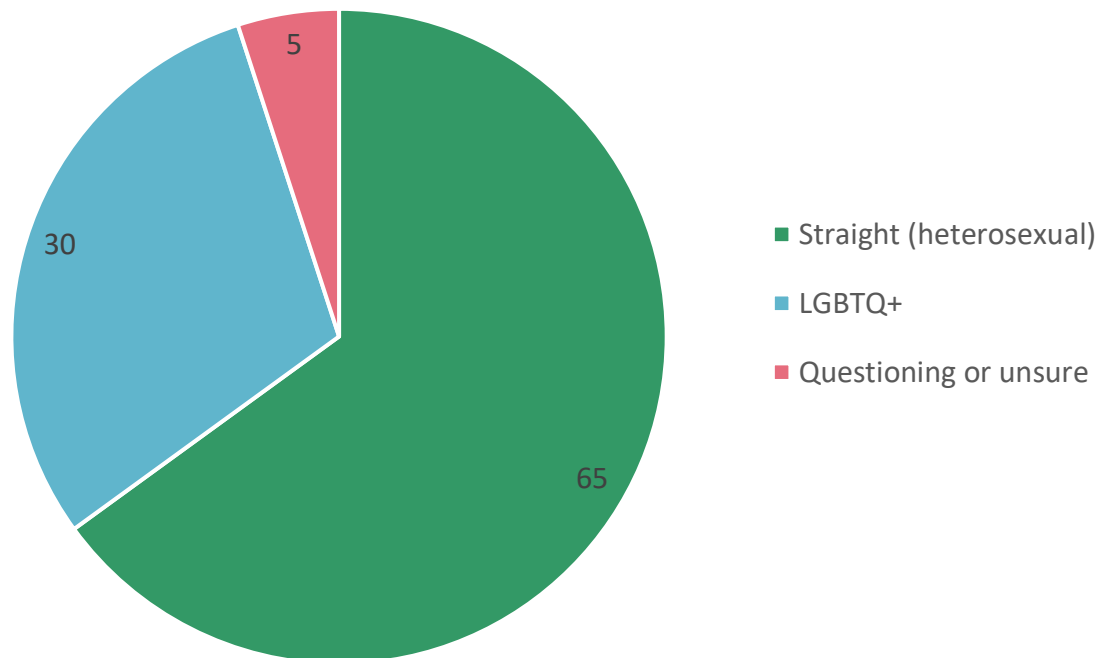
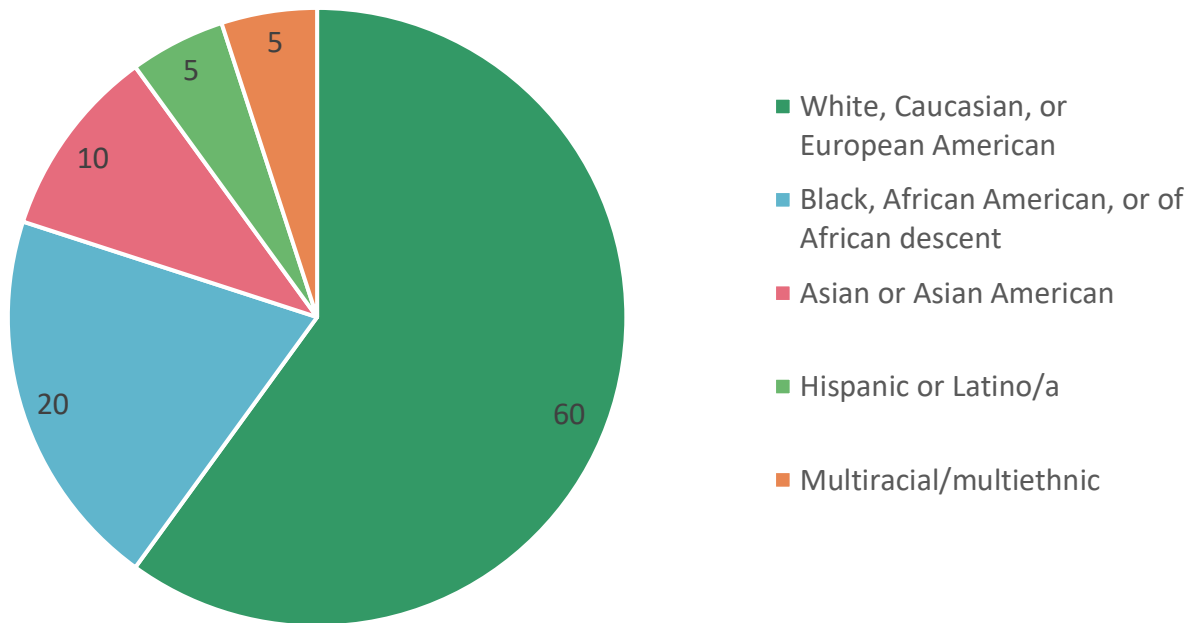


FIGURE 9. RACIAL/ETHNIC BACKGROUNDS OF RECONNECTION STUDY INTERVIEWEES



A note about racial/ethnic backgrounds: Whereas the racial/ethnic composition of the quantitative portion of the Reconnection sample corresponds to that of the original 4-H Study of PYD sample, we intentionally oversampled for participants from non-White racial/ethnic backgrounds in the qualitative (interview) portion of the Reconnection Study. This decision was made in our attempt to address criticisms of the original 4-H Study that questioned whether findings pertained to youth of color (e.g., see Spencer & Spencer, 2014).

FIGURE 10. RELIGIONS OF RECONNECTION STUDY INTERVIEWEES

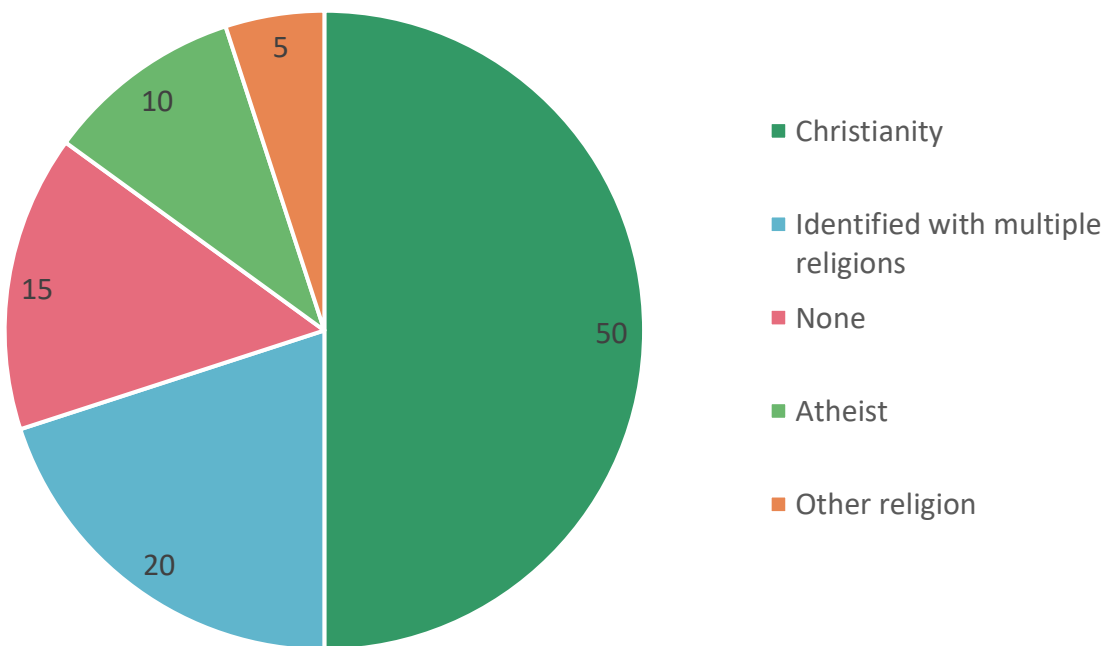


FIGURE 11. EDUCATION LEVEL OF RECONNECTION STUDY INTERVIEWEES

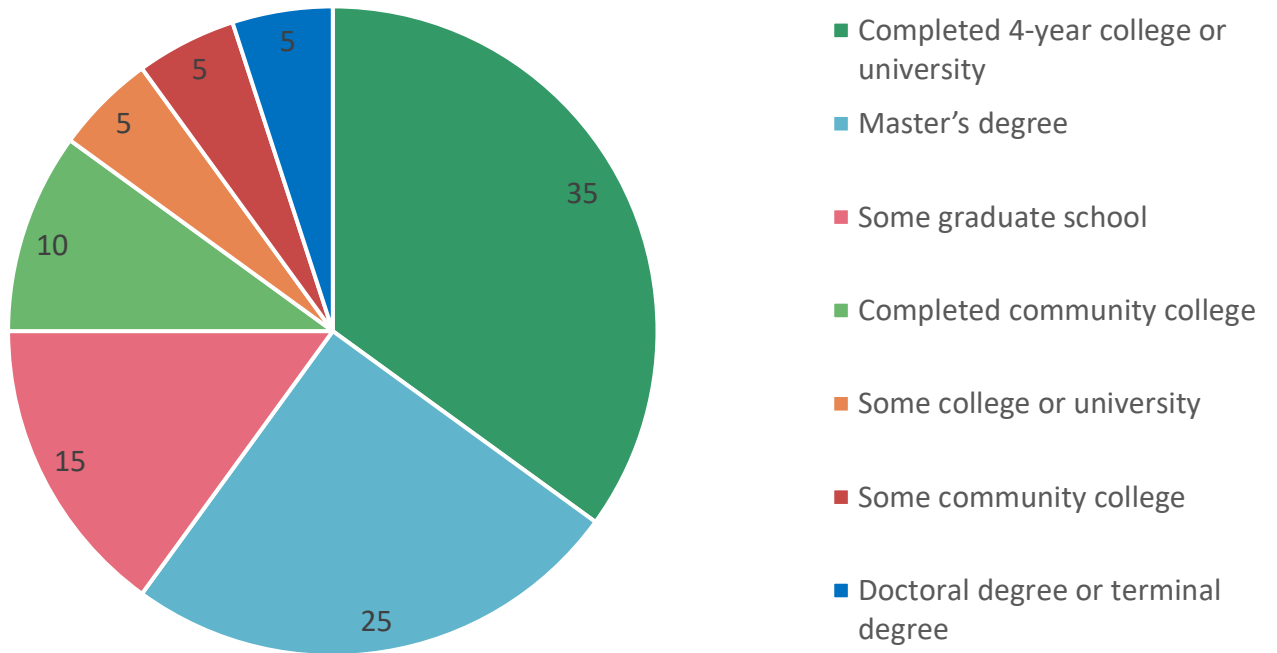
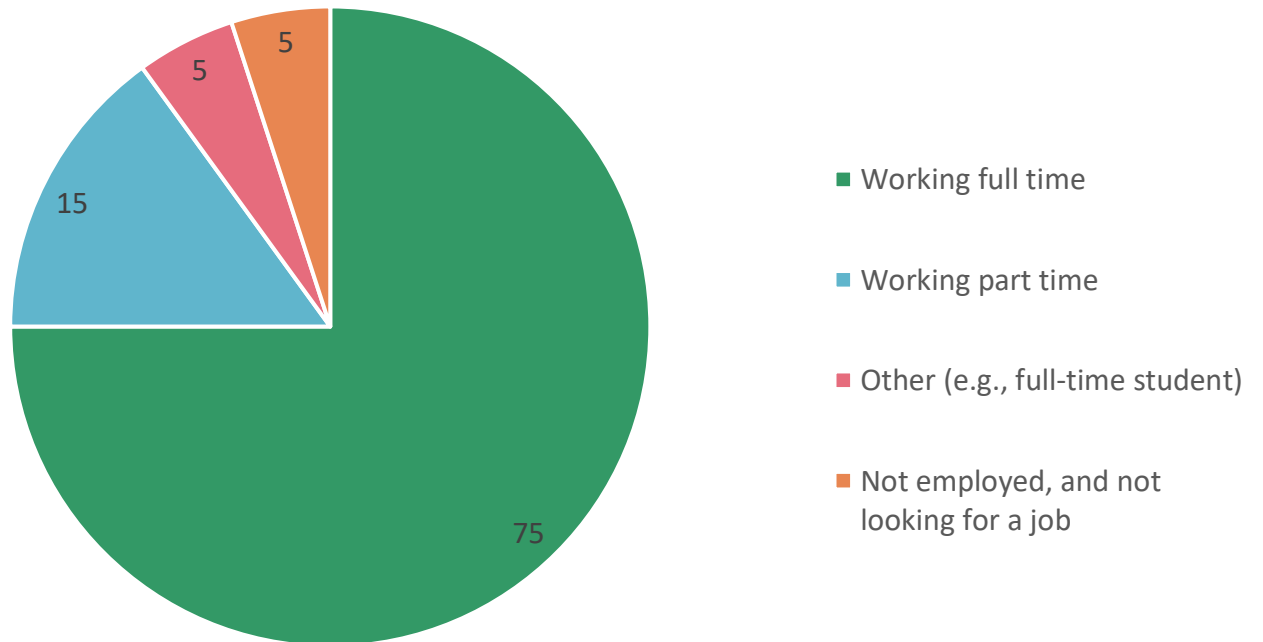


FIGURE 12. EMPLOYMENT STATUS OF RECONNECTION STUDY INTERVIEWEES



Constructs Measured in the Reconnection Study

Our survey contained items measuring a variety of young people’s individual characteristics and ecological assets. Below, we feature the main constructs measured in the Reconnection Study.

Positive Youth Development

We used the Very Short Form of the PYD measure (Geldhof et al., 2014) to assess the extent to which participants demonstrated the Five Cs of Competence, Confidence, Character, Connection, and Caring, as well as overall PYD. This measure contains 17 items (e.g., “I have a lot of friends,” “I really like the way I look,” “I want to make the world a better place to live,” “When I see someone being picked on, I feel sorry for them,” and “I am a useful and important member of my family”). The response scale ranged from 0 = *Never true of me* to 100 = *Always true of me*.

Contribution

We adapted four items from the Civic Engagement Questionnaire - Youth Social Responsibility Scale (Pancer et al., 2007) to assess the extent to which participants demonstrated contribution ideology. A sample item was: “People should share their wealth by giving to charity.” The response scale ranged from 0 = *Completely disagree* to 100 = *Completely agree*.

