

A Positive Youth Development Approach to College and Career Readiness

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Abstract

Pathways to Your Future is a college and career readiness program for youth in Grades 9 through 12. The program's curriculum provides youth with resources and opportunities to develop knowledge and learn skills that help them align their sparks with potential careers, while exploring various pathways to enter the workforce. The family component includes a pre-program orientation, a financing and budgeting



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College and Career Readiness

workshop, and take-home materials. Latino students made up 71% of the study participants. Retrospective pre- and post-program surveys were administered to youth and parents/guardians. Results indicated that the program equipped youth participants with the knowledge and skills to plan and manage their education and career goals, prepared them for a successful post-secondary educational experience and/or entry into the workforce, and increased the number of participants who planned to attend a post-secondary institution. Few gender differences were found. Findings suggest the program increased participating parents' knowledge, skills, and involvement in their children's college and career aspirations and plans. The results pointed to the importance of a holistic approach to college and career readiness that involves the youth and their parents nested in a positive youth development model.

Key words: post-secondary education, positive youth development, adolescence, Latino youth, college readiness, career readiness

Introduction and Background

There is a need to help youth prepare for college and careers. Statistics reveal that approximately 65% of current jobs require some post-secondary education, with more than 40% requiring an associate's degree or higher (Carnevale et al., 2013). That figure has increased over 132% in the last 30 years and is projected to rise further over the next decade (U.S. Bureau of Labor Statistics, 2018). However, less than 45% of high school students report feeling positive about their college and career readiness (YouthTruth Student Survey, 2016). Specifically, students indicated their schools had not helped them understand steps needed to apply for college (55%), identify careers that matched their interests/abilities (46%), or understand how to pursue careers of interest (55%). These statistics are underscored by estimates that approximately 4.4 million youth aged 16 to 24 are not involved in either school or the workforce, with higher rates among youth of color (Campaign for Youth, 2016; Lewis, 2020; Opportunity Nation, n.d.). The estimated lifetime cost to society for each disconnected and unprepared 16-year-old is over \$1,000,000 (Campaign for Youth, 2016).

Recent statistics indicate that 41% of young people aged 18 to 24 are enrolled in 2- or 4-year colleges or universities. Enrollment rates for White youth are higher (42%) than Latinos (36%) (Snyder et al., 2019). However, for young people who attend college, only 46% graduate (Organization for Economic Co-Operation and Development, 2016), with rates among Latino youth lower than Whites (Snyder et al., 2019). To help young people advance to and succeed in post-secondary education and compete for jobs in the 21st century, their college and career readiness must be improved.

College and Career Readiness

Researchers have articulated broad definitions of college and career readiness. For example, Hooker and Brand (2009) defined it as “being prepared to successfully complete credit-bearing college coursework or industry certification or enter the workforce without remediation, having the academic and non-cognitive skills and personal resources necessary to persist and progress in post-secondary education or the workforce, and having identified career goals and the necessary steps to achieve them” (p. x). Additionally, several reports and frameworks identify specific knowledge and skills required for post-secondary education and workforce success (e.g., Conley, 2007; Hamrick & Stage, 2004; Office of Career, Technical, and Adult Education, n.d.; Perna & Titus, 2005). Common to these frameworks is a recognition of pre-college academic preparatory experiences for developing necessary knowledge and skills, including

- identifying interests congruent with college majors
- matching educational plans with career requirements
- career exploration
- identifying institutions that are a good fit
- understanding financial options to help cover costs
- developing realistic goals
- developing non-cognitive skills (e.g., self-discipline, persistence, critical thinking, decision-making, problem solving, leadership/teamwork, communication skills, interpersonal skills, responsibility, and organization)

Parents and guardians also play important roles in youths’ college and career readiness. Factors that help promote success include parental expectations and involvement; supporting and assisting youth in college selection; and, understanding processes needed to apply for college and financial aid (e.g., Hamrick & Stage, 2004; Leonard, 2013; Perna & Titus, 2005). For many youth and families, particularly among low income and minority populations, the cost of college can be an impediment (Hamrick & Stage, 2004; National Center for Education Statistics, 2017a, 2017b; Pew Research Center, 2009). Programs that include a focus on financial planning and applying for financial aid can increase parents’ and guardians’ knowledge about and confidence in utilizing available resources (Fann et al., 2009).

Previously, college and career readiness programs have focused primarily on what youth need to know and do, but have not included parents or guardians; additionally, these programs were designed principally for use in school-based settings (e.g., College Going Culture, College Ed, and College U). However, the emerging importance of non-cognitive skills for youths’ success in college and their future careers highlights an opportunity for a positive youth development

(PYD) approach to college and career readiness programming. Positive youth development programs, common in out-of-school time (OST) settings, use an asset-based approach to learning (Interagency Working Group on Youth Programs, 2014). They place an emphasis on developing non-cognitive skills (e.g., Arnold & Gagnon, 2019; Arnold & Gandy, 2019; Bates et al., 2019; Fitzpatrick et al., 2005), and help shape knowledge of college and career opportunities and aspirations (Bates et al., 2019; Williams et al., 2010).

