

Evaluation of the 2018 C² Pipeline College Warriors Experience



Presentation Overview

- I. Highlights from Student Surveys
- II. Exploring Use of Composite Scores
- III. Highlights from Parent Survey
- IV. Conclusions and Recommendations
- V. Detailed Survey Results

Highlights from Student Pre- and Post-Program Surveys

Student Surveys

Completed Pre-Program Survey	Completed Program	Completed Post-Program Survey
92	85	55

- All participants completed the pre-program survey as part of the application process. The majority of participants (92%) completed the program.
- About two-thirds (65%) who completed the program also completed a post survey. This is a lower response rate than previous surveys (in prior years, >80% have responded).
- All applicants had completed at least 9th grade:
 - 34 rising 12th graders
 - 39 rising 11th graders
 - 19 rising 10th graders
- 88 students reported attending 32 area high schools.
- Almost 2/3 (60 out of 92) of participants were students from 9 sites of the C²P afterschool program, including 21 students from Southfield High School of the Arts and Technology.

Student Survey Instrument

The student survey, taken both before and after the program, consisted of:

- A series of statements focused on the following areas:
 - Preparing for college
 - Career choices
 - Knowledge about health careers
 - Thoughts on teamwork
 - Wayne State campus and Detroit
- Students were asked to indicate, on a scale of 1 to 6, how much they agreed or disagreed with each statement.



- Open-ended questions about students' planned choices for college/university, major, and career.

Statistically Significant Findings 2014 to 2018

Items that had statistically significant changes from pre- to post-program for at least three years:

	2014	2015	2016	2017	2018
Understanding what it is like to work in health career	↑	↑	↑	↑	↑
Breaking away from family will be more difficult in college	n/s	↑	n/s	↑	↑
Wanting to live on campus	n/s	↓	n/s	↓	↓

Percent agreeing statistically significantly **increased** ↑ or **decreased** ↓ from pre- to post-program.

n/s: not statistically significant

Exploring Use of Composite Scores

Analysis: Composite Scores

To better capture the effects of the program and to increase reliability, the evaluation team explored the creation of composite scores to assess outcome categories. With this approach, the responses of multiple related items are combined into a single value or score, providing a more stable assessment of the outcome.

We created composite scores two ways:

1. Factor Analysis

- Nine potential factors were identified, several with only one or two items.

2. Conceptual Domains

- Eight potential domains were considered.
- Using reliability testing, we reduced these to **five domains**.

Composite Scores from Conceptual Domains

The five domains:

1. Confidence in College Choice and Perception of Academic Preparedness
2. Confidence in Future Plans
3. Perception of STEMH Career
4. Perception of WSU
5. Perception of Detroit/Midtown

Composite Scores from Conceptual Grouping

1. Confidence in College Choice and Perception of Academic Preparedness(Q1-9,11,13)

- I am confident that my decision to go to college is the right thing for me.
- I am having a hard time breaking away from my family, and attending college will make the situation worse. (*reverse coded*)
- I have some serious misgivings about going to college. (*reverse coded*)
- My family and I talk about my college and career plans.
- I know how to apply for colleges.
- I know the admission requirements for the colleges I want to attend.
- I understand the FAFSA (Free Application for Federal Student Aid) process and plan to complete it.
- I have the financial resources that I need to go to college.
- I know about various scholarships that could help me pay for college.
- I feel prepared to deal with all the new experiences that come with being in college.
- I am convinced that I will eventually master concepts in my academic courses that might be difficult to understand at first.

Composite Scores from Conceptual Grouping

2. Confidence in Future Plans (Q14-17)

- I have chosen a major and I feel confident about my decision.
- I am very confused about what career I should have. (*reverse coded*)
- I have found at least one career that seems to fit well with my personality and interests.
- I have made a firm decision to enter a certain career and have begun planning my life around that decision.

3. Perception of STEMH Career (Q18-23)

- I am not sure what steps I would need to take to become a health or STEM professional. (*reverse coded*)
- I have an understanding of what it is like to work in a health/STEM career.
- I like working in a team with people.
- I can work well with others as a team.
- Teamwork is important in solving health/STEM problems.
- Health care is better when there are people from different fields working together.

Composite Scores from Conceptual Grouping

4. Perception of WSU (Q24-26)

- I think Wayne State University has a strong academic program.
- I think attending Wayne State University could help me reach my career goals.

5. Perception of Detroit/Midtown (Q27-29)

- I feel comfortable walking around the Wayne State campus.
- Midtown Detroit has a lot to offer to students.
- There are many great activities in Detroit for young people.
- I enjoy spending time in Detroit.

Analysis: Confidence in College & Preparedness

Overall, the confidence and preparedness score decreased at post-program, though not statistically significantly.