In addition to contribution ideology, we used the measure developed by the Connecting Adolescents’ Beliefs and Behaviors Study research team (see Johnson et al., 2016) to assess the extent to which participants demonstrated contribution-related activities. Participants were prompted with the following statement: “Here is a list of different types of activities in which people can be involved. Please think of your participation in these activities over the last 12 months.” Then, we showed a list of items describing contribution-related actions to which participants could respond how much they were engaged in them. One example of the items was: “Political activities are things like voting for or supporting a leader, candidate, or issue you believe in, participating in a civil rights group or political organization, or joining a political meeting. These activities could be in your city or your state.” The other items were about community service activities, social activism, helping people the participants knew, helping people they did not know, cultural activities, sports, and arts-based activities. The response scale ranged from 0 = *None of the time* to 100 = *All of the time*.

Health and Well-Being

We asked participants to respond to the question: “How good would you say your overall health is?” to assess their perceptions of their overall health. In addition, we adapted nine items from the Short Warwick-Edinburgh Mental Well-being Scale (Stewart-Brown et al., 2009) and WHO-5 Well-Being Index (1998) and developed one item to assess participants’ well-being. We asked participants to respond how often they felt in certain ways (e.g., “Hopeful about the future” and “Thinking clearly”) over the last 30 days. The response scale for the well-being items ranged from 0 = *None of the time* to 100 = *All of the time*.

Purpose

We adapted nine items from the Revised Youth Purpose Survey (Bundick et al., 2006) to explore participants' sense of purpose. Participants first read the following prompt: "People may have different types of goals for their lives. Below is a list of goals. How important is each goal to you?" Sample goals included "Make money," "Make the world a better place," "Serve God/Higher Power," and "Improve my community." The response scale ranged from 0 = *Not at all important* to 5 = *Extremely important*.

Hopeful Future Expectations

We adapted five items from Callina et al. (2017) to assess participants' Hopeful Future Expectations. We asked participants to think about their future and respond how likely they would be in positive states (e.g., "being healthy" and "having a job that pays well"). The response scale ranged from 0 = *Not at all likely* to 100 = *Completely likely*.

Relationship Skills

We adapted 10 items from the Interpersonal Reactivity Index (Davis, 1980; 1983) and the Adolescent Measure of Empathy and Sympathy (AMES; Vossen et al., 2015) to measure relationship skills. Sample items included: "I try to understand other people's point of view (Perspective Taking)" and "When a friend is scared, I also feel afraid (Empathic Concern)." The response scale ranged from 0 = *Never true of me* to 100 = *Always true of me*.

Known and Loved

We used ten items to assess participants' perceptions of feeling known and loved (Tirrell et al., 2022). We showed participants the prompt: "There is at least one person in my life who..." and then a list of descriptive items to respond to. Sample items included: "Knows me very well (Known)" and "Loves me (Loved)." The response scale ranged from 0 = *Completely disagree* to 100 = *Completely agree*.

Intentional Self-Regulation

We adapted 17 items from the short-form version (Geldhof et al., 2015) of the Selection, Optimization, and Compensation questionnaire developed by Freund and Baltes (2002) to assess the extent to which participants demonstrated intentional self-regulation. Sample items included: "I always focus on my most important goal," "I do whatever I can to reach my goals," "When I cannot reach my goal, I try another way of doing it," and "If I cannot reach a goal, I select another goal." The response scale ranged from 0 = *Never true of me* to 100 = *Always true of me*.

Leadership

We asked participants whether they had opportunities to lead groups. If they chose yes, we asked them about their leadership skills and experiences using nine adapted items from the Values in Action Inventory of Strengths 120 (VIA-120; Peterson & Seligman, 2004). A sample

item was: “One of my strengths is helping a group of people work well together.” The response scale ranged from 0 = *Never true of me* to 100 = *Always true of me*.

Impact of participation in 4-H programs

We asked participants to indicate whether they had participated in 4-H between the ages of 5 and 18. If they chose *yes*, we asked them to rate how important being a part of 4-H was in their life. In addition, participants were asked to indicate if participation in 4-H influenced their various decisions regarding their careers, abilities, and lifestyle choices. Moreover, we asked an open-ended question asking if there was anything that the participants wanted to share about the impact that 4-H had on their lives.

Key Findings from the Reconnection Study: Quantitative Component

Below, we present the results of the quantitative portion of the Reconnection Study. Specifically, we assessed whether there were differences in PYD among people who had previously participated in 4-H programs compared to those who did not previously participate in 4-H programs. In some cases ($n = 104$) it was unclear how to categorize participants. Some individuals indicated they were involved in 4-H during the original 4-H Study but said they were not in 4-H in the Reconnection Study. Others gave the opposite statement (not involved/involved). We continue to work to resolve these discrepancies. However, given the statistically likely generalizability of the percentage of 4-H/non-4-H participants in the identified sample ($n = 228$) to the unidentified sample, the results from this group would not change the results described in this report.

In addition, we also assessed differences in PYD between men and women among those with previous participation in 4-H programs. In the original 4-H Study of PYD (which began data collection in 2002) participants were only asked to identify whether they were male or female. Whereas in the Reconnection Study participants could provide us with more expansive gender identities (i.e., transgender, non-binary, another gender), the resulting rates for non-binary responses were not large enough for statistical analysis. The findings in this report regarding gender differences reflect well-known and often-repeated findings in the research literature (Leaper, 2015; Liben & Cole, 2017; van der Gaff et al., 2014). That is, in regard to gender differences, there are no findings in this research that indicate that 4-H women and men are different than women and men in the general U.S. population.

Table 1. SAMPLE SIZE FOR GROUP COMPARISON IN THE STUDY

	N
4-H	175
NON 4-H	53
4-H WOMEN	132
4-H MEN	38

The tables below represent the significant mean differences (standard errors and effect sizes in parentheses) between scores of young adults who participated 4-H programs and scores of young adults who did not participate in 4-H programs when they were younger. Blank cells indicate that there were no significant differences between the groups noted in the rows (i.e., 4-H vs. non 4-H, 4-H women vs 4-H men). The table below describes how we compared young adults in our sample and serves as a guide for interpreting findings:

	POSITIVE MEAN DIFFERENCE IN OUTCOME	NEGATIVE MEAN DIFFERENCE IN OUTCOME
4-H VS. NON 4-H INDIVIDUALS	4-H individuals scored higher on an outcome than non 4-H	4-H individuals scored lower on an outcome than non 4-H
4-H WOMEN VS. 4-H MEN	4-H women scored higher on an outcome than 4-H men	4-H women scored lower on an outcome than 4-H men

For example, a mean difference of 8.06 in Connection scores of 4-H young adults vs. non 4-H young adults indicates that 4-H young adults score 8.06 points higher on Connection on average (see Table 7. *Significant mean differences in Connection*). A mean difference of -8.88 in Competence scores of 4-H women vs. 4-H men indicates that 4-H women score 8.88 points lower on Competence on average (see Table 3. *Significant mean differences in Competence*).

Positive Youth Development

Young adults who participated in 4-H when they were younger reported high levels of the Five Cs of PYD, as well as overall PYD.

Table 2. MEANS AND STANDARD DEVIATIONS OF THE FIVE CS AMONG 4-H YOUNG ADULTS

	M (SD)
Competence	67.68 (17.90)
Confidence	78.29 (17.49)
Character	85.55 (12.46)
Caring	88.99 (12.63)
Connection	81.90 (15.03)
Overall PYD	81.28 (10.70)

Young adults who participated in 4-H programs reported significantly higher levels of Connection than young adults who did not participate in 4-H programs. Compared to young adults who did not participate in 4-H, 4-H young adults were 2.6 times more likely to report feeling connected to other people in their lives.

Among young adults who participated in 4-H programs, women reported lower levels of Competence, but higher levels of Character and Caring than men.

Table 3. SIGNIFICANT MEAN DIFFERENCES IN COMPETENCE (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	-
4-H WOMEN VS 4-H MEN	-8.88** (3.24, $d = -0.50$)

** $p < .01$

Table 4. SIGNIFICANT MEAN DIFFERENCES IN CONFIDENCE (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	-
4-H WOMEN VS 4-H MEN	-

Table 5. SIGNIFICANT MEAN DIFFERENCES IN CHARACTER (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	-
4-H WOMEN VS 4-H MEN	5.60* (2.41, $d = 0.46$)

* $p < .05$

Table 6. SIGNIFICANT MEAN DIFFERENCES IN CARING (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	-
4-H WOMEN VS 4-H MEN	6.02* (2.55, $d = 0.48$)

* $p < .05$

Table 7. SIGNIFICANT MEAN DIFFERENCES IN CONNECTION (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	8.06* (2.74, $d = 0.52$)
4-H WOMEN VS 4-H MEN	-

* $p < .05$

Table 8. SIGNIFICANT MEAN DIFFERENCES IN OVERALL PYD (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	-
4-H WOMEN VS 4-H MEN	-

Contribution

Young adults who participated in 4-H when they were younger reported high levels of contribution ideology, moderate levels of community service, helping behaviors, sports and other physical activities, as well as overall contribution action.

Table 9. MEANS AND STANDARD DEVIATIONS OF CONTRIBUTION AMONG 4-H YOUNG ADULTS

	M (SD)
Contribution Ideology	76.33 (18.32)
Community Service	38.19 (31.27)
Helping People You don't Know	47.60 (29.25)
Helping People You Know	69.97 (26.38)
Political Activities	33.05 (32.11)
Social Activism	24.27 (28.84)
Cultural Activities	22.26 (30.34)
Sports or Other Physical Activities	45.87 (34.37)
Arts-Based Activities	35.29 (33.56)
Overall Contribution Action	40.12 (20.71)

There were no significant differences in reported contribution ideology between young adults who participated in 4-H programs and young people who did not participate in 4-H. However, young adults who participated in 4-H programs reported significantly higher levels of participation in community service and helping people they do not know. Compared to young adults who did not participate in 4-H, 4-H young adults were 3.2 times more likely to report participating in community service and 1.8 times more likely to report helping people they do not know. **These findings suggest that involvement in 4-H programs may play a role in Contribution action into adulthood.**

Among 4-H participants, women reported significantly higher levels of helping people they do not know than men. No other significant differences were found among the two groups.

Table 10. SIGNIFICANT MEAN DIFFERENCES IN CONTRIBUTION IDEOLOGY (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	-
4-H WOMEN VS 4-H MEN	-

Table 11. SIGNIFICANT MEAN DIFFERENCES IN COMMUNITY SERVICE (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	19.17*** (4.91, $d = 0.64$)
4-H WOMEN VS 4-H MEN	-

*** $p < .001$

Table 12. SIGNIFICANT MEAN DIFFERENCES IN HELPING PEOPLE YOU DON'T KNOW (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	9.60* (4.65, $d = 0.33$)
4-H WOMEN VS 4-H MEN	15.82** (5.55, $d = 0.56$)

* $p < .05$; ** $p < .01$

Table 13. SIGNIFICANT MEAN DIFFERENCES IN HELPING PEOPLE YOU KNOW (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	-
4-H WOMEN VS 4-H MEN	-

Table 14. SIGNIFICANT MEAN DIFFERENCES IN POLITICAL ACTIVITIES (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	-
4-H WOMEN VS 4-H MEN	-

Table 15. SIGNIFICANT MEAN DIFFERENCES IN SOCIAL ACTIVISM (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	-
4-H WOMEN VS 4-H MEN	-

Table 16. SIGNIFICANT MEAN DIFFERENCES IN CULTURAL ACTIVITIES (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	-
4-H WOMEN VS 4-H MEN	-

Table 17. SIGNIFICANT MEAN DIFFERENCES IN SPORTS ACTIVITIES (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	-
4-H WOMEN VS 4-H MEN	-

Table 18. SIGNIFICANT MEAN DIFFERENCES IN ARTS-BASED ACTIVITIES (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	-
4-H WOMEN VS 4-H MEN	-

Health and Well-Being

Young adults who participated in 4-H when they were younger reported high levels of overall health and moderately high levels of well-being.

Table 19. MEAN AND STANDARD DEVIATION OF HEALTH AND WELL-BEING AMONG 4-H YOUNG ADULTS

	M (SD)
Health	79.81 (15.29)
Well-Being	72.25 (15.22)

There were no significant differences in reported health and well-being between 4-H vs non 4-H groups, as well as between 4-H women and 4-H men.

Table 20. SIGNIFICANT MEAN DIFFERENCES IN HEALTH (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	-
4-H WOMEN VS 4-H MEN	-

Table 21. SIGNIFICANT MEAN DIFFERENCES IN WELL-BEING (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	-
4-H WOMEN VS 4-H MEN	-

Purpose

Young adults who participated in 4-H when they were younger reported high levels of different purposes, most notably helping others.

Table 22. MEANS AND STANDARD DEVIATIONS OF PURPOSE AMONG 4-H YOUNG ADULTS

	M (SD)
Make Money	73.21 (21.89)
Have a Good Career	79.44 (20.89)
Have Fun	86.10 (16.23)
Help Others	87.20 (16.02)
Work to Fight Racism or Other Forms Of Discrimination and Inequities	64.56 (29.69)
Serve God/Higher Power	53.95 (41.36)
Serve My Country	44.33 (32.02)
Improve My Community	76.02 (21.64)
Be a Leader	69.66 (27.23)
Overall Purpose	70.53 (13.84)

Young adults who participated in 4-H programs reported significantly higher levels of purpose than young people who did not participate in 4-H. Compared to young adults who did not participate in 4-H, 4-H young adults were 2.3 times more likely to report leading purposeful lives. 4-H adults also reported significantly higher levels of the goal of “[being] a leader,” as well as beyond-the-self goals including “[helping] others,” “[serving] God/Higher Power,” and “[serving] my country.” Compared to young adults who did not participate in 4-H, 4-H young adults were 1.9 times more likely to report having the goal of being a leader, 2.3 times more likely to report having the goal of helping others, 3.3 times more likely to report having the goal of serving God/Higher Power, and 2.1 times more likely to report having the goal of serving their country. **These findings suggest involvement in 4-H programs may play a role in enabling purposeful lives.**

There were no significant differences in reported overall purpose between 4-H women and 4-H men, but 4-H women reported significantly lower levels of having the purpose to serve their country compared to 4-H men.