Several PYD frameworks exist (see Arnold & Silliman, 2017), each with a slightly different theory of change and expected outcomes that link to the Hooker and Brand (2009) definition of college and career readiness. For example, the UC 4-H youth development program framework (Dogan et al., n.d.) outlines youth organizational, youth development, and educational practices that lead to positive youth development outcomes, including improved academic performance and workforce preparedness. This framework encompasses research on supports and opportunities for youth (Gambone et al., 2002), youth thriving (e.g., Arnold, 2018; Lerner et al., 2003), and essential elements (Kress, 2005); it also embeds recent developments on the role of sparks (Benson & Scales, 2011; Scales et al., 2011), growth mindset (Dweck, 2017), goal management (Gestsdóttir et al., 2009), and self-reflection (Dewey, 1910, 1916; Kolb et al., 2001) as mechanisms for skills development. Importantly, the pedagogical strategies of experiential learning and guided inquiry are embedded in the process. Experiential learning is a cyclical process where youth engage in an experience, reflect and construct meaning, and apply their learning in a novel situation (Kolb, 1984). Guided inquiry helps youth build understanding through active exploration and questioning (Colburn, 2000). Learning is facilitated by educators through strategies such as open-ended questioning.

There is a need and opportunity for a holistic approach to college and career readiness that involves youth and their parent(s)/guardian(s), is nested in a PYD model, and is designed for use in schools and OST programs. Further, programs that demonstrate effectiveness among Latino youth and address some of the inequalities related to youth disconnection, college enrollment, and college completion are needed.

Program Description

Pathways to Your Future (Horrillo et al., 2020) is a 4-H program that builds upon prior research and helps participating youth (Grades 9 to 12) and their families develop the supports, knowledge, and skills identified as necessary for college and career readiness. The program's

primary focus is on preparing youth for a successful post-secondary educational experience—at 4-year institutions, community colleges, technical or vocational schools, certificate programs, or on-the-job training—that is aligned with their interests and needs. Specifically, the *Pathways to Your Future* program aims to (a) equip participants with the knowledge, skills, and resources needed for college and career readiness; (b) prepare youth to identify an educational and/or career path based on their interests or “sparks”; and (c) increase the number of young people who attend a post-secondary institution.

The *Pathways to Your Future* program was designed for use in school settings and OST programs. The program is based on the University of California 4-H Positive Youth Development Framework (Dogan et al., n.d.). Of primary importance, curriculum activities include experiences with intentional applications of new knowledge and skills to the lives of the participants.

The *Pathways to Your Future* program includes a youth curriculum and a family component. The curriculum was developed using backward design (Wiggins & McTighe, 2005) and comprises five modules. Each module has specific learning objectives focused on the acquired knowledge and skills necessary for college and career success (see Table 1). The modules are organized sequentially whereby subsequent learning experiences build upon previous ones to help maximize learning outcomes (Smith et al., 2017). Additionally, each module includes targeted life skills (Hendricks, 1998), and the content is aligned to the Career and Technical Education Standards for Career Ready Practice (California Department of Education, 2019). Furthermore, the curriculum includes *Tips for Teens* designed to help support and empower youth to engage in conversations with their parents on topics from the program.

The family component was based on the Latino cultural value of *familismo* (Schwartz, 2009), which often plays a critical role in youths’ college and career decisions (Martinez, 2013; Witkowsky et al., 2018). Informal interviews with youth and parents helped guide its development (Erbstein & Fabionar, 2019). This curriculum component’s content focuses on helping build family members’ knowledge and skills in areas that promote college and career readiness. The family component is available in English and Spanish and includes

- a parent letter and pre-program orientation to introduce the whole family (parents/guardians and youth) to the program;

College and Career Readiness

- parent informational handouts for youth to take home after each youth curriculum module. Handouts help increase parent’s knowledge of each module’s content and provide tips for providing support to their child; and
- the *Myth Buster: Financing and Budgeting for College and Beyond Family Workshop*, which is an opportunity for the whole family to develop skills to help finance and plan for college; identify financial aid options; and develop a college budget.

Parents/guardians are also encouraged to attend the college tour(s) and the Final Destination Celebration at the end of the *Pathways to Your Future* program to recognize their youth’s journey and accomplishments.

Table 1. Youth Curriculum Overview

Module	Focus
Module 1	Emphasizes the identification of individual passions and goals (“sparks”) for education and careers after high school. Youth begin to identify their unique pathway to reach their post-secondary education and career goals.
Module 2	Youth explore career options, research possible careers that are connected to their interests, and identify related majors, campuses, and admissions requirements. Youth learn and utilize a proven goal-setting and management model to help them achieve their goals (Gestsdóttir et al. 2009).
Module 3	Youth continue developing their goal management skills, practice applying a growth mindset in the face of obstacles (Dweck, 2017). Youth deepen their understanding of college admissions requirements, how to select a college that is a good fit, and attend a campus tour.
Module 4	Youth reflect upon their campus tours and apply principles of grit (Duckworth, 2016) to overcome challenges to meeting long-term goals. Youth narrow down colleges of interest and compare admissions requirements, application processes, costs, and financial assistance available.
Module 5	Youth explore costs of attending post-secondary education and financial options to help pay for post-secondary education. Youth reflect on the program and celebrate their achievements and hard work during the program.