TABLE 23. SIGNIFICANT MEAN DIFFERENCES IN THE PURPOSE TO MAKE MONEY (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	-
4-H WOMEN VS 4-H MEN	-

TABLE 24. SIGNIFICANT MEAN DIFFERENCES IN THE PURPOSE TO HAVE A GOOD CAREER (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	-
4-H WOMEN VS 4-H MEN	-

TABLE 25. SIGNIFICANT MEAN DIFFERENCES IN THE PURPOSE TO HAVE FUN (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	-
4-H WOMEN VS 4-H MEN	-

TABLE 26. SIGNIFICANT MEAN DIFFERENCES IN THE PURPOSE TO HELP OTHERS (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	8.20** (2.76, $d = 0.47$)
4-H WOMEN VS 4-H MEN	-

** $p < .01$

TABLE 27. SIGNIFICANT MEAN DIFFERENCES IN THE PURPOSE TO WORK TO FIGHT RACISM OR OTHER FORMS OF DISCRIMINATION AND INEQUITIES (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	-
4-H WOMEN VS 4-H MEN	-

TABLE 28. SIGNIFICANT MEAN DIFFERENCES IN THE PURPOSE TO SERVE GOD/HIGHER POWER (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	26.45*** (6.61, $d = 0.66$)
4-H WOMEN VS 4-H MEN	-

*** $p < .001$

TABLE 29. SIGNIFICANT MEAN DIFFERENCES IN THE PURPOSE TO SERVE THEIR COUNTRY (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	13.21** (5.04, $d = 0.42$)
4-H WOMEN VS 4-H MEN	-15.60** (5.76, $d = -0.51$)

** $p < .01$

TABLE 30. SIGNIFICANT MEAN DIFFERENCES IN THE PURPOSE TO IMPROVE THEIR COMMUNITY (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	-
4-H WOMEN VS 4-H MEN	-

TABLE 31. SIGNIFICANT MEAN DIFFERENCES IN THE PURPOSE TO BE A LEADER (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	9.86* (4.71, $d = 0.35$)
4-H WOMEN VS 4-H MEN	-

* $p < .05$

TABLE 32. SIGNIFICANT MEAN DIFFERENCES IN OVERALL PURPOSE (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	6.42** (2.30, $d = 0.46$)
4-H WOMEN VS 4-H MEN	-

** $p < .01$

Hopeful Future Expectations

Young adults who participated in 4-H when they were younger reported high levels of different hopeful future expectations.

Table 33. MEANS AND STANDARD DEVIATIONS OF HOPEFUL FUTURE EXPECTATIONS AMONG 4-H YOUNG ADULTS

	M (SD)
Be Healthy	85.29 (15.66)
Have a Job That Pays Well	80.59 (20.73)
Have a Happy Family Life	88.94 (16.64)
Be Safe	89.86 (14.85)
Have Friends You Can Count on	87.29 (19.25)
Overall Hopeful Future Expectations	86.11 (12.56)

There were no significant differences in reported hopeful future expectations between 4-H vs non 4-H groups.

Among 4-H young adults, women reported having significantly higher levels of the hopeful future expectation of having a happy family life and being safe compared to men.

TABLE 34. SIGNIFICANT MEAN DIFFERENCES IN THE HOPEFUL FUTURE EXPECTATION TO BE HEALTHY (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	-
4-H WOMEN VS 4-H MEN	-

TABLE 35. SIGNIFICANT MEAN DIFFERENCES IN THE HOPEFUL FUTURE EXPECTATION TO HAVE A JOB THAT PAYS WELL (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	-
4-H WOMEN VS 4-H MEN	-

TABLE 36. SIGNIFICANT MEAN DIFFERENCES IN THE HOPEFUL FUTURE EXPECTATION TO HAVE A HAPPY FAMILY LIFE (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	-
4-H WOMEN VS 4-H MEN	6.19* (2.99, $d = 0.38$)

TABLE 37. SIGNIFICANT MEAN DIFFERENCES IN THE HOPEFUL FUTURE EXPECTATION TO BE SAFE (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	-
4-H WOMEN VS 4-H MEN	9.39*** (2.58, $d = 0.67$)

*** $p < .001$

TABLE 38. SIGNIFICANT MEAN DIFFERENCES IN THE HOPEFUL FUTURE EXPECTATION TO HAVE FRIENDS YOU CAN COUNT ON (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	-
4-H WOMEN VS 4-H MEN	-

TABLE 39. SIGNIFICANT MEAN DIFFERENCES IN OVERALL HOPEFUL FUTURE EXPECTATIONS (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	-
4-H WOMEN VS 4-H MEN	-

Relationship Skills

Young adults who participated in 4-H when they were younger reported high levels of perspective taking and moderate levels of empathic concern.

Table 40. MEANS AND STANDARD DEVIATIONS OF RELATIONSHIP SKILLS AMONG 4-H YOUNG ADULTS

	M (SD)
Perspective Taking	80.60 (15.22)
Empathic Concern	65.29 (20.22)

There were no significant differences in reported relationship skills between 4-H vs non 4-H groups. Among young adults who participated in 4-H programs, women reported significantly higher levels of empathic concern than men.

Table 41. SIGNIFICANT MEAN DIFFERENCES IN PERSPECTIVE TAKING (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	-
4-H WOMEN VS 4-H MEN	-

Table 42. SIGNIFICANT MEAN DIFFERENCES IN EMPATHIC CONCERN (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	-
4-H WOMEN VS 4-H MEN	15.38*** (3.53, $d = 0.80$)

*** $p < .001$

Known and Loved

Young adults who participated in 4-H when they were younger reported high levels of feeling known and loved.

Table 43. MEANS AND STANDARD DEVIATIONS OF KNOWN AND LOVED AMONG 4-H YOUNG ADULTS

	M (SD)
Known	93.52 (11.99)
Loved	94.30 (11.28)

There were no significant differences in reported feelings of being known and loved between 4-H vs non-4-H groups, as well as between 4-H women and 4-H men.

Table 44. SIGNIFICANT MEAN DIFFERENCES IN KNOWN (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	-
4-H WOMEN VS 4-H MEN	-

Table 45. SIGNIFICANT MEAN DIFFERENCES IN LOVED (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	-
4-H WOMEN VS 4-H MEN	-

Intentional Self-Regulation

Young adults who participated in 4-H when they were younger reported moderate levels of intentional self-regulation.

Table 46. MEAN AND STANDARD DEVIATION OF INTENTIONAL SELF-REGULATION AMONG 4-H YOUNG ADULTS

	M (SD)
Intentional Self-Regulation	65.86 (14.87)

There were no significant differences in reported intentional self-regulation between 4-H vs non 4-H groups, as well as between 4-H women and 4-H men.

Table 47. SIGNIFICANT MEAN DIFFERENCES IN INTENTIONAL SELF-REGULATION (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	-
4-H WOMEN VS 4-H MEN	-

Leadership

Young adults who participated in 4-H when they were younger reported high levels of leadership.

Table 48. MEAN AND STANDARD DEVIATION OF LEADERSHIP AMONG 4-H YOUNG ADULTS

	M (SD)
Leadership	86.05 (9.65)

There were no significant differences in reported leadership skills between 4-H vs non 4-H groups, as well as between 4-H women and 4-H men.

TABLE 49. SIGNIFICANT MEAN DIFFERENCES IN LEADERSHIP (ON A SCALE OF 0 TO 100)

4-H VS NON 4-H	-
4-H WOMEN VS 4-H MEN	-

Impact of participation in 4-H programs

Young adults who participated in 4-H programs when they were younger reported that participation in 4-H programs moderately to highly influenced various decisions regarding their careers, abilities, and lifestyle choices. Most notably, these young adults indicated that participation in 4-H programs influenced their confidence and leadership skills, ability to develop a positive network, as well as participation in community service.

Table 50. PARTICIPANTS' REPORTS ON THE INFLUENCE OF 4-H ON THEIR...

	n	M	SD
Decision to Enter a STEM (Science, Technology, Engineering, and Math) Career	59	63.56	31.21
Preparedness for Their Current Job.	171	62.78	32.51
Career Choices.	169	57.44	30.44
Involvement in Community Service Activities.	172	74.52	27.51
Confidence and Leadership Skills.	172	81.49	24.68
Decision-Making Authority.	171	72.29	28.53
Ability to Share Their Voice and Influence People.	172	72.18	28.69
Ability to Develop a Positive Network.	171	74.84	26.96
Decision to Volunteer in Community.	171	72.64	27.94
Decisions about Healthy Food Choices.	170	49.84	30.70
Decisions about Healthy Habits.	172	58.10	30.45

Key Findings from the Reconnection Study: Qualitative Component

Below we present both selected quotes and emerging themes from the open-ended survey questions and interviews. Analyses of the qualitative data are ongoing. As a preliminary analysis, members of the Tufts University and Boston College research team read through participant responses and began note taking, proceeding with the development of a list of emerging themes. In addition, trained research assistants extracted quotes that reflect themes that are emerging from the interviews.

Selected Quotes from Reconnection Study participant interviews

Survey question: Is there anything else you would like to share about how your past 4-H participation impacts you today?

"I carry many of the lessons and skills learned in 4-H with me today. Many of the friendships made in 4-H remain meaningful friendships today. I continue to find enrichment and joy from 4-H as I now am watching my children start their own 4-H careers."

"4-H was working with a fun community-loving group. It taught me so much about how to get along in a group and work together for a common goal. I developed many important life skills but didn't realize it at the time, as we were just having fun and living life. Good mentors and role models for life. I was very active in 4-H. I loved it!"

"4-H is a wonderful program that has shaped me into the person I am today. I would not have the social skills that I have now at all without the help of my 4-H experiences. Through 4-H I was able to see and do things that I would have normally not been able to or afford to. Growing up

in a small rural community 4-H was able to expand my worldview and show me that there is more out there to see and explore. 4-H helped me to meet different types of people and taught me how to get along with them. My time in 4-H contains some of my most treasured memories. Through 4-H I have made friendships that have lasted longer than any others. 4-H is something that I will continue to support, thanks to the impact it had on me.”

“Out of all of my 4-H experiences, I think that one of the most important ones was the development of my leadership skills. I was a painfully shy child, and I still am quite reserved around new people. Without the youth leader project (and later on becoming an adult leader) I would have been unlikely to be able to develop the leadership skills that I need at work.”

“Participating in 4-H helped develop my work ethic and decision making skills, which helped me pursue further education and find an area I find fulfilling that positively impacts the community.”

“Besides my home-life, 4-H was the single most impactful aspect of my youth. The impact was incredibly positive, and I can trace most of my career/community success as an adult, along with my leadership skills, directly to my participation in the 4-H program and the dedicated adults that served us.”

“I loved 4-H because it gave me the ability to connect with people in and out of my community. I still have some of those friendships today and we are still developing. The program was a great steppingstone to developing a voice and leadership in my business and personal life.”

Emerging themes from open-ended survey responses:

1. **Skill Building.** 4-H offered youth opportunities to build skills for the future. Most commonly mentioned skills: public speaking, leadership, teamwork
2. **Opportunities to Build Relationships.** 4-H offered youth opportunities to form new and lasting relationships (with both peers and adult staff)
3. **Community Importance.** 4-H taught young people the importance of both community and community involvement
4. **New Experiences.** 4-H encouraged young people to step out of their comfort zone (e.g., for shy youth to meet new people and to learn skills such as leadership and public speaking; for youth to explore different interests)

The above themes are represented in the Word Cloud presented below. This word cloud was developed by inserting the open-ended survey responses into a program that highlights the most commonly used words.



Qualitative Interview Quotes:

Interview question: Can you tell me a little bit about your experiences in 4-H? What are your strongest memories of 4-H?

“Those memories of going on that trip and being with some lifelong friends... I guess I still see some of those people today, and I have conversations with them and stuff, so it's really fun to look back on that to the experiences we got to have.”

“[The 4-H leader] like kind of lay down the groundwork for us—doing something fun, but us also learning how to follow the rules and be respectful. His deal was like, I can be fun, we can do fun things, but I think he taught us we have to be respectful and make it enjoyable, for not only ourselves, but for him, too, for us to be able to get through all these things.”

Interview question: Are there aspects of your experiences in 4-H that still have an impact on your life today?

“Demonstration Day or public speaking things I would do—that kind of helped prepare me for getting to college. And then further on, in Residency, where you had to stand up and give a presentation, and just kind of having some of those skills, or you know, a little more familiarity to be a little more confident up there... I think I definitely use that. Some of the connections I made along the way with people in other counties, you know I still see them, and you know, run into them, and you know we still kinda have that shared bond, almost from growing up and doing the various activities together.”

“I think there's a very strong connection between my participation in the Know Your Government program to the fact that I work in State Government or in the State government world.”

“The work ethic, the ‘Okay, you found something. Let’s give it a shot,’ you know. See what it’s like. Oh, you found something new you seem interested in. Let’s do a project on it. Okay, let’s learn about it. And then, if it seems interesting, let’s take it a step further.”

“The judging aspect of county fairs really helped me in interview processes. I learned things that I wouldn’t have otherwise had I not had to do that from a very young age. You have to talk about your projects, what you did, and how you did it, things you learned about it, and then just talking to another person about it. Because there’re times when I’ve had to do phone interviews with high schoolers and college students for summer staff and you can tell the people who’ve never had to do any sort of interview before versus the ones who had a little bit of practice. I think that helped me quite a bit.”

“And I would say researching stuff because I was in 4-H at a time where Google was just starting off and Pinterest was not really a thing. So some of my projects I actually went to the library for, I had to navigate the web without Google. So [4-H] gave me skills in researching.”

“I think that’s where being open minded comes from, and just being curious. There weren’t a lot of Black girls in 4-H, so having those experiences that I probably wouldn’t have if I wasn’t in 4-H really stuck with me. Instead of saying, ‘I’m not getting on a horse because I don’t know anything about a horse, I’m going to do it and see what it’s about.’ And I’ve been horseback riding many times.”

“4-H was a great way to hang out with the other children our age and have to socialize. I know that it was good for that. I’m sure it helped me develop socially. We did a lot of outdoors [activity]. They partnered with the Missouri Department of Conservation a lot. An agent would come out and we would do some kind of nature activity. That’s right up my alley so I know that helped nurture my love for nature”

Interview question: Can you tell me a bit about the skill sets you learned while involved in 4-H?

“Willing to try new things as something, you know, for it just kind of taught me. I tried a bunch of different stuff there, you know, some on my own accord, some being encouraged to. And I think having good experiences with that keeps me a little more open minded now to try different things, different opportunities that come up. Join different organizations just because I had a good experience in the past.”

“Being able to work on stuff and fix things, and that’s one thing that I really enjoy doing—being able to fix things when they’re broken and not have to just throw something away and kind of stuff like that.”

“4 H definitely prepared me for a lot of public speaking. It's speaking, being willing to get up in front of a group of people and talk for several different types of time limits. That public demonstration helped me even to today.”

Interview question: Do you think any of the things you learned in 4-H may have helped you navigate the pandemic?

“Yeah. I think so, because it was a really tough time, and just being able to like know how to feel and communicate and make smart decisions and stuff like that. It just was really good...to have that history of knowing what's going on and how you can like tell somebody how you're feeling and stuff like that, because I think that was a lot of people that had bad relationships and stuff through the pandemic, and [I just knew] that our marriage is even stronger”

“I don't know if this is because of 4-H or because of growing up in a rural community and having to be a little bit more self-sufficient, but I definitely feel like repurposing some things and trying to be resourceful with the ingredients or supplies that you had could definitely have been connected back to 4 H.”

Interview question: How would you describe your relationships with adults or staff in your 4-H program?

“Yeah, we had really good relationships with a lot of the instructors and stuff. Like I said, we did a lot of the stuff around horses... And that's probably why we stuck with it so long because it was just such healthy relationships and positive experiences.”

“Very positive. I know that the individual who led our county team and team experience program still has my phone number 10 plus years later”

Interview question: Did your time at 4-H encourage you to pursue your purpose?

“I feel that's part of my purpose as well as to give back, based on my own skill sets. A lot of it probably stems back to growing up, figuring out what I was good at what I enjoyed. And then, looking at those people that kind of help me get there. You know, taking from them and continuing to pass it on, knowing what kind of impact they had on me also motivates me to, you know, try to be impactful on the next generation as well. Last stuff stems back to 4 H. All those different activities really made a big impact on my life, especially early on.”

“I guess that's what I really try and do is just try and make the world better for my kids. Yeah, probably that like on that Step Up Award that I told you about that kind of really provided that spark to really push myself to do more kind of just not be just going through the motions, but you can do more to help other people. Help yourself. Provide lifelong, a lifelong purpose”

“I knew I wanted to be a teacher, but I also knew that I was super shy. [Participating in 4-H] really helped me to come out of my shell, and even though I’m still shy, it’s ok to be shy. I can still present this thing, get in front of a classroom, get in front of a group of people and talk to them even if I’m shy. It really helped me with that.”

Conclusions about the Impact of 4-H

It is notable that through their 20s and into their 30s the 4-Hers continued to thrive as individuals and citizens, as evidenced by their high levels of PYD, contribution, health and well-being, as well as high levels of all PYD-related constructs examined in the study: Purpose, hopeful future expectations, relationship skills, feeling known and loved, intentional self-regulation skills, and leadership. In addition, 4-Hers reported that 4-H programs influenced various decisions regarding their careers, abilities, and lifestyle choices. Most notably, these young adults indicated that participation in 4-H programs influenced their confidence and leadership skills, ability to develop a positive network and work as a team, as well as participation in community services.

Compared to non-4-Hers, 4-Hers reported higher levels of purpose, contribution (helping others they do not know and community service), and feeling connected to other people. These findings are tied closely to 4-H’s programmatic emphasis on community action and leadership. Overall, these Reconnection findings provide unique and important evidence that participation in 4-H during adolescence puts young people on a thriving pathway to becoming competent, committed, and contributing members of our American democracy.

Replication Study

Brief Overview of Method

The Replication Study was an accelerated longitudinal study of the positive development of students in Grade 6 through the year after graduating from high school. Data collection included three times of survey collection: the first took place in March 2021, the second in November 2021, and the third in March 2022.

New York State 4-H constituted the foundational sample for the Replication Study across three time points. New York State was picked as the foundational sample given that the demographics of New York State allowed us to use sampling techniques that enable researchers to define and obtain a sample with desired demographic characteristics. Of course, these techniques had never been used during a global pandemic, which we had no way of anticipating when we selected our methodology. Nevertheless, despite the constraints of the pandemic, we

were able to take some steps to obtain a Replication sample that involved more diversity than in the original sample. Of course, there is no way of getting around the fact that working in a pandemic represented a major challenge for the project.

With the collaboration from youth development program personnel, we were able to recruit 465 youth in total. Among these 465 youth, 444 youth participated at Wave 1, 399 youth participated at Wave 2, and 386 participated youth at Wave 3 of data collection. At the first time of data collection, youth development program personnel sent an invitation email to parents/guardians to inform them about the opportunity for their child to participate. After parents/guardians provided permission, we sent youth an email explaining the purpose of the study and the steps to participate. After giving assent to take part in the study, youth were directed to an online Qualtrics survey. The survey included questions about demographic information, participation and experiences in youth programs, contribution, intentional self-regulation skills, relationship skills, health and well-being, purpose, among others. On average, the survey took 30-40 minutes to complete.

At Time 2 and Time 3, the research team directly sent links to the assent form and survey to youth whose parents gave permission to participate in the study. After youth assented to take part in the survey, they were directed to the online Qualtrics survey. The Time 2 and Time 3 surveys were similar to Time 1 survey, and each took about 30-40 minutes to complete.

In addition to the foundational New York State sample, we also will be receiving de-identified data from state collaborators, who conducted their own studies. The process of receiving de-identified data has been challenging, with each LGU having to go through their own IRB process and their own process of securing data use agreements. At this point in time, we have received survey data from Missouri, and we are working with West Virginia, Pennsylvania, and Indiana and their universities to receive their study data. Once we receive de-identified data from all LGUs, we will include such data in the analyses, which may change the findings presented below.

Information on the Study Participants

For the purposes of the present report, we focus only on participants for whom three waves of data were collected. Development cannot be assessed with only one time of measurement but, as well, when only two times of measurement exist, it is not possible to determine if any change is due to statistical problems (i.e., a phenomenon termed regression to the mean) or true change. This problem is largely eliminated once three times of measurement exist. Accordingly, for this report we include 346 youth in the foundational New York State sample who participated in all three waves of the study. Youth came from rural, suburban, and urban areas and represented a variety of racial/ethnic backgrounds, sexual orientations, religions, and grades.

A note on the benefits of an accelerated longitudinal study: Because the longitudinal design we used involved youth from different age groups at initial testing, we can statistically compare the average scores from a younger group at their final (i.e., third) time of testing with the average scores for an older group at their initial (i.e., first) time of testing. This comparison allows us to assess the similarity of these two time points for the two groups. There are two different statistical procedures we can use to undertake this assessment (one involves what is termed a manifest variable analysis and the other involves what is termed a latent variable analysis – and of course we would be happy to provide details of both types of statistical methods). We will use both of the methods in ongoing analyses because both allow us to estimate the extent to which the developmental changes of younger youth can be linked to the developmental trajectories of older youth. These analyses will enable us to determine the extent to which one common developmental pathway is present across age groups.

Below is the demographic information of these 346 youth represented by percentages.