Methods

Sample

The *Pathways to Your Future* program was implemented with 228 high school youth. Eighty five percent of the participants were in ninth grade. Males made up 52% of the sample. Study

College and Career Readiness

participants included 71% who identified as Latino, 10% as Asian, 10% as White, 2% as Native American, 1% as African American, and 6% as more than one race. Approximately 75% of the participants lived in towns or cities with populations of 10,000 to 50,000. Youth were recruited through three county-based 4-H programs representing different regions in California: southern, central, and northern. In the southern region, youth were recruited from *Juntos*, which is a program for Latino students. In the central and northern regions, students in high school classrooms were recruited.

Program Implementation

The *Pathways to Your Future* program was implemented at three sites over a 10-week period. Details of the program implementation are shown in Table 2.

Table 2. Program Implementation

Categories	Central California county	Southern California county	Northern California county
Setting	In-school	After-school	In-school
Type of class/program	Mandatory freshman seminar	4-H Juntos Club	Agriculture elective classes
Frequency and duration	Seven meetings; 5 days per week; 45 minutes each	10 meetings; 1 day bi-weekly; 120 minutes each	20 meetings; 2 days per week; 45 minutes each
Number of youth	185	22	21
Grade level	Grade 9	Grades 8 and 9	Grades 9 through 12
Type of campus tour	4-year institutions; two on-site campus tours	4-year institution; one on-site campus tour	4-year institution; one on-site campus tour

In central California, the *Pathways to Your Future* program was implemented as part of a mandatory freshman seminar focused on college and career readiness. Those youth also participated in a job shadow program, and most youth were participating in AVID (Advancement Via Individual Determination) at their school. The northern region site offered the program as part of the school's career and technical education (CTE) Agri-science Pathway. Youth in the southern region were also participating in *Juntos*, which is designed to help Latino students graduate from high school and gain access to college.

For the family component of the *Pathways to Your Future*, parent letters and handouts were sent home with youth at all sites. No site offered the pre-program parent orientation. Only two sites offered the financing and budgeting workshop. The Northern California site offered the workshop during school hours; no parents attended. The Southern California site offered it during an afterschool meeting time; family members from 55% of the youth participants attended.

Data Collection

All procedures were approved by the UC Davis Institutional Review Board (IRB #1342586-4). Quantitative data from youth participants were collected using retrospective surveys. Each site administered the survey as a hard-copy, paper/pencil instrument. A retrospective survey design was used to help minimize the possibility of a response-shift bias, a threat to internal validity (Campbell & Stanley, 1963; Raidl et al., 2004). The youth survey was available in English and Spanish. All youth were proficient in both languages and, therefore, surveys were administered in English. Only data from youth where parent consent and youth assent were received are included in the study.

Parents were also surveyed to assess how they support youth with their post-high school education and career plans. Retrospective surveys were administered to parents using a paper/pencil format during the end-of-program celebration. For parents unable to attend, surveys were sent home and returned to the program facilitator. The parent survey was available in English and Spanish. The site located in Northern California did not administer parent surveys. Only data from parents that consented to participate in the study are included in the results.

Measures

College and Career Readiness

Youth completed questions from the College and Career Readiness 4-H Common Measures Instrument developed by National 4-H Council (2017). Where necessary, questions were adapted to fit the *Pathways to Your Future* program. For example, the term "post-high school education" instead of "college" was used to be more inclusive of the educational options available beyond high school. Additional questions were added to further assess program goals, such as "I am able to connect my academic and career aspirations to my spark(s) (i.e., interests, skills or talents)."

Life Skills

Using pre- and post-program surveys, youth participants were asked to rate 10 different life skills targeted by the program: communication, goal setting and management, decision making, critical thinking, teamwork, planning and organization, social skills, keeping records, self-esteem, and motivation.

Parental Support

Survey items were developed based on the goals of the family component of *Pathways to Your Future*. Parents were asked questions such as, "I know my teen's spark, or passion" and "I talk to my teen about setting goals for career aspirations."

Data Analysis

McNemar and McNemar-Bowker tests and paired sample t-tests were used to analyze youth retrospective survey data. McNemar and McNemar-Bowker tests were run to examine whether there was a significant difference in participants' post-pre responses for dichotomous (no/yes) and ordinal data (no/sort of/yes), respectively. Paired sample t-tests were used to examine whether there were significant differences between participants' post-pre responses with Likert response options. For parent survey data, only descriptive were reported. Due to the small sample size, further statistical analyses were not appropriate.

Results

The percent of respondents in each response category for all survey items on the College and Career Readiness Measure is shown in Table 3, along with pre- and post-program tests of statistical significance. There were significant differences on all survey items related to college and career decision-making, with the exception of completing a FAFSA and attending a campus tour. These findings were not unexpected given most of the participants were in ninth grade and not yet completing FAFSA forms, and over 75% of the participants at pretest had already gone on a campus tour. The latter reflects that the majority of youth from the central region site completed a campus tour as part of the AVID program and a few of the youth recruited from the *Juntos* program had done a tour as well.

Notably, there was a statistically significant difference ($p < .001$) in the percentage of young people reporting they had a better idea of what they might do after high school after participating in the program (65.2%) compared to before the program (35.1%). Results indicated there was a significant difference ($p < .001$) between the number of youth exploring career options before (19.7%) and after (64.7%) the program. Additionally, approximately 60% of youth responded that they had learned about post-high school education options that might be a good fit for them, whereas one-quarter of youth responded that they had done so prior to participating in the program ($p < .001$). Furthermore, there were statistically significant differences in researching post-high school education career options, knowing a major they might pursue, learning about scholarships and the post-high school application process, and knowledge of the importance and level of post-high school education they will need to pursue a desired career.

There were some differences between males and females in their responses before and after participation in the program (see Tables 4 and 5). Males were significantly more likely to report they researched options for post-high school education after the program, $z = 2.19$, $p = .029$; however, the effect size was small ($h = .37$). At pretest, there were no significant differences between males and females. Females were more likely to report they need "a lot" of education in the future as compared to males at the end of the program, $z = 2.15$, $p = .032$. This effect size was small ($h = .35$). There were no significant gender differences at pretest. A significant gender difference was also found when reporting on the importance of having a career where they can make a difference in the lives of others, with significantly more females responding "important" than males at the end of the program, $z = 4.49$, $p < .001$. However, it should be noted that females (63.9%) were also significantly more likely to indicate that having a career where they can make a difference in the lives of others was important to them than males (27.3%) prior to beginning the program. No other significant gender differences were found.

College and Career Readiness

Table 3. Percent of Responses in Each Category and McNemar and McNemar-Bowker Tests for Youth’s College and Career Readiness

Survey item	N	Before program			After program			p
		No	Yes		No	Yes		
Did you research options for post-high school education? ^a	206	42.7%	57.3%		20.4%	79.6%		< .001
Did you tour a college? ^a	188	24.5%	75.5%		21.3%	78.7%		.471
Have you filled out the FAFSA? ^a	204	93.8%	6.3%		90.4%	9.6%		.388
		No	Sort of	Yes	No	Sort of	Yes	
Do you have an idea of what you would like to major in? ^a	205	23.9%	42.9%	33.2%	12.3%	47.7%	40.0%	< .001
Did you learn about scholarships? ^a	202	22.7%	46.1%	31.2%	7.3%	23.9%	68.8%	< .001
Did you learn about the application process for post-high school education? ^a	210	52.4%	31.4%	16.2%	23.8%	40.4%	35.9%	< .001
Did you learn about post-high school education options that might be a good fit for you? ^a	207	36.9%	38.0%	25.1%	11.3%	29.4%	59.3%	< .001
Have you shared what you learned about preparing for post-high school education with others? ^a	208	55.5%	26.1%	18.5%	34.7%	29.7%	35.6%	< .001
Do you have a better idea of what you might actually do after high school? ^b	206	22.3%	42.7%	35.1%	6.8%	28.1%	65.2%	< .001
		Not at all	A little	A lot	Not at all	A little	A lot	
How much have you thought about how to pay for post-high school education? ^a	209	32.4%	42.3%	25.4%	9.5%	52.9%	37.6%	< .001
How much have programs helped you in your decisions about post-high school education? ^a	207	35.5%	50.2%	14.2%	10.9%	46.8%	42.3%	< .001
How much have programs helped you identify things you are good at? ^b	207	33.0%	52.8%	14.2%	12.7%	49.8%	37.6%	< .001
How much have programs helped you explore future career options? ^b	208	25.8%	54.5%	19.7%	3.6%	31.7%	64.7%	< .001
How much have you thought about the amount of education you might need in the future? ^b	206	17.5%	46.2%	36.3%	1.4%	25.9%	72.7%	< .001
When choosing a career, how important is it for you to live where you want? ^b	210	11.6%	44.4%	44.0%	2.3%	36.7%	61.1%	< .001

College and Career Readiness

Table 3. (continued)

Survey item	N	Before program			After program			p
		Not important	Somewhat important	Important	Not important	Somewhat important	Important	
When choosing a career, how important is it for you to be passionate about the work you do? ^b	212	3.7%	23.0%	73.3%	0.0%	7.2%	92.8%	< .001
When choosing a career, how important is your salary? ^b	208	3.3%	37.4%	59.3%	0.5%	32.7%	66.8%	< .001
How important is it for you to have a career where you can make a difference in the lives of others? ^b	209	14.0%	40.9%	45.1%	5.0%	37.1%	57.9%	< .001
To have the type of career you want, how important is it for you to obtain post-high school education? ^b	210	7.5%	25.7%	66.8%	2.3%	17.1%	80.6%	< .001

Note. ^a College decision making content block. ^b Career decision making content block.

Table 4. Percent of Responses for Males in Each Category for Youth's College and Career Readiness

Survey item	Before program				After program			
	N	No	Yes		N	No	Yes	
Did you research options for post-high school education? ^a	78	48.7%	51.3%		80	11.3%	88.8%	
Did you tour a college? ^a	71	28.2%	71.8%		70	20.0%	80.0%	
Have you filled out the FAFSA? ^a	77	97.4%	2.6%		77	92.2%	7.8%	
		No	Sort of	Yes		No	Sort of	Yes
Do you have an idea of what you would like to major in? ^a	75	25.3%	44.0%	30.7%	80	13.8%	46.3%	40.0%
Did you learn about scholarships? ^a	75	30.7%	36.0%	33.3%	77	6.5%	18.2%	75.3%
Did you learn about the application process for post-high school education? ^a	77	55.8%	31.2%	13.0%	80	18.8%	48.8%	32.5%
Did you learn about post-high school education options that might be a good fit for you? ^a	77	42.9%	35.1%	22.1%	80	16.3%	26.3%	57.5%
Have you shared what you learned about preparing for post-high school education with others? ^a	76	61.8%	25.0%	13.2%	79	41.8%	26.6%	31.6%
Do you have a better idea of what you might actually do after high school? ^b	76	23.7%	46.1%	30.3%	80	7.5%	32.5%	60.0%