FIGURE 13. GENDER OF REPLICATION STUDY PARTICIPANTS

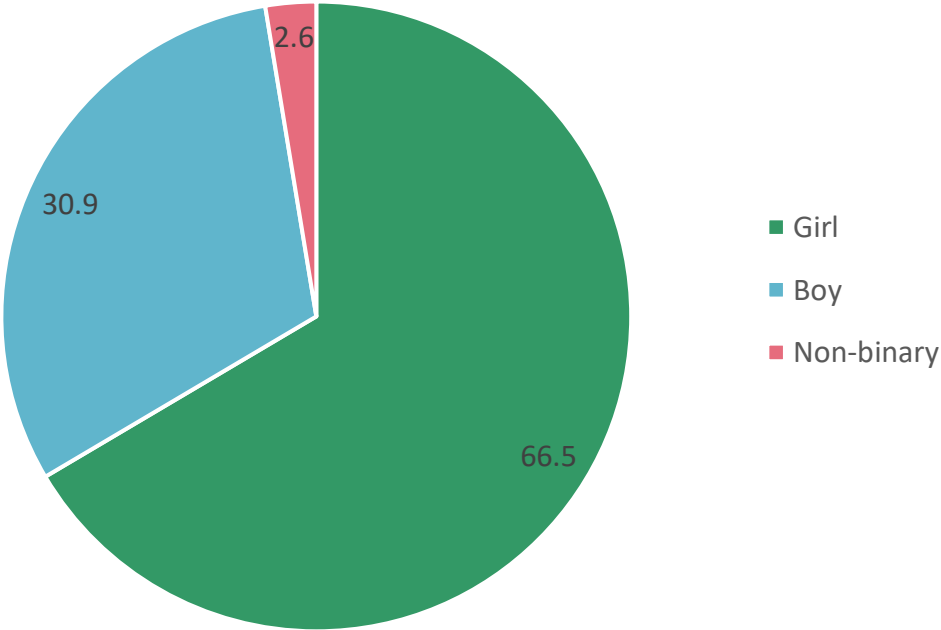


FIGURE 14. SEXUAL ORIENTATIONS OF REPLICATION STUDY PARTICIPANTS

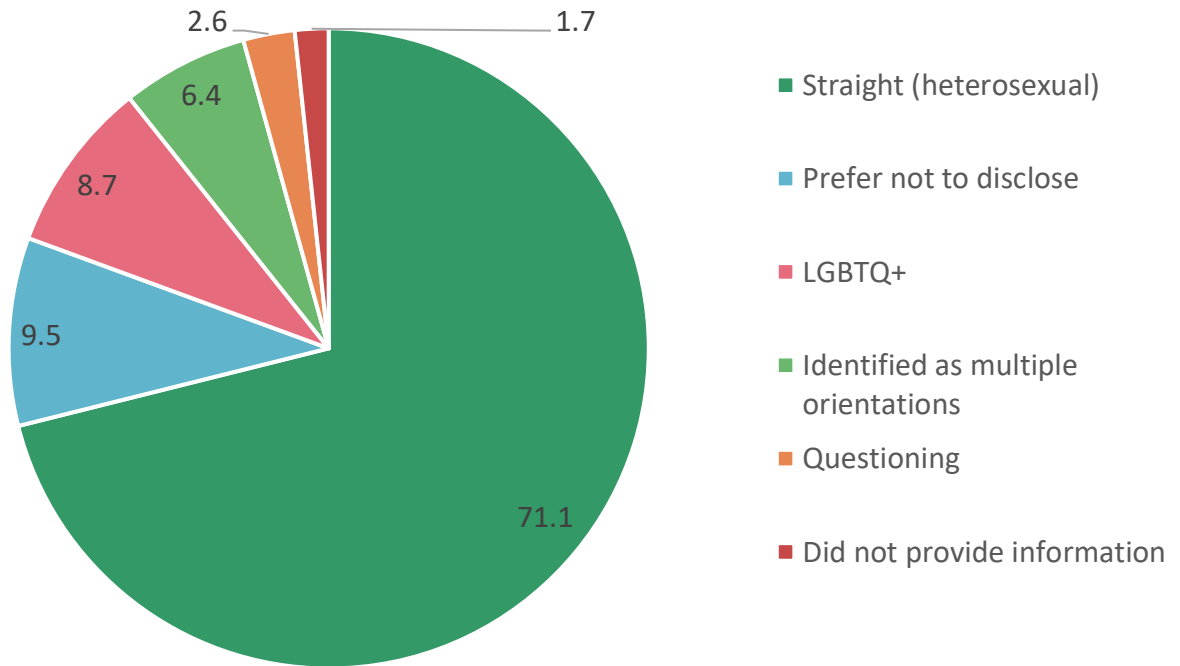


FIGURE 15. RACIAL/ETHNIC BACKGROUNDS OF REPLICATION STUDY PARTICIPANTS

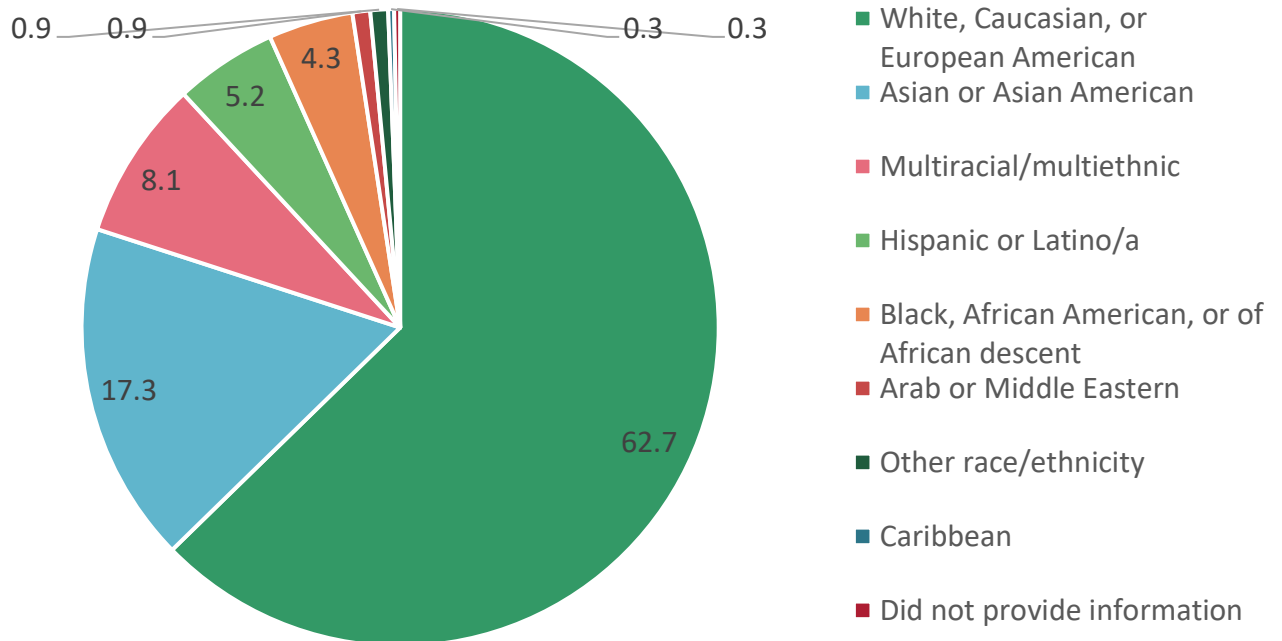


FIGURE 16. RELIGIONS OF REPLICATION STUDY PARTICIPANTS

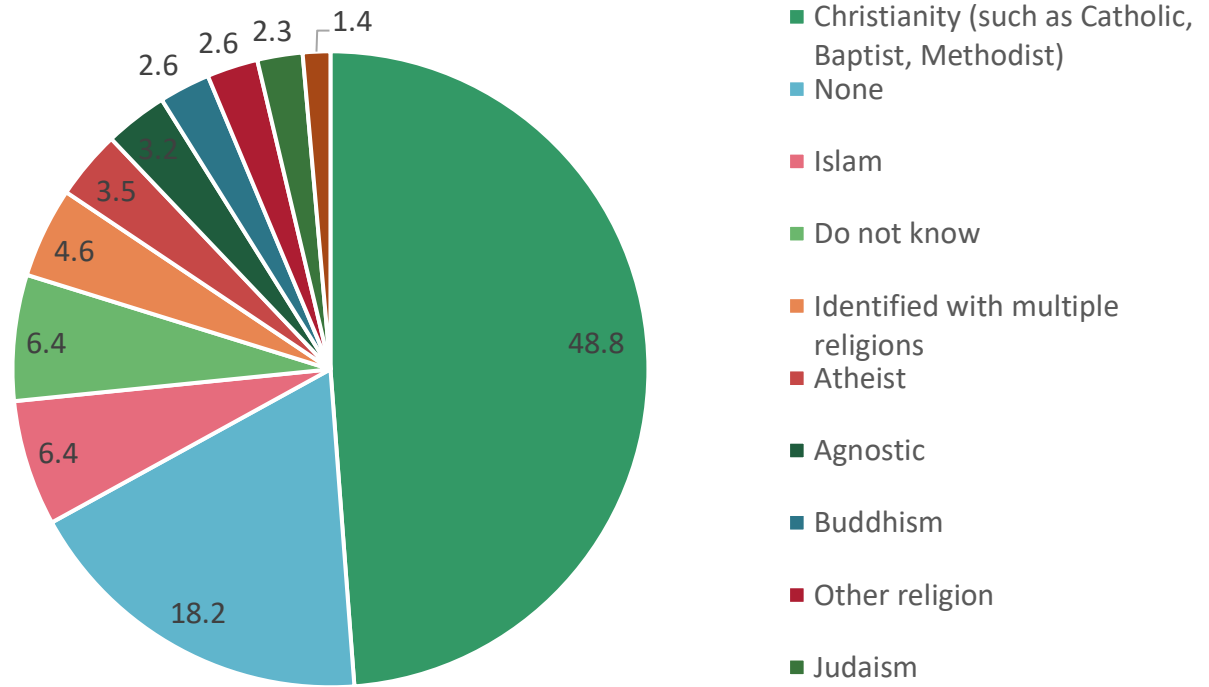
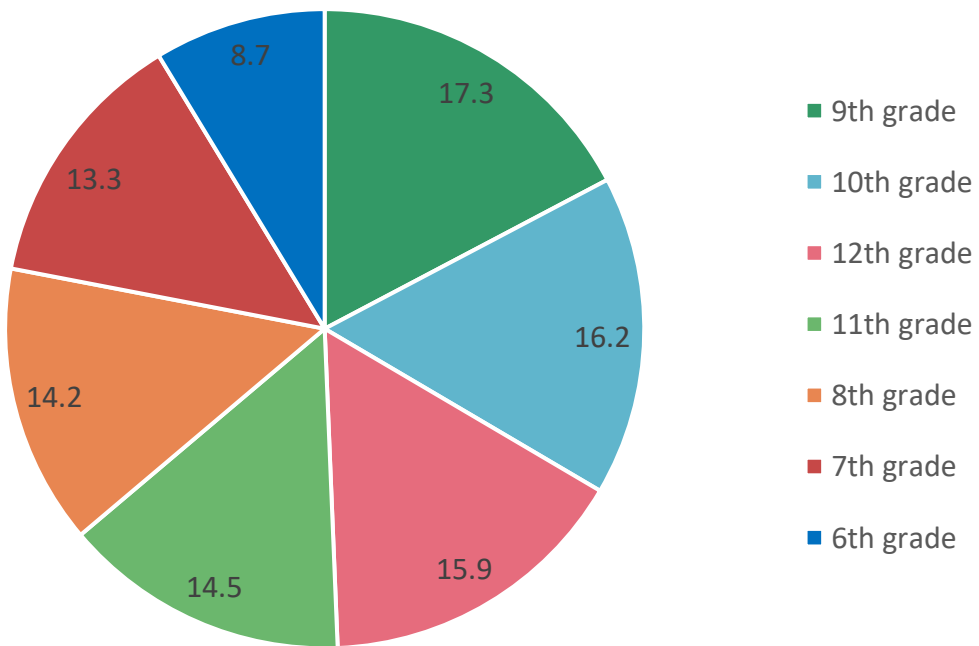


FIGURE 17. GRADES OF REPLICATION STUDY PARTICIPANTS



Other States' Involvement in the Study

Additional land-grant university (LGU) participation

With the skilled and enthusiastic collaboration of Dr. Mary E. Arnold, we recruited additional LGUs to broaden data collection across the country. These states received in-kind research support (e.g., IRB material), access to research materials, basic analysis reports, and the opportunity for participation in scholarly products from the study. They received no financial support for the research.

The following states will be contributing their data to the larger data set: Indiana, Missouri, Pennsylvania, and West Virginia. These states will submit their three waves of data to our pre-designated, secured space as soon as they receive approval from their IRBs and Institutions to share data with the Tufts and Boston College teams.

Reports to Participating States and Counties

We cleaned the data from the foundational sample and have prepared summary reports of county-level findings for each of the participating counties in New York (i.e., Jefferson, Ontario, and New York City). The reports will be shared with counties and include general descriptive information about key PYD variables and information about engagement in 4-H at the county level.

In addition, we will also prepare a summary report of state-level findings for each of the LGUs. The report will include general descriptive information about key PYD variables and information about engagement in 4-H at the state level.

Constructs Measured in the Replication Study

Our survey contained items measuring a variety of youth individual characteristics and ecological assets. Below, we feature the main constructs measured in the Replication Study.

Positive Youth Development

We used the Very Short Form of the PYD measure (Geldhof et al., 2014) to assess the extent to which participants demonstrated the Five Cs of Competence, Confidence, Character, Connection, and Caring, as well as overall PYD. This measure contains 17 items (e.g., “I have a lot of friends,” “I really like the way I look,” “I want to make the world a better place to live,” “When I see someone being picked on, I feel sorry for them,” and “I am a useful and important member of my family”). The response scale ranged from 0 = *Never true of me* to 100 = *Always true of me*.

The Big Three

We adapted Tirrell et al.'s (2020) measure of the Big Three and perceptions of safety to index participants' perception of their 4-H or other youth programs. Sample items included: "Adults in my program care for me," "I learn skills that help me in life," "I can participate as much as I want," and "I feel safe." To participants who had previous 4-H experience, we asked similar items in past tense to indicate their perceptions of their past experiences at their 4-H program. The response scale ranged from 0 = *Completely disagree* to 100 = *Completely agree*.

Contribution

We adapted four items from the Civic Engagement Questionnaire - Youth Social Responsibility Scale (Pancer et al., 2007) to assess the extent to which participants demonstrated contribution ideology. A sample item was: "People should share their wealth by giving to charity." The response scale ranged from 0 = *Completely disagree* to 100 = *Completely agree*.

In addition to contribution ideology, we also used the measure developed by the Connecting Adolescents' Beliefs and Behaviors Study research team (see Johnson et al., 2016) to assess the extent to which participants demonstrated contribution-related activities. Participants were prompted with the following statement: "Here is a list of different types of activities in which people can be involved. Please think of your participation in these activities over the last 12 months." Then, we showed a list of items describing contribution-related actions to which participants could respond how much they were engaged in them. One example of the items was: "Political activities are things like voting for or supporting a leader, candidate, or issue you believe in, participating in a civil rights group or political organization, or joining a political meeting. These activities could be in your city or your state." The other items were about community service activities, social activism, helping people the participants knew, helping people they did not know, cultural activities, sports, arts-based activities, and academic clubs. The response scale ranged from 0 = *None of the time* to 100 = *All of the time*.

Health and Well-Being

We asked participants to respond to the question: "How good would you say your overall health is?" to assess their perceptions of their overall health. In addition, we adapted nine items from the Short Warwick-Edinburgh Mental Well-being Scale (Stewart-Brown et al., 2009) and WHO-5 Well-Being Index (1998) and developed one item to assess participants' well-being. We asked participants to respond how often they felt in certain ways (e.g., "Hopeful about the future" and "Thinking clearly") over the last 30 days. The response scale for the well-being items ranged from 0 = *None of the time* to 100 = *All of the time*.

Purpose

We adapted nine items from the Revised Youth Purpose Survey (Bundick et al., 2006) to explore participants' sense of purpose. Participants first read the following prompt: "People may have different types of goals for their lives. Below is a list of goals. How important is each goal to you?" Sample goals included "Make money," "Make the world a better place," "Serve

God/Higher Power,” and “Improve my community.” The response scale ranged from 0 = *Not at all important* to 5 = *Extremely important*.

Hopeful Future Expectations

We adapted five items from Callina et al. (2017) to assess participants' Hopeful Future Expectations. We asked participants to think about their future and respond how likely they would be in positive states (e.g., “being healthy” and “having a job the pays well”). The response scale ranged from 0 = *Not at all likely* to 100 = *Completely likely*.

Relationship Skills

We adapted 10 items from the Interpersonal Reactivity Index (Davis, 1980; 1983) and the Adolescent Measure of Empathy and Sympathy (AMES; Vossen et al., 2015) to measure relationship skills. Sample items included: “I try to understand other people’s point of view (Perspective Taking)” and “When a friend is scared, I also feel afraid (Empathic Concern).” The response scale ranged from 0 = *Never true of me* to 100 = *Always true of me*.

Known and Loved

We used ten items to assess participants’ perceptions of feeling known and loved (Tirrell et al., 2022) . We showed participants the prompt: “There is at least one person in my life who...” and then a list of descriptive items to respond to. Sample items included: “Knows me very well (Known)” and “Loves me (Loved).” The response scale ranged from 0 = *Completely disagree* to 100 = *Completely agree*.

Intentional Self-Regulation

We adapted 17 items from the short-form version (Geldhof et al., 2015) of the Selection, Optimization, and Compensation questionnaire developed by Freund and Baltes (2002) to assess the extent to which participants demonstrated intentional self-regulation. Sample items included: “I always focus on my most important goal,” “I do whatever I can to reach my goals,” “When I cannot reach my goal, I try another way of doing it,” and “If I cannot reach a goal, I select another goal.” The response scale ranged from 0 = *Never true of me* to 100 = *Always true of me*.

School Engagement

We adapted Li’s (2010) Academic Engagement Scale to measure school engagement. Sample items included “I am prepared for my school lessons,” and “I feel I am part of my school.” The response scale ranged from 0 = *Never true of me* to 100 = *Always true of me*.

4-H Program Engagement

We asked participants who were in 4-H or other youth programs to respond to three items about their engagement in their youth programs. A sample item was: “I work to do my best in my program.” The response scale ranged from 0 = *Never true of me* to 100 = *Always true of me*.

4-H Program Importance

We asked participants to indicate how important being a part of 4-H is in their lives. The response scale ranged from 0 = *Not at all important* to 100 = *Extremely important*.

Key Findings from the Replication Study

Below, we present the results of outcomes across three waves of data collection in order to ascertain patterns of differences across groups of participants. Specifically, we assessed whether there were differences in PYD among 4-H youth and non 4-H youth. We also assessed differences in PYD among 4-H girls and 4-H boys. Similar to the Reconnection Study, Replication Study participants were able to provide us with more expansive gender identities (i.e., transgender, non-binary, another gender). However, the resulting rates for non-binary responses were not large enough for statistical analysis. Accordingly, in regard to the findings in this report regarding gender differences, no findings in this research indicate that 4-H girls and boys are different than girls and boys in the general U.S. population.

Table 51. SAMPLE SIZE FOR GROUP COMPARISONS IN EACH WAVE

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH	306	306	306
NON 4-H YOUTH	40	40	40
4-H GIRLS	206	206	206
4-H BOYS	92	92	92

The tables below represent the significant mean differences (standard errors and effect sizes in parentheses) between scores of 4-H youth and scores of youth in other OST programs in our sample. Blank cells indicate that there were no significant differences between the groups noted in the rows (i.e., 4-H youth vs. non 4-H youth, 4-H girls vs. 4-H boys). The table below describes how we compared youth in our sample and serves as a guide for interpreting findings:

	POSITIVE MEAN DIFFERENCE IN OUTCOME	NEGATIVE MEAN DIFFERENCE IN OUTCOME
4-H YOUTH VS. NON 4-H YOUTH	4-H youth score higher on outcome than OST youth	4-H youth score lower on outcome than OST youth
4-H GIRLS VS. 4-H BOYS	4-H girls score higher on outcome than 4-H boys	4-H girls score lower on outcome than 4-H boys

For example, a mean difference of 7.69 in well-being scores of 4-H youth vs. non-4-H youth indicates that 4-H youth score 7.69 points higher on well-being on average (in Wave 2; see Table 50, *Significant mean differences in well-being*). A mean difference of -6.49 in well-being scores of 4-H girls vs. 4-H boys indicates that 4-H girls score 6.49 points lower on well-being on average (in Wave 3; see Table 50, *Significant mean differences in well-being*).

Positive Youth Development

4-H youth reported moderate levels of Competence, and high levels of Confidence, Character, Caring, Connection, and overall PYD across the three waves of data collection.

Table 52. MEANS AND STANDARD DEVIATIONS OF THE FIVE CS OF PYD AMONG 4-H YOUTH

	WAVE 1	WAVE 2	WAVE 3
Competence	63.22 (21.59)	65.63 (20.45)	65.84 (19.96)
Confidence	75.42 (25.58)	73.05 (25.18)	74.49 (22.53)
Character	82.71 (15.08)	81.89 (15.97)	82.21 (14.39)
Caring	87.47 (16.64)	85.60 (17.61)	85.50 (16.22)
Connection	75.03 (20.12)	74.31 (20.29)	75.28 (19.88)
Overall PYD	77.06 (14.15)	76.36 (15.04)	76.92 (13.64)

In Wave 1, 4-H youth reported significantly higher levels of Competence compared to the comparison group (youth who participated in other OST programs). Compared to non-4-H youth, 4-H youth at Wave 1 were 1.9 times more likely to report feeling competent.

Among 4-H youth, girls reported significantly higher levels of Character than boys at Wave 1, significantly higher levels of Caring than boys at Wave 2, but significantly lower levels of Confidence than boys at Wave 3. However, these findings fluctuate across waves and indicate that group differences within the samples are not stable. As such, when the data from the other states involved in the Replication Study are added to those of the present sample, these findings may change.