College and Career Readiness

Table 4. (continued)

Survey item	Before program				After program			
	<i>N</i>	Not at all	A little	A lot	<i>N</i>	Not at all	A little	A lot
How much have you thought about how to pay for post-high school education? ^a	78	25.6%	47.4%	26.9%	80	5.0%	47.5%	47.5%
How much have programs helped you in your decisions about post-high school education? ^a	78	39.7%	50.0%	10.3%	80	8.8%	46.3%	45.0%
How much have programs helped you identify things you are good at? ^b	77	31.2%	57.1%	11.7%	79	10.1%	49.4%	40.5%
How much have programs helped you explore future career options? ^b	77	20.8%	62.3%	16.9%	79	2.5%	26.6%	70.9%
How much have you thought about the amount of education you might need in the future? ^b	75	20.0%	48.0%	32.0%	77	1.3%	29.9%	68.8%
		Not important	Somewhat important	Important		Not important	Somewhat important	Important
When choosing a career, how important is it for you to live where you want? ^b	77	10.4%	50.6%	39.0%	80	2.5%	43.8%	53.8%
When choosing a career, how important is it for you to be passionate about the work you do? ^b	77	3.9%	27.3%	68.8%	80	0.0%	8.8%	91.3%
When choosing a career, how important is your salary? ^b	77	0.0%	40.3%	59.7%	80	0.0%	33.8%	66.3%
How important is it for you to have a career where you can make a difference in the lives of others? ^b	77	22.1%	50.6%	27.3%	79	6.3%	53.2%	40.5%
To have the type of career you want, how important is it for you to obtain post-high school education? ^b	78	7.7%	28.2%	64.1%	79	1.3%	17.7%	81.0%

Note. ^a College decision making content block. ^b Career decision making content block.

College and Career Readiness

Table 5. Percent of Responses for Females in Each Category for Youth's College and Career Readiness

Survey item	Before program				After program			
	<i>N</i>	No	Yes		<i>N</i>	No	Yes	
Did you research options for post-high school education? ^a	66	39.4%	60.6%		68	25.0%	75.0%	
Did you tour a college? ^a	68	16.2%	83.8%		65	18.5%	81.5%	
Have you filled out the FAFSA? ^a	65	96.9%	3.1%		70	97.1%	2.9%	
		No	Sort of	Yes		No	Sort of	Yes
Do you have an idea of what you would like to major in? ^a	69	24.6%	46.4%	29.0%	70	11.4%	55.7%	32.9%
Did you learn about scholarships? ^a	68	17.6%	55.9%	26.5%	68	5.9%	26.5%	67.6%
Did you learn about the application process for post-high school education? ^a	69	55.1%	34.8%	10.1%	71	28.2%	38.0%	33.8%
Did you learn about post-high school education options that might be a good fit for you? ^a	67	28.4%	47.8%	23.9%	70	8.6%	24.3%	67.1%
Have you shared what you learned about preparing for post-high school education with others? ^a	68	52.9%	27.9%	19.1%	71	33.8%	31.0%	35.2%
Do you have a better idea of what you might actually do after high school? ^b	69	17.4%	52.2%	30.4%	69	5.8%	24.6%	69.6%
		Not at all	A little	A lot		Not at all	A little	A lot
How much have you thought about how to pay for post-high school education? ^a	68	35.3%	41.2%	23.5%	70	10.0%	55.7%	34.3%
How much have programs helped you in your decisions about post-high school education? ^a	69	34.8%	55.1%	10.1%	70	8.6%	61.4%	30.0%
How much have programs helped you identify things you are good at? ^b	68	30.9%	60.3%	8.8%	71	12.7%	57.7%	29.6%
How much have programs helped you explore future career options? ^b	70	21.4%	61.4%	17.1%	71	1.4%	35.2%	63.4%
How much have you thought about the amount of education you might need in the future? ^b	70	14.3%	45.7%	40.0%	69	2.9%	13.0%	84.1%
		Not important	Somewhat important	Important		Not important	Somewhat important	Important
When choosing a career, how important is it for you to live where you want? ^b	71	12.7%	42.3%	45.1%	69	1.4%	42.0%	56.5%
When choosing a career, how important is it for you to be passionate about the work you do? ^b	72	0.0%	23.6%	76.4%	70	0.0%	2.9%	97.1%
When choosing a career, how important is your salary? ^b	71	5.6%	43.7%	50.7%	68	1.5%	30.9%	67.6%
How important is it for you to have a career where you can make a difference in the lives of others? ^b	72	5.6%	30.6%	63.9%	69	1.4%	23.2%	75.4%
To have the type of career you want, how important is it for you to obtain post-high school education? ^b	70	7.1%	17.1%	75.7%	70	2.9%	7.1%	90.0%

Note. ^a College decision making content block. ^b Career decision making content block.

College and Career Readiness

Youth were asked to respond to additional survey items to further examine how the *Pathways to Your Future* program prepared them for post-high school education and careers. Results are presented in Table 6. Of importance, youth reported being able to connect their academic and career aspirations to their sparks (before program, $M = 3.10$, $SD = 1.09$; after program, $M = 3.70$, $SD = .98$, $t(208) = -11.02$, $p < .001$) and identified their pathway to post-high school education (before program, $M = 2.67$, $SD = 1.18$ after program, $M = 3.31$, $SD = 1.11$, $t(207) = -11.14$, $p < .001$). The data also revealed statistically significant differences in youths' understanding of how to set and manage their goals, prepare for post-high school education, navigate the admissions process, prepare to apply for post-high school education, and pursue additional education after high school as a result of participating in the program.

Table 6. Paired *t*-Tests for Youth Report on Additional College and Career Readiness Study Items

Survey item	<i>N</i>	Before program <i>M</i> (<i>SD</i>)	After program <i>M</i> (<i>SD</i>)	<i>t</i>	<i>p</i>
I am able to connect my academic and career aspirations to my spark.	209	3.10 (1.09)	3.70 (.98)	-11.02	< .001
I know where to find resources to help me choose post-high school education that is a good fit for me.	209	3.01 (1.11)	3.93 (.92)	-12.66	< .001
I am confident in my ability to navigate the admissions process for post-high school education.	209	2.65 (1.15)	3.41 (.95)	-11.33	< .001
I feel prepared to apply for post-high school education.	209	2.54 (1.23)	3.40 (1.11)	-12.57	< .001
I have identified my pathway to post-high school education.	208	2.67 (1.18)	3.31 (1.11)	-11.14	< .001
I know how to set and manage my goals	211	3.23 (1.11)	3.82 (.88)	-12.04	< .001
I plan to obtain additional education after high school.	211	3.93 (1.15)	4.36 (.89)	-8.21	< .001
I have an understanding of how to prepare for post-high school education.	210	2.88 (1.08)	3.72 (.91)	-12.43	< .001
I understand the types of financial assistance available to pay for post-high school education.	212	2.73 (1.15)	3.64 (1.00)	-13.09	< .001
I have an understanding of the different pathways to post-high school education.	211	2.97 (1.04)	3.78 (.92)	-12.84	< .001
I have an understanding of what to expect when going to a school for post-high school education.	212	2.91 (1.18)	3.77 (.96)	-12.06	< .001

Note. Response options: 1 (*not true at all*), 2 (*not so true*), 3(*somewhat true*), 4 (*true*), 5 (*very true*)

College and Career Readiness

Results by gender are reported in Table 7 and Table 8. Mixed between–within subjects analyses indicated that males and females differed in their understanding of the types of financial assistance available to pay for post-high school education, $F(1, 143) = 5.00, p = .03, \eta_p^2 = .034$. Although significant, the partial eta squared indicated that the difference was small. No significant gender differences were found for the other items.

Table 7. Paired *t*-Tests for Male Youth Report on Additional College and Career Readiness Study Items

Survey item	<i>N</i>	Before program <i>M</i> (<i>SD</i>)	After program <i>M</i> (<i>SD</i>)	<i>t</i>	<i>p</i>
I am able to connect my academic and career aspirations to my spark.	78	3.14 (1.21)	3.81 (1.07)	-6.49	< .001
I know where to find resources to help me choose post-high school education that is a good fit for me.	78	2.86 (1.06)	3.95 (.97)	-8.25	< .001
I am confident in my ability to navigate the admissions process for post-high school education.	78	2.51 (1.13)	3.40 (.92)	-7.76	< .001
I feel prepared to apply for post-high school education.	77	2.51 (1.27)	3.44 (1.03)	-7.68	< .001
I have identified my pathway to post-high school education.	78	2.65 (1.25)	3.29 (1.13)	-6.64	< .001
I know how to set and manage my goals	78	3.26 (1.13)	4.47 (.75)	-6.81	< .001
I plan to obtain additional education after high school.	77	3.96 (1.08)	4.47 (.75)	-5.52	< .001
I have an understanding of how to prepare for post-high school education.	78	2.78 (1.11)	3.78 (.95)	-8.67	< .001
I understand the types of financial assistance available to pay for post-high school education.	78	2.47 (1.17)	3.51 (1.00)	-8.63	< .001
I have an understanding of the different pathways to post-high school education.	78	2.87 (1.05)	3.83 (.87)	-8.72	< .001
I have an understanding of what to expect when going to a school for post-high school education.	78	2.94 (1.26)	3.83 (1.00)	-6.98	< .001

Note. Response options: 1 (*not true at all*), 2 (*not so true*), 3 (*somewhat true*), 4 (*true*), 5 (*very true*).

Table 8. Paired *t*-Tests for Female Youth Report on Additional College and Career Readiness Study Items

Survey item	<i>N</i>	Before program <i>M</i> (<i>SD</i>)	After program <i>M</i> (<i>SD</i>)	<i>t</i>	<i>p</i>
I am able to connect my academic and career aspirations to my spark.	66	3.09 (.99)	3.71 (.86)	-6.83	< .001
I know where to find resources to help me choose post-high school education that is a good fit for me.	66	2.98 (1.03)	3.92 (.85)	-8.24	< .001
I am confident in my ability to navigate the admissions process for post-high school education.	65	2.48 (1.13)	3.29 (.93)	-6.92	< .001
I feel prepared to apply for post-high school education.	66	2.41 (1.04)	3.30 (1.15)	-7.81	< .001
I have identified my pathway to post-high school education.	65	2.55 (1.09)	3.25 (1.08)	-7.26	< .001
I know how to set and manage my goals	67	3.21 (1.08)	3.84 (.93)	-7.92	< .001
I plan to obtain additional education after high school.	68	4.22 (1.03)	4.53 (.74)	-3.90	< .001
I have an understanding of how to prepare for post-high school education.	66	3.03 (.96)	3.76 (.84)	-7.43	< .001
I understand the types of financial assistance available to pay for post-high school education.	67	2.81 (1.05)	3.85 (.89)	-8.50	< .001
I have an understanding of the different pathways to post-high school education.	67	3.12 (.95)	3.84 (.90)	-7.05	< .001
I have an understanding of what to expect when going to a school for post-high school education.	67	2.91 (1.18)	3.78 (.92)	-7.85	< .001