Table 53. SIGNIFICANT MEAN DIFFERENCES IN COMPETENCE (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH VS NON 4-H YOUTH	7.50* (3.41, $d = 0.35$)	-	-
4-H GIRLS VS 4-H BOYS	-	-	-

* $p < .05$

Table 54. SIGNIFICANT MEAN DIFFERENCES IN CONFIDENCE (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH VS NON 4-H YOUTH	-	-	-
4-H GIRLS VS 4-H BOYS	-	-	-6.07* (2.68, $d = -0.27$)

* $p < .05$

Table 55. SIGNIFICANT MEAN DIFFERENCES IN CHARACTER (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH VS NON 4-H YOUTH	-	-	-
4-H GIRLS VS 4-H BOYS	3.77* (1.91, $d = 0.25$)	-	-

* $p < .05$

Table 56. SIGNIFICANT MEAN DIFFERENCES IN CARING (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH VS NON 4-H YOUTH	-	-	-
4-H GIRLS VS 4-H BOYS	-	4.58* (2.25, $d = 0.26$)	-

* $p < .05$

Table 57. SIGNIFICANT MEAN DIFFERENCES IN CONNECTION (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH VS NON 4-H YOUTH	-	-	-
4-H GIRLS VS 4-H BOYS	-	-	-

Table 58. SIGNIFICANT MEAN DIFFERENCES IN OVERALL PYD (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH VS NON 4-H YOUTH	-	-	-
4-H GIRLS VS 4-H BOYS	-	-	-

The Big Three

Youth reported high levels of the Big Three of effective programming, and very high levels of program safety at their 4-H programs across the three waves of data collection.

Table 59. MEANS AND STANDARD DEVIATIONS OF THE BIG THREE AND SAFETY AT 4-H PROGRAMS

	WAVE 1	WAVE 2	WAVE 3
Adult-Youth Positive Relationship In 4-H Programs	80.52 (22.69)	82.80 (20.05)	82.68 (20.42)
Life Skills Building Activity In 4-H Programs	75.22 (22.82)	78.46 (20.72)	79.67 (20.67)
Leadership Opportunities In 4-H Programs	84.74 (19.03)	86.74 (16.17)	86.56 (16.73)
Overall Big Three In 4-H Programs	79.30 (19.28)	81.97 (17.53)	82.37 (17.79)
Program Safety In 4-H Programs	94.09 (15.05)	92.95 (15.33)	92.96 (15.06)

There were no significant differences in reported aspects of the Big Three features of effective programming between 4-H youth and the comparison youth. At Wave 2, 4-H youth reported significantly higher levels of program safety than non-4-H youth. Compared to non-4-H youth, 4-H youth at Wave 2 were 2.7 times more likely to report feeling safe in their program.

There were no significant differences in reported aspects of the Big Three features of effective programming and program safety between 4-H girls and 4-H boys.

Table 60. SIGNIFICANT MEAN DIFFERENCES IN YOUTH-ADULT POSITIVE RELATIONSHIPS (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH VS NON 4-H YOUTH	-	-	-
4-H GIRLS VS 4-H BOYS	-	-	-

Table 61. SIGNIFICANT MEAN DIFFERENCES IN LIFE SKILLS BUILDING ACTIVITIES (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH VS NON 4-H YOUTH	-	-	-
4-H GIRLS VS 4-H BOYS	-	-	-

Table 62. SIGNIFICANT MEAN DIFFERENCES IN OPPORTUNITIES TO PARTICIPATE IN LEADERSHIP ACTIVITIES (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH VS NON 4-H YOUTH	-	-	-
4-H GIRLS VS 4-H BOYS	-	-	-

Table 63. SIGNIFICANT MEAN DIFFERENCES IN PROGRAM SAFETY (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH VS NON 4-H YOUTH	-	8.71* (4.34, $d = 0.54$)	-
4-H GIRLS VS 4-H BOYS	-	-	-

* $p < 0.1$

Contribution

4-H youth reported high levels of contribution ideology and moderate levels of overall contribution action across three waves of data collection.

Table 64. MEANS AND STANDARD DEVIATIONS OF CONTRIBUTION AMONG 4-H YOUTH

	WAVE 1	WAVE 2	WAVE 3
Contribution Ideology	78.82 (20.36)	78.82 (19.55)	77.71 (20.07)
Political Activities	29.03 (37.07)	26.90 (33.81)	26.08 (32.53)
Social Activism	32.72 (37.55)	34.10 (35.01)	34.57 (34.37)
Community Service	50.11 (35.64)	51.33 (35.04)	51.37 (34.75)
Helping People You don't Know	53.47 (33.71)	53.41 (32.96)	53.89 (33.07)
Helping People You Know	75.92 (27.62)	74.78 (28.28)	72.17 (28.02)
Cultural Activities	30.83 (35.61)	32.83 (35.03)	31.00 (34.58)
Organized Sports/Physical Activities	61.28 (37.63)	61.14 (37.60)	60.79 (37.90)
Organized Arts-Based Activities	44.90 (37.29)	48.21 (38.29)	46.42 (38.00)
Academic Clubs	35.18 (37.36)	38.24 (37.88)	38.48 (37.22)
Overall Contribution Action	46.92 (22.36)	45.58 (22.61)	46.48 (22.17)

There were no significant differences in reported contribution ideology between 4-H youth and the comparison youth, as well as between 4-H girls and 4-H boys. In Wave 1, 4-H girls reported significantly higher levels of overall contribution-related actions than 4-H boys. However, these findings fluctuate across waves and indicate that group differences within the samples are not stable. Again, then, when the data from the other states involved in the Replication Study are added to those of the present sample, these findings may change.

Table 65. SIGNIFICANT MEAN DIFFERENCES IN CONTRIBUTION IDEOLOGY (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH VS NON 4-H YOUTH	-	-	-
4-H GIRLS VS 4-H BOYS	-	-	-

Table 66. SIGNIFICANT MEAN DIFFERENCES IN OVERALL CONTRIBUTION-RELATED ACTION (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH VS NON 4-H YOUTH	-	-	-
4-H GIRLS VS 4-H BOYS	5.75* (2.85, $d = 0.26$)	-	-

* $p < .05$

Health and Well-Being

4-H youth reported high levels of overall health and moderately high levels of well-being across three waves of data collection.

Table 67. MEAN AND STANDARD DEVIATION OF WELL-BEING AMONG 4-H YOUTH

	WAVE 1	WAVE 2	WAVE 3
Health	84.73 (16.54)	84.30 (17.10)	82.27 (17.92)
Well-Being	73.78 (21.38)	72.33(20.61)	72.33 (19.88)

Across all waves, 4-H youth reported significantly higher levels of overall health. Compared to non-4-H youth, 4-H youth were 2.3 to 2.9 times more likely to report leading healthy lives across waves. In addition, in Wave 2, 4-H youth reported significantly higher levels of well-being than the comparison youth. Compared to non-4-H youth, 4-H youth at Wave 2 were 2 times more likely to report feeling positively about their well-being.

In Wave 2 and Wave 3, 4-H girls reported significantly lower levels of overall health compared to 4-H boys. In Wave 3, 4-H girls also reported significantly lower levels of well-being than 4-H boys. Once again, then, these findings fluctuate across waves and indicate that group differences within the samples are not stable. As we have explained, when the data from the other states involved in the Replication Study are added to those of the present sample, these findings may change.

Table 68. SIGNIFICANT MEAN DIFFERENCES IN HEALTH (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH VS NON 4-H YOUTH	9.47** (2.83, <i>d</i> = 0.58)	8.53* (3.24, <i>d</i> = 0.50)	8.36** (2.96, <i>d</i> = 0.47)
4-H GIRLS VS 4-H BOYS	-	-5.09* (2.05, <i>d</i> = -0.32)	-4.78* (2.23, <i>d</i> = -0.27)

p* < .05; *p* < .01

Table 69. SIGNIFICANT MEAN DIFFERENCES IN WELL-BEING (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH VS NON 4-H YOUTH	-	7.69* (3.81, <i>d</i> = 0.37)	-
4-H GIRLS VS 4-H BOYS	-	-	-6.49* (2.49, <i>d</i> = -0.33)

**p* < .05

Purpose

4-H youth reported high levels of different purposes across three waves of data collection, most notably having a good career, having fun, and helping others.

Table 70. MEANS AND STANDARD DEVIATIONS OF PURPOSE AMONG 4-H YOUTH

	WAVE 1	WAVE 2	WAVE 3
Make Money	83.19 (21.48)	82.05 (23.17)	83.88 (20.72)
Have A Good Career	93.14 (13.68)	91.74 (15.24)	91.80 (13.55)
Have Fun	91.66 (15.35)	89.92 (16.63)	90.07 (16.19)
Help Others	87.81 (18.27)	86.81 (18.90)	86.93 (16.78)
Work to Fight Racism or Other Forms Of Discrimination and Inequities	74.11 (31.45)	73.74 (30.90)	73.80 (30.59)
Serve God/Higher Power	51.78 (42.72)	52.66 (41.80)	50.96 (41.54)
Serve My Country	52.20 (36.20)	51.76 (35.00)	52.54 (34.48)
Improve My Community	78.10 (25.67)	77.95 (25.53)	77.83 (23.10)
Be a Leader	73.94 (28.92)	75.30 (27.10)	74.88 (26.31)
Overall Purpose	76.47 (14.56)	75.97 (15.04)	76.01 (14.15)

There were no significant differences in the reported overall purpose between 4-H youth and the comparison youth. However, in Wave 2 and Wave 3, 4-H youth reported significantly higher levels of the purpose of serving their country than non-4-H youth. Compared to non-4-H youth,

4-H youth were 2.1 to 2.3 times more likely to report feeling that it is their purpose to serve their country.

Among 4-H youth, girls reported significantly lower levels of the goal of serving their country across all waves of data, as well as the goal of serving God/Higher Power at Wave 3 compared to boys. However, 4-H girls reported significantly higher levels of the goal of fighting racism/inequalities and being a leader at Wave 1, as well as helping others at Wave 2 compared to 4-H boys. Again, these findings fluctuate across waves and indicate that group differences within the samples are not stable.

TABLE 71. SIGNIFICANT MEAN DIFFERENCES IN THE PURPOSE TO MAKE MONEY (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH VS NON 4-H YOUTH	-	-	-
4-H GIRLS VS 4-H BOYS	-	-	-

TABLE 72. SIGNIFICANT MEAN DIFFERENCES IN THE PURPOSE TO HAVE A GOOD CAREER (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH VS NON 4-H YOUTH	-	-	-
4-H GIRLS VS 4-H BOYS	-	-	-

TABLE 73. SIGNIFICANT MEAN DIFFERENCES IN THE PURPOSE TO HAVE FUN (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH VS NON 4-H YOUTH	-	-	-
4-H GIRLS VS 4-H BOYS	-	-	-

TABLE 74. SIGNIFICANT MEAN DIFFERENCES IN THE PURPOSE TO HELP OTHERS (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH VS NON 4-H YOUTH	-	-	-
4-H GIRLS VS 4-H BOYS	-	5.93* (2.42, $d = 0.31$)	-

TABLE 75. SIGNIFICANT MEAN DIFFERENCES IN THE PURPOSE TO WORK TO FIGHT RACISM OR OTHER FORMS OF DISCRIMINATION AND INEQUITIES (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH VS NON 4-H YOUTH	-	-	-
4-H GIRLS VS 4-H BOYS	10.45* (4.16, $d = 0.33$)	-	-

* $p < .05$

TABLE 76. SIGNIFICANT MEAN DIFFERENCES IN THE PURPOSE TO SERVE GOD/HIGHER POWER (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH VS NON 4-H YOUTH	-	-	-
4-H GIRLS VS 4-H BOYS	-	-	-11.68*(5.32, $d = -0.28$)

TABLE 77. SIGNIFICANT MEAN DIFFERENCES IN THE PURPOSE TO SERVE THEIR COUNTRY (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH VS NON 4-H YOUTH	-	14.49*(5.41, $d = 0.42$)	15.67**(5.67, $d = 0.46$)
4-H GIRLS VS 4-H BOYS	-15.94*** (4.41, $d = -0.45$)	-9.05*(4.37, $d = -0.26$)	-9.31*(4.26), $d = -0.27$)

* $p < .05$; ** $p < .01$; *** $p < .001$

TABLE 78. SIGNIFICANT MEAN DIFFERENCES IN THE PURPOSE TO IMPROVE THEIR COMMUNITY (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH VS NON 4-H YOUTH	-	-	-
4-H GIRLS VS 4-H BOYS	-	-	-

TABLE 79. SIGNIFICANT MEAN DIFFERENCES IN THE PURPOSE TO BE A LEADER (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH VS NON 4-H YOUTH	-	-	-
4-H GIRLS VS 4-H BOYS	8.74* (3.62, $d = 0.31$)	-	-

* $p < .05$

TABLE 80. SIGNIFICANT MEAN DIFFERENCES IN OVERALL PURPOSE (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH VS NON 4-H YOUTH	-	-	-
4-H GIRLS VS 4-H BOYS	-	-	-

Hopeful Future Expectations

4-H youth reported high levels of different hopeful future expectations across three waves of data collection.

Table 81. MEANS AND STANDARD DEVIATIONS OF HOPEFUL FUTURE EXPECTATIONS AMONG 4-H YOUTH

	WAVE 1	WAVE 2	WAVE 3
Be Healthy	88.29 (18.56)	89.17 (15.97)	87.64 (16.85)
Have a Job That Pays Well	85.92 (19.85)	84.47 (20.55)	86.69 (18.19)
Have a Happy Family Life	85.32 (21.14)	87.25 (18.48)	86.11 (19.72)
Be Safe	87.00 (19.23)	87.66 (17.10)	86.95 (17.72)
Have Friends You Can Count On	85.52 (22.14)	86.87 (18.91)	86.26 (19.79)
Overall Hopeful Future Expectations	86.43 (15.36)	87.10 (13.66)	86.73 (13.89)

Across all three waves, 4-H youth consistently reported significantly higher levels of overall hopeful future expectations compared to the comparison youth. Compared to non-4-H youth, 4-H youth at all three waves were 2.1 to 2.5 times more likely to report feeling hopeful about the future. 4-H youth also reported significantly higher levels of having hopeful future expectations to be healthy across all three waves. Compared to non-4-H youth, 4-H youth were 2.1 to 2.5 times more likely to report feeling hopeful about their health. **These findings indicate that these group differences are strong.**

In addition, 4-H youth also reported significantly higher levels of having hopeful future expectations to have friends they can count on at Wave 1 (compared to non 4-H youth, 4-H youth were 2.6 times more likely to feel hopeful about their friends at Wave 1), to have a happy family life at Wave 2 and Wave 3 (compared to non 4-H youth, 4-H youth were 1.6 to 2.1 times more likely to feel hopeful about their family life at Wave 2 and Wave 3), and to have a job that pays well in Wave 3 (compared to non 4-H youth, 4-H youth were 3.8 times more likely to feel hopeful about their future job at Wave 3).