Note. Response options: 1 (*not true at all*), 2 (*not so true*), 3 (*somewhat true*), 4 (*true*), 5 (*very true*).

Table 9 provides results of life skill development (also known as non-cognitive skills) from participation in the *Pathways to Your Future* program. Findings from paired t-tests indicated significant increases in each life skill.

Table 9. Paired *t*-Tests for Youth Life Skills Development

Life skill	<i>N</i>	Before program <i>M</i> (<i>SD</i>)	After program <i>M</i> (<i>SD</i>)	<i>t</i>	<i>p</i>
Communication	213	2.46 (.83)	2.90 (.70)	-9.85	.000
Goal setting	211	2.28 (.95)	2.83 (.80)	-10.16	.000
Decision making	213	2.46 (.90)	2.87 (.76)	-8.18	.000
Critical thinking	212	2.54 (.93)	3.00 (.77)	-8.57	.000
Teamwork	211	2.68 (.89)	3.06 (.81)	-7.47	.000
Planning and organization	211	2.49 (.94)	2.98 (.80)	-9.68	.000
Social skills	211	2.52 (.88)	2.88 (.81)	-7.62	.000
Keeping records	212	2.22 (.91)	2.66 (.85)	-9.27	.000
Self esteem	209	2.39 (.95)	2.83 (.87)	-8.77	.000
Motivation	207	2.60 (.94)	3.09 (.85)	-8.76	.000

Note. Response options: 1 (*poor*), 2 (*fair*), 3 (*good*), 4 (*excellent*).

Tables 10 and 11 show results for life skill development for males and females, respectively. Mixed between–within subjects analyses indicated there were significant gender differences in decision making, $F(1, 144) = 5.04$, $\eta_p^2 = .034$, and self-esteem, $F(1, 143) = 9.00$, $\eta_p^2 = .059$. Although significant, the partial eta squared indicates the differences were small.

Table 10. Paired *t*-Tests for Life Skills Development in Male Youth

Life skill	<i>N</i>	Before program <i>M (SD)</i>	After program <i>M (SD)</i>	<i>t</i>	<i>p</i>
Communication	78	2.47 (.83)	2.95 (.66)	-6.77	.000
Goal setting	77	2.25 (.95)	2.90 (.75)	-7.71	.000
Decision making	78	2.53 (.89)	2.96 (.69)	-5.40	.000
Critical thinking	78	2.62 (.96)	3.14 (.70)	-5.79	.000
Teamwork	78	2.74 (.92)	3.14 (.80)	-5.39	.000
Planning and organization	77	2.38 (.84)	2.87 (.77)	-5.49	.000
Social skills	78	2.55 (.94)	2.92 (.83)	-4.79	.000
Keeping records	77	2.17 (.87)	2.69 (.80)	-6.90	.000
Self esteem	76	2.54 (.87)	2.96 (.82)	-5.75	.000
Motivation	75	2.69 (.87)	3.25 (.66)	-6.73	.000

Note. Response options: 1 (*poor*), 2 (*fair*), 3 (*good*), 4 (*excellent*).

Table 11. Paired *t*-Tests for Life Skills Development in Female Youth

Life skill	<i>N</i>	Before program <i>M (SD)</i>	After program <i>M (SD)</i>	<i>t</i>	<i>p</i>
Communication	68	2.43 (.80)	2.84 (.66)	-5.40	.000
Goal setting	68	2.28 (.93)	2.76 (.79)	-4.78	.000
Decision making	68	2.25 (.87)	2.69 (.82)	-4.78	.000
Critical thinking	67	2.45 (.88)	2.85 (.80)	-4.88	.000
Teamwork	67	2.60 (.87)	2.94 (.83)	-4.09	.000
Planning and organization	68	2.59 (.98)	3.00 (.86)	-5.86	.000
Social skills	67	2.37 (.85)	2.81 (.74)	-5.60	.000
Keeping records	68	2.21 (.92)	2.65 (.86)	-5.20	.000
Self esteem	69	2.13 (.89)	2.57 (.90)	-5.35	.000
Motivation	68	2.51 (.95)	2.91 (1.00)	-3.86	.000

Note. Response options: 1 (*poor*), 2 (*fair*), 3 (*good*), 4 (*excellent*).

College and Career Readiness

Parent surveys focused on how they supported their teen regarding college and career readiness. However, due to the small sample size ($n = 29$) analyses could not be conducted to examine pre–post differences. The descriptive statistics and percentage of parents who responded agree or strongly agree to each survey item are shown in Table 12.