Among 4-H youth, girls reported significantly higher levels of the hopeful future expectation to have friends they can count on at Wave 2 than boys. However, this finding fluctuates across waves and indicates that the group difference within the samples is not stable.

TABLE 82. SIGNIFICANT MEAN DIFFERENCES IN THE HOPEFUL FUTURE EXPECTATION TO BE HEALTHY (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH VS NON 4-H YOUTH	9.26**(3.31, $d = 0.50$)	7.90**(2.81, $d = 0.47$)	7.27*(3, $d = 0.41$)
4-H GIRLS VS 4-H BOYS	-	-	-

* $p < .05$; ** $p < .01$

TABLE 83. SIGNIFICANT MEAN DIFFERENCES IN THE HOPEFUL FUTURE EXPECTATION TO HAVE A JOB THAT PAYS WELL (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH VS NON 4-H YOUTH	-	-	14.31*** (3.3, $d = 0.73$)
4-H GIRLS VS 4-H BOYS	-	-	-

*** $p < .001$

TABLE 84. SIGNIFICANT MEAN DIFFERENCES IN THE HOPEFUL FUTURE EXPECTATION TO HAVE A HAPPY FAMILY LIFE (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH VS NON 4-H YOUTH	-	10** (3.25, $d = 0.26$)	8.38*(3.97, $d = 0.41$)
4-H GIRLS VS 4-H BOYS	-	-	-

* $p < .05$; ** $p < .01$

TABLE 85. SIGNIFICANT MEAN DIFFERENCES IN THE HOPEFUL FUTURE EXPECTATION TO BE SAFE (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH VS NON 4-H YOUTH	-	-	-
4-H GIRLS VS 4-H BOYS	-	-	-

TABLE 86. SIGNIFICANT MEAN DIFFERENCES IN THE HOPEFUL FUTURE EXPECTATION TO HAVE FRIENDS YOU CAN COUNT ON (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH VS NON 4-H YOUTH	11.87**(3.92, $d = 0.52$)	-	-
4-H GIRLS VS 4-H BOYS	-	6* (2.43, $d = 0.32$)	-

* $p < .05$; ** $p < .01$

TABLE 87. SIGNIFICANT MEAN DIFFERENCES IN OVERALL HOPEFUL FUTURE EXPECTATIONS (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH VS NON 4-H YOUTH	6.31* (2.50, $d = 0.41$)	5.71* (2.38, $d = 0.40$)	7.29** (2.46, $d = 0.50$)
4-H GIRLS VS 4-H BOYS	-	-	-

* $p < .05$; ** $p < .01$

Known and Loved

4-H youth reported high levels of feeling known and loved across all three waves of data collection.

Table 88. MEANS AND STANDARD DEVIATIONS OF KNOWN AND LOVED AMONG 4-H YOUTH

	WAVE 1	WAVE 2	WAVE 3
Known	90.78 (14.44)	88.85 (17.13)	88.51 (17.36)
Loved	92.18 (13.16)	90.32 (16.08)	90.42 (14.97)

At Wave 1, 4-H youth reported significantly higher levels of feeling known and loved compared to the comparison youth. Compared to non-4-H youth, 4-H youth at Wave 1 were 2.5 times more likely to report feeling known and 2.1 times more likely to report feeling loved.

TABLE 89. SIGNIFICANT MEAN DIFFERENCES IN KNOWN (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH VS NON 4-H YOUTH	7.08** (2.46, $d = 0.50$)	-	-
4-H GIRLS VS 4-H BOYS	-	-	-

** $p < .01$

TABLE 90. SIGNIFICANT MEAN DIFFERENCES IN LOVED (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH VS NON 4-H YOUTH	5.33* (2.25, $d = 0.41$)	-	-
4-H GIRLS VS 4-H BOYS	-	-	-

* $p < .05$

Relationship Skills

4-H youth reported moderately high levels of relationship skills across three waves of data collection.

Table 91. MEANS AND STANDARD DEVIATIONS OF RELATIONSHIP SKILLS AMONG 4-H YOUTH

	WAVE 1	WAVE 2	WAVE 3
Perspective Taking	71.57 (20.92)	73.25 (20.70)	75.43 (19.77)
Empathic Concern	63.75 (23.13)	68.14 (23.16)	69.89 (22.17)

There were no differences in reported relationship skills between 4-H youth and non-4-H youth.

In Wave 1, 4-H girls reported significantly higher levels of empathic concern than 4-H boys. In Wave 2, they also reported significantly higher levels of perspective taking than 4-H boys. Once again, then, these findings fluctuate across waves and indicate that group differences within the samples are not stable. As we have explained, when the data from the other states involved in the Replication Study are added to those of the present sample, these findings may change.

Table 92. SIGNIFICANT MEAN DIFFERENCES IN PERSPECTIVE TAKING (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH VS NON 4-H YOUTH	-	-	-
4-H GIRLS VS 4-H BOYS	-	7.63* (2.73, $d = 0.37$)	-

* $p < .05$

Table 93. SIGNIFICANT MEAN DIFFERENCES IN EMPATHIC CONCERN (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH VS NON 4-H YOUTH	-	-	-
4-H GIRLS VS 4-H BOYS	6.69* (2.97, $d = 0.29$)	-	-

* $p < .05$

Intentional Self-Regulation

4-H youth reported moderate levels of intentional self-regulation across three waves of data collection.

Table 94. MEAN AND STANDARD DEVIATION OF INTENTIONAL SELF-REGULATION AMONG 4-H YOUTH

	WAVE 1	WAVE 2	WAVE 3
Intentional Self-Regulation	66.93 (16.39)	67.55 (15.75)	69.09 (15.14)

There were no significant differences in reported intentional self-regulation between 4-H youth and the comparison youth, as well as between 4-H girls and 4-H boys.

Table 95. SIGNIFICANT MEAN DIFFERENCES IN INTENTIONAL SELF-REGULATION (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH VS NON 4-H YOUTH	-	-	-
4-H GIRLS VS 4-H BOYS	-	-	-

School Engagement

4-H youth reported high levels of school engagement across three waves of data collection.

Table 96. MEAN AND STANDARD DEVIATION OF SCHOOL ENGAGEMENT AMONG 4-H YOUTH

	WAVE 1	WAVE 2	WAVE 3
School Engagement	78.34 (17.88)	77.82 (17.23)	77.44 (17.59)

There were no significant differences in reported school engagement between 4-H and non-4-H youth. In Wave 2, 4-H girls reported significantly higher levels of school engagement than 4-H boys. However, this finding is not consistent across waves and indicates that if there is any group difference, then it is weak at best.

Table 97. SIGNIFICANT MEAN DIFFERENCES IN SCHOOL ENGAGEMENT (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH VS NON 4-H YOUTH	-	-	-
4-H GIRLS VS 4-H BOYS	-	6.04** (2.19, $d = 0.35$)	-

** $p < .01$

4-H Program Engagement

4-H participants reported high levels of program engagement across all waves of data collection.

Table 98. PROGRAM ENGAGEMENT REPORTED BY 4-H YOUTH (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH	84.58 (18.99)	85.52 (20.05)	86.19 (18.33)

4-H Program Importance

4-H participants perceived being a part of 4-H as highly important in their lives across all waves of data collection.

Table 99. PROGRAM IMPORTANCE REPORTED BY 4-H YOUTH (ON A SCALE OF 0 TO 100)

	WAVE 1	WAVE 2	WAVE 3
4-H YOUTH	71.91 (25.48)	72.71 (26.83)	72.89 (25.68)

Conclusions about 4-H Youth

4-H settings continue to promote the positive development of youth! Specifically, 4-H youth reported high levels of PYD, the Big Three components of effective youth programming, health and well-being, contribution ideology, purpose, hopeful future expectations, feeling known and loved, and school engagement, as well as moderately high levels of contribution action, relationship skills, and intentional self-regulation skills across all three waves. These youth also consistently reported high levels of engagement in 4-H programs, and that being a part of 4-H was highly important in their lives. Compared to non-4-H youth, 4-H youth continue to score higher on several instances of PYD. This finding was evident for Competence, well-being, feeling known and loved, and safety at one wave, the goal of serving their country at two waves, and hopeful future expectations and overall health at all waves.

Hope is something that every young person needs, especially as we come out of the pandemic, and especially in light of the mental health crisis in the country. The items making up this scale also align with the long-term indicators in the 4-H Thriving Model, especially related to health and happiness and employability and economic stability.

Together, these findings present an illustration that young people involved in 4-H show holistic thriving, they are doing well for themselves and the world around them. When coupled with the findings from the Reconnection Study, the Replication findings suggest that 4-H continues

to promote the development of young people who exemplify the mutually-beneficial relations we want thriving young people to have within the American vision of individual flourishing and democratic citizenship.

Challenges and Lessons Learned from the Reconnection and Replication of the 4-H Study of PYD

Participant outreach and recruitment during COVID-19 were challenging. Although we attempted to over-sample for youth of color and rural and urban youth from a broader socioeconomic span for the Replication Study, our sample still does not provide for generalizability in the manner associated with a sample that is representative of the overall adolescent population in the United States. In particular, families who lacked stable access to the Internet or parents who do not speak English as a first language may have been less likely to submit a permission form. Moreover, the survey methodology that we used to assess participants provides only a single means of appraising participants' behaviors and attitudes. In addition, it was a unique challenge to navigate data use agreements and Institutional Review Board approval across different University systems.

Despite these challenges, the Replication of the 4-H Study of PYD involves a relatively diverse sample for the three waves of data collection, albeit not one from either far extremes of the "normal distribution." Although the longitudinal sample for the 4-H Study may not be representative of all youth in the United States, it provides important and innovative information about adolescent development.

For the Reconnection Study, it was a challenge to follow up with participants that were last contacted about 10 years ago. Following youth participants into their adult years was especially challenging given that as young people are more mobile and are likely to change their contact information and change their last names (Dimakos et al., 2022). Many of our participants were not geographically stable as they moved away for education, employment, and personal reasons, and it became challenging to obtain forwarding addresses and contact information for these participants. In addition, the challenge of obtaining and maintaining a diverse longitudinal sample is one that is common to many research studies in the field (Verdonik & Sherrod, 1984; Young et al., 1991). Although we made extensive effort to re-contact these participants, including using emails, phone calls, text messages and newsletters messages (Dimakos et al., 2022), the sample for the Reconnection Study was less diverse than the original study. Nevertheless, we were able to reach 300+ participants and the sample provides important and innovative information about adolescent-to-young-adult development for segments of the U.S. youth population.

Whereas the 4-H Reconnection and Replication study provides a new set of evidence for the positive impact that 4-H has on youth development, it is important to continue to assess 4-H youth through multiple periods of development for the best information on how it promotes

healthy development. As the COVID pandemic demonstrated, the world of youth can change dramatically and in historically unique ways in a matter of months. Given the continuities in positive findings about the thriving of 4-H youth and their contributions to their communities and nation, it is a matter of seeming great national priority to continue to stay in touch with these exemplary Americans as they transition, move, and continue to find ways to use the 4-H experience to enhance their lives and the lives of their fellow citizens.

Conclusions and Next Steps

The 4-H Study of PYD continues to yield important information about the bases and implications of PYD, information that can help launch young people into healthy and productive lives. The findings from the 4-H Study of PYD continue to be used widely by youth program professionals and, to an increasing extent, policy makers. These impacts on application move the 4-H Study toward its chief objective: *To provide useful scientific evidence about actions that may be taken to enhance the lives of the diverse young people of America.*

We are grateful that we have been given support from National 4-H Council to continue the 4-H Study of PYD. Their generous support has allowed us to conduct the Reconnection and Replication of the 4-H Study of PYD in order to build upon and extend the original 4-H Study of PYD. This follow-up is allowing us to gain powerful and practical insights into what guides a thriving young person into a productive and successful adulthood. With this additional research, we will also be able to determine which PYD assets are related to critical life events, such as going to college, successfully entering the workforce, or contributing to our society (Lerner et al., 2009). Following the 4-H Study participants beyond high school is an important step in providing novel insights into how youth development programs such as 4-H can help adolescents develop into productive and healthy adults. Such knowledge is of inestimable value for science, for practitioners, and for developing the social policy of tomorrow.

The Reconnection Study allowed us to connect with participants from the original study, who are now young adults, to explore the role of 4-H in their lives today. We have learned and will continue to learn about the contributions to society that they are making as young adults today. Using both quantitative (i.e., survey) and qualitative (i.e., semi-structured interview) methods, we examined these young adults' work activities, health and well-being, purpose, and, especially, their family, community, and national contributions and civic engagement. In doing so, we have learned that 4-H has had an impact on their lives into adulthood. For example, 4-H youth are reporting having purposeful lives and lives filled with giving back to their communities.

In addition to the Reconnection Study, we conducted an accelerated longitudinal study to extend the youth-development leadership of 4-H programs to the current generations of American youth. The Replication Study included youth from Grades 6 to post high school graduation. In addition to using measures and constructs that were used in the original study,

we capitalized on refinements in measurement that have occurred in the last decade in regard to indexing constructs central to the original 4-H Study of PYD (i.e., PYD and, as well, intentional self-regulation skills, hopeful future expectations, and contribution and civic engagement). In doing so, we were able to assess PYD of both youth currently participating in 4-H and youth not involved in 4-H. Preliminary findings indicate that 4-H continues to play a crucial role in the lives of youth. That is, 4-H youth are reporting having high hope for the future.

In a study as complex as this, there are almost endless analyses that can be done. Whereas analyses conducted to-date indicate the advantage participation in 4-H has for the health and positive development of young people, further analyses will likely fall into three categories: 1. the continuation of the positive effects of participation in 4-H when compared to non-participation, 2. some variables showing no difference between 4-H and non-4-H youth, and 3. some variables showing that non-participating youth score more positively than 4-H youth. Nevertheless, as in past research, future research will likely continue to underscore the importance participating in 4-H has for young people. We will continue to provide details of the results of these continuing analyses.