Table 12. Descriptive Statistics for Items Assessing Parental Support

Survey item	Before program <i>M (SD)</i>	After program <i>M (SD)</i>	Before program %	After program %
I know my teen’s spark, or passion	3.75 (.89)	3.90 (.72)	64.3	69.0
I can help my teen connect their spark to their academic and career aspirations	3.86 (.80)	3.86 (.71)	67.8	67.9
I talk to my teen about setting goals for post-high school education	3.93 (.88)	3.97 (.87)	79.3	75.9
I talk to my teen about setting goals for career aspirations	3.83 (1.00)	4.14 (.74)	62.0	86.2
I am able to help my teen keep a positive outlook on their goals even when facing a challenge	3.79 (.77)	4.14 (.64)	65.5	86.2
I maintain a positive attitude when talking to my teen about their post-high school education plans	4.03 (.87)	4.10 (.72)	82.8	79.3
I encourage my teen to make modifications to their plans after high school, when necessary	3.86 (.92)	4.10 (.94)	65.5	79.3
I am aware of the financial options available to pay for post-high school education	3.66 (.90)	3.86 (.69)	62.1	68.9
I am able to help my teen search for scholarships	3.57 (.88)	3.69 (.85)	53.6	58.6
I am less concerned about how my teen’s post-high school education will be paid for	3.41 (1.18)	3.55 (1.09)	58.6	62.1
I am aware of resources to help my family budget for post-high school education	3.86 (.71)	3.86 (.59)	75.0	75.0

Note. Response options: 1 (*strongly disagree*), 2 (*disagree*), 3 (*neither agree nor disagree*), 4 (*agree*), 5 (*strongly agree*).

Overall, there was a trend toward mean increases and an increased number of parents who agreed or strongly agreed with each item after program participation. For example, 86.2% of parents reported that after participating in the program they agreed or strongly agreed that they talk to their teen about setting goals for career aspirations compared to 62.0% before

participating in the program. Over 86% of parents also agreed or strongly agreed to being able to help their teen keep a positive outlook on their goals even when facing a challenge after participating in the program compared to 65.5% before. Additionally, parents reported they were more likely to encourage their teen to make modifications to their post-high school plans when necessary (79.3%) compared to before the program (65.5%).

Discussion

Findings from this investigation indicated that the *Pathways to Your Future* program positively and significantly affected participating youths' college and career readiness. The program helped equip young people with the knowledge and skills to plan and manage their education and careers, including the steps needed to apply for college, pursue their career interests, and investigate available financial assistance; helped the youth identify an educational and/or career path based on their interests or "sparks"; and increased the number of participants who plan to attend a post-secondary institution. Few gender differences in youth responses were found. As expected, embedding the college and career readiness program in a positive youth development framework led to the development of non-cognitive or life skills for youth participating in the *Pathways to Your Future* program that are essential to success in post-high school education and in the workforce. The inclusion of a bilingual family component was highly relevant since this allowed parents/mentors to gain knowledge about their youth's postsecondary plans.

Previous research clearly articulates the importance of parental involvement in their children's decisions to attend college and their career choices (Leonard, 2013, Perna & Titus, 2005). Although data were limited, findings from the *Pathways to Your Future* program were promising and suggested that parents' knowledge and skills in how support their children in pursuing their college and career goals, as well as involvement in their children's college and career aspirations and plans increased as a result of the program. Parents were also less concerned with how their teen's post-high school education will be paid for after participation in the program, even though "affordability" has been shown to be a key barrier to attending college (Hamrick & Stage, 2004).

In order to scale the *Pathways to Your Future* program through 4-H and with partner programs, three professional development options were designed to help meet the needs of participating educators: (a) one full-day, in-person workshop; (b) three half-day, in-person workshops; and (c) three 3-hour virtual workshops (synchronous; webinar).

College and Career Readiness

All three professional development options introduce participating educators to the general concepts and methods necessary to implement the curriculum, such as

- an introduction to the 4-H Youth Development Program
- an introduction to college and career readiness
- pedagogical approaches emphasized in the *Pathways to Your Future* curriculum activities
- facilitation strategies
- engaging in reflective practice
- *Pathways to Your Future* curriculum overview, activity modeling, and practice implementation

Limitations of Current Research

Our study had two main limitations. Despite the efforts made by staff to engage parents, it was challenging to get parents to attend workshops during regular school hours. To offset this limitation staff sent a welcome letter home at the beginning of the program and students took home program information for parents to read after each session. Parent surveys were also sent home by youth, but few were returned to the program facilitator. As such, additional studies involving parents will allow for a more comprehensive evaluation of parent knowledge, skills, and involvement on youth's college and career readiness, as well as any gender differences in these associations.

The second limitation is that the program was implemented in school classrooms and after-school clubs as part of existing college and career readiness efforts. Further research is needed to assess its effectiveness in different settings, such as community-based clubs, camps, or other types of OST opportunities, and using a quasi-experimental or experimental design.

Finally, it should be noted that all data were based on self-report. Future studies should track youth over time to see if they attend and complete post-secondary education and/or begin the pathway to secure employment.

Conclusion

This study provides preliminary evidence that *Pathways to Your Future* was effective at developing college and career readiness among high school-aged youth in this predominately Latino sample. The results point to the importance of a holistic approach to college and career readiness that involves the youth and their parents/guardians nested in a positive youth development model.

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College and Career Readiness

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