The findings from the 4-H Study of Positive Youth Development (PYD): Reconnection and Replication aim to describe the strengths of youth that are linked to thriving, from adolescence to young adulthood, and the ways in which participation in 4-H programs promotes such flourishing. The results of this research provide a foundation for research that will provide a 4-H program agenda promoting PYD and citizenship among the diverse youth of our nation. In this report, we present preliminary findings from both the Reconnection and the Replication of the 4-H Study of PYD. However, the dataset is large and provides us with much more information than can fit in a final report. As with the original 4-H Study of PYD, we look forward to analyzing and learning from the data collected from the Reconnection and Replication of the 4-H Study of PYD for many years to come.

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Appendix A

Interview Protocol for the Reconnection Study

A. Background/Life Update

We're going to start with a pretty broad topic – I'd like you to tell me a bit about yourself. In the survey you took several months ago we asked you to respond to the question, "Who am I?" with 10 statements.

1. I'd like to go over that list with you and hear a little bit more about a few of the statements you picked. *(pick a few of the statements to ask about – in particular, contribution-focused statements or overlapping statements that might bring up something we measured in the study)*
 - *Why is that aspect of yourself important to you?*
 - *What would you say is your **most important** characteristic? It can be one that you wrote back when you took the survey, or it can be something else. Can you tell me about why you chose that one as your most important?*

Can you remember when was the last time you were involved in 4-H? What have you been up to since then? You can include any significant life events that have happened in the past decade.

[Note to interviewer: If the participant does not know where to start after you ask this question, prompt them using what we learned from their survey. If they do not cover all the topics below, ask about each of them. Keep to just the highlights.]

1. Education
 - a. What has your education journey been since you were involved in 4-H?
 - b. Do you have plans to pursue more education? If so, what do your plans look like?
2. Career
 - a. Are you currently working?
 - [IF EMPLOYED] Where are you working and what is your role? Can you tell me more about your responsibilities in this role?
 - [IF SEEKING EMPLOYMENT/UNEMPLOYED] Are you seeking employment? If so, how has this process been going?
3. Relationships
 - a. What would you say are your most important relationships right now? These relationships can be relationships with family, mentors, peers, or a significant other.
 - *How would you describe these relationships and their importance to you?*

B. Program Engagement

Thank you so much for updating me. Next, I have a few questions about your experiences in 4-H.

1. Can you tell me a little bit about your experiences in 4-H? *What are your strongest memories of 4-H?*
 - a. *How long did you stay in 4-H?*
 - b. *How often did you participate in 4-H?*
 - c. *What types of activities were you involved in?*
2. Are there aspects of your experiences in 4-H that still have an impact on your life today? *(some potential aspects include program activities, mentors, friendships they made, things they learned about)*
 - a. If so, what aspects of 4-H had the strongest impact on your life? Why?
 - i. *Potential areas that may have been impacted: values, goals, identity, relationships, leadership*
3. Can you tell me a bit about the skill sets you learned while involved in 4-H?
 - a. Have you used these skills in your life after your time in 4-H?
 - i. [IF YES] How so?
 - ii. [IF NO] Why do you think that might be?
4. Do you think any of the things you learned in 4-H may have helped you navigate the pandemic?
 - a. [IF YES] How so?
 - b. [IF NO] Why do you think that might be?
5. How would you describe your relationships with adults or staff in your 4-H program?
 - a. Did you have any favorite staff while you were in 4-H?
 - i. Who were they? How would you describe your relationship with that person?
6. Are you still in touch with anyone you met during your time at 4-H?
 - a. If so, who are they? How would you describe your relationship with them?

C. Community Involvement

1. To you, what does it mean to be “making a contribution?”
2. Are you currently involved in/contributing to your community (*i.e., making contributions to your community and society at large; some examples of contribution include voting and volunteering – provide examples if needed*)?
 - a. [IF YES] How so?
 - *Has being involved in your community always been something you have been a part of? (is it something that is important to you? – only say if they mention that it is something important to them)*
 - b. [IF NO] Why not? What do you think are some barriers to your involvement?

3. How important do you think it is to be an active member of your community (*to be involved in your community/to contribute to your community*)?
 - a. What or who was it that led you to develop this belief?
 - b. Is there a particular group of people *or a cause* you'd like to contribute to? What led you to choose that group of people *or cause*?
 - c. Do you feel a sense of responsibility to help individuals and/or communities who are under-resourced? If so, why do you feel this sense of responsibility?

D. Purpose/Goals

These next few questions are about your goals and purpose.

1. Current goals: How would you describe your goals (your plans, dreams, or hopes for the future)?
 - a. Why are these goals important to you?
 - b. Are you doing anything now to work toward those goals?
 - c. What are some of the challenges you have faced or think you might face in meeting these goals?
2. Is having a purpose important to you? (*provide a definition of purpose if participants are unsure: "Purpose is an abiding intention to achieve a long-term goal that is both personally meaningful and makes a positive mark on the world beyond the self-such as launching an organization to give back to your community, researching a disease, or teaching kids to read."*)
 - a. If yes, how would you describe your purpose in life?
 - b. How do you think you came to develop this purpose? *Were there any experiences in your life that made you want to pursue this purpose?*
 - c. Did your time at 4-H encourage you to pursue this purpose? If yes, how so? *Were there specific 4-H activities or experiences or a 4-H project you were involved in that made you want to pursue this purpose?*

E. Positive Well-Being

We're almost at the end of the interview, and these next few questions will be about your well-being.

1. How would you describe your overall well-being (*mention if needed: emotional, occupational, physical health, social, intellectual, and spiritual*)? (***provide a definition of well-being if participants are unsure: "Well-being can be described as judging life positively and feeling good. It includes the presence of positive emotions and moods (e.g., contentment, happiness), the absence of negative emotions (e.g., depression, anxiety), satisfaction with life, fulfillment and positive functioning."***)
 - a. *Are there any aspects of your well-being that you would be comfortable sharing more details about?*
 - b. *If so, can you tell me more about any of these aspects?*

- c. Are there people, activities or things that have a positive impact on your well-being? How so?

F. Conclusions

Is there anything else that you'd like to share with me and our study team that would give us a better understanding about how your experiences at 4-H may have influenced you?

I'm wondering if you might reflect on what this interview has been like for you. What were your thoughts and feelings during the interview? *(Pause for response.)*

Do you have any other comments about the interview process or about participating in the project? *(Pause for response.)*

Do you have any questions about the study or your participation? *(Pause for them to respond.)*

Thank you so much for your participation!

Appendix B

The 4-H Study of PYD: Publications as of May 30, 2023

Books and Monographs

1. Lerner, R. M. (2007). *The Good Teen: Rescuing Adolescence from the Myths of the Storm and Stress Years*. New York, NY: The Crown Publishing Group.
2. Silbereisen, R. K., & Lerner, R. M. (Eds.). (2007). *Approaches to positive youth development*. London: Sage Publications.
3. Lerner, R. M., Lerner, J. V., & Benson, J. B. (Eds.). (2011). *Positive Youth Development: Research and Applications for Promoting Thriving in Adolescence*. London, England: Elsevier.
4. Bowers, E. P., Geldhof, G. J., Johnson, S. K., Hilliard, L. J., Hershberg, R. M., Lerner, J. V., & Lerner, R. M. (Eds.) (2015). *Promoting Positive Youth Development: Lessons Learned from the 4-H Study*. New York, NY: Springer.

Journal Special Issues and Special Sections

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2. Ungar, M. & Lerner, R. M. (Eds.). (2008). Resilience and positive development across the life span. *Research in Human Development*, 5(3).
3. Lerner, R. M., Lerner J. V., von Eye, A., & Lewin-Bizan, S. (Eds.) (2009). Foundations and functions of thriving in adolescence: Findings from the 4-H Study of Positive Youth Development. *Journal of Applied Developmental Psychology*, 30.
4. Lerner, R. M., von Eye, A., Lerner, J. V., Lewin-Bizan, S., & Bowers, E. P. (Eds.). (2010). The meaning and measurement of thriving in adolescence: Findings from the 4-H Study of Positive Youth Development. *Journal of Youth and Adolescence*, 39(7).
5. Lerner, R. M., Lerner, J. V., Bowers, E. P., Lewin-Bizan, S., Gestsdottir, S., & Brown Urban, J. (Eds.) (2011). Thriving in childhood and adolescence: The role of self regulation processes. *New Directions for Child and Adolescent Development*, 133.
6. Lerner, R. M., Lerner, J. V., Bowers, E. P., Lewin-Bizan, S., & von Eye, A. (Eds.) (2011). Individual and contextual bases of thriving in adolescence: Findings from the 4-H Study of Positive Youth Development. *Journal of Adolescence*, 34(6).
7. Geldhof, G. J., Bowers, E. P., & Lerner, R. M. (Eds.) (2013). Special section: Thriving in context: Findings from the 4-H Study of Positive Youth Development. *Journal of Youth and Adolescence*, 42(1).

8. Bowers, E. P., Geldhof, G. J., Johnson, S., Lerner, J. V., & Lerner, R. M. (Eds.) (2014). Elucidating the developmental science of adolescence: Lessons learned from the 4-H Study of Positive Youth Development. *Journal of Youth and Adolescence*, 43(6).

Chapters

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2. Lerner, R. M. (2005). Foreword: Promoting positive youth development through community and after school programs. In J. L. Mahoney, R. W. Larson, & J. Eccles (Eds.). *Organized activities as contexts of development: Extracurricular activities, after-school and community programs* (pp. ix-xii). Mahwah, NJ: Erlbaum.
3. Lerner, R. M. (2005, September). *Promoting Positive Youth Development: Theoretical and Empirical Bases*. White paper prepared for the Workshop on the Science of Adolescent Health and Development, National Research Council/Institute of Medicine. Washington, D.C.: National Academies of Science.
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6. Lerner, R. M., Hertzog, S. M., & Naudeau, S. (2006). Civil society and positive youth development. In L. R. Sherrod, C. Flanagan, & R. Kassimir (Eds.). *Youth Activism: An International Encyclopedia* (pp. 155-157). Westport, CT: Greenwood Pres.
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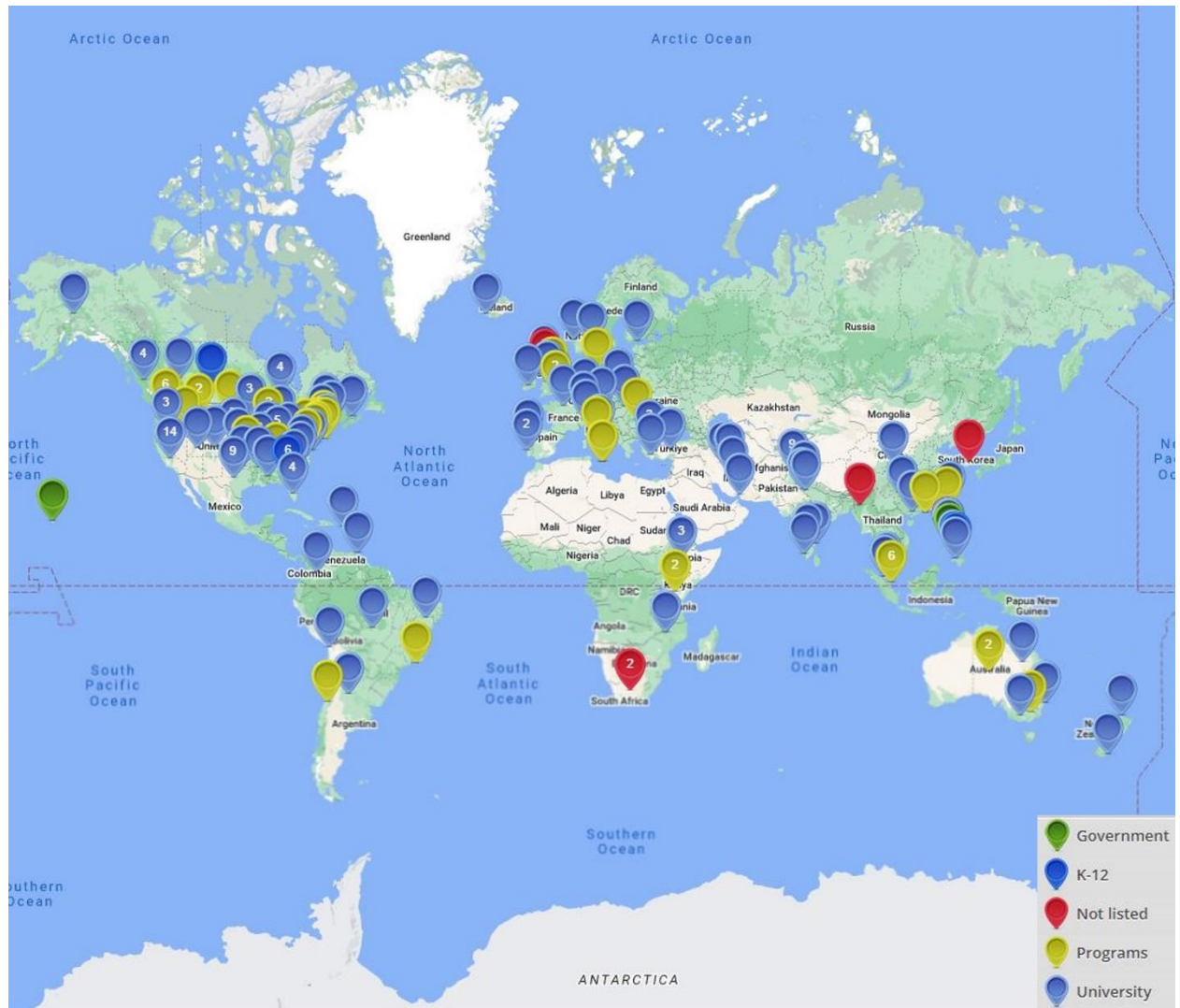
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The 4-H Study of PYD: Global Measures Map as of May 30, 2023

Figure 18. GLOBAL MEASURES SHARED MAP





ABOUT IARYD

IARYD was launched at Tufts in 1999 and, across the past 20+ years, IARYD has had the opportunity and honor to conduct research aimed at contributing to the application of developmental science across the first three decades of the lives of diverse youth living within diverse communities across the U.S. and internationally. Using a strengths-based approach to theory—our “tag line” is that we seek to understand what goes right in the lives of youth—we have had, and we will continue to have, the goal of producing scholarship—and scholars—who will use cutting-edge theoretical models and methodologically-rigorous developmental methods to promote positive development and health among diverse young people.

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