Average Response

		Pre	Post	
Composite Score (average of components)		4.57	4.44	↓
Q1.	I am confident that my decision to go to college is the right thing for me. (N=55)	5.65	5.49	↓
Q2.	I am having a hard time breaking away from my family, and attending college will make the situation worse. (N=55)*‡	2.31	2.96	↑
Q3.	I have some serious misgivings about going to college. (N=55)*‡	1.82	2.85	↑
Q4.	My family and I talk about my college and career plans. (N=55)	5.38	5.13	↓
Q5.	I know how to apply for colleges. (N=53)	3.94	4.34	↑
Q6.	I know the admission requirements for the colleges I want to attend. (N=55)	4.22	4.36	↑
Q7.	I understand the FAFSA (Free Application for Federal Student Aid) process and plan to complete it. (N=53)	3.94	4.02	↑
Q8.	I have the financial resources that I need to go to college. (N=53)	3.06	3.47	↑
Q9.	I know about various scholarships that could help me pay for college. (N=53)	4.04	4.32	↑
Q11.	I feel prepared to deal with all the new experiences that come with being in college. (N=53)	4.85	4.70	↓
Q13.	I am convinced that I will eventually master concepts in my academic courses that might be difficult to understand at first. (N=53)*	5.36	4.81	↓

* **Bolded** findings were statistically significant ($p \leq 0.05$); ‡ The items were reversed-scored before being included in the composite score.



Analysis: Confidence in Future Plans

Overall, the confidence in plans score decreased statistically significantly at post-program, compared to pre-program.		Average Response	
		Pre	Post
Composite Score (average of components)*		4.82	4.44 ↓
14.	I have chosen a major and I feel confident about my decision. (N=53)*	4.83	4.38 ↓
15.	I am very confused about what career I should have. (N=53)*‡	2.21	2.83 ↑
16.	I have found at least one career that seems to fit well with my personality and interests. (N=53)	5.11	4.89 ↓
17.	I have made a firm decision to enter a certain career and have begun planning my life around that decision. (N=53)	4.55	4.34 ↓

* **Bolded** findings were statistically significant ($p \leq 0.05$); ‡ The items were reversed-scored before being included in the composite score.



Analysis: Perceptions of STEMH

Overall, the STEMH perception score declined slightly at post-program, though it was not statistically significant and there were competing pressures. Average Response

		Pre	Post	
	Composite Score (average of components)	4.66	4.56	↓
18.	I am not sure what steps I would need to take to become a health or STEM professional. (N=52)‡	3.40	3.50	↑
19.	I have an understanding of what it is like to work in a health/STEM career. (N=52) *	3.75	4.27	↑
20.	I like working in a team with people. (N=52)*	4.90	4.48	↓
21.	I can work well with others as a team. (N=50)*	5.20	4.78	↓
22.	Teamwork is important in solving health/STEM problems. (N=52)	5.42	5.17	↓
23.	Health care is better when there are people from different fields working together. (N=52)	5.08	5.15	↑

* **Bolded** findings were statistically significant ($p \leq 0.05$); ‡ The items were reversed-scored before being included in the composite score.



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Analysis: Perceptions of WSU

Overall, perception of WSU score declined statistically significantly at post-program, compared to pre-program.		Average Response		
		Pre	Post	
Composite Score (average of components)*		5.30	4.75	↓
Q24.	I think Wayne State University has a strong academic program. (N=52)	5.25	4.96	↓
Q25.	I think attending Wayne State University could help me reach my career goals. (N=52)*	5.37	4.54	↓
Q26.	I feel comfortable walking around the Wayne State campus. (N=51)	5.08	5.22	↑

* **Bolded** findings were statistically significant ($p \leq 0.05$); † The items were reversed-scored before being included in the composite score.



Analysis: Perceptions of Detroit/Midtown

Overall, perception of Detroit/Midtown score increased slightly at post-program, compared to pre-program, but it was not statistically significant.

		Average Response		
		Pre	Post	
Composite Score (average of components)		4.97	5.09	↑
Q27.	Midtown Detroit has a lot to offer to students. (N=51)	4.94	5.08	↑
Q28.	There are many great activities in Detroit for young people. (N=52)	5.00	5.02	↑
Q29.	I enjoy spending time in Detroit. (N=51)	4.90	5.04	↑

* **Bolded** findings were statistically significant ($p \leq 0.05$); † The items were reversed-scored before being included in the composite score.



Pre-Post Changes in Scores 2014 to 2018

	2014	2015	2016	2017	2018
Confidence in College Choice and Perception of Academic Preparedness	↑	↓	↓	↓	↓
Confidence in Future Plans	↑	↓	↓	↓	↓
Perception of STEMH Career	↑	↑	↑	↓	↓
Academic/Professional Perception of WSU	↑	↓	↑	↓	↓
Perception of Surrounding Area	↑	↑	↑	↓	↑

Scores statistically significantly **increased** ↑ or **decreased** ↓ from pre- to post-program.

Scores **increased** ↑ or **decreased** ↓ from pre- to post-program, but no statistical significance.

Highlights from Parent Survey

Parent Surveys

Students Completed Post-Program Survey	Matched Parent Responses
55	55

- **85** students completed the program:
 - **65%** (n=55) of them completed the post-program survey.
 - Parents of **73%** of (n=62) students parents gave feedback.

Overall feedback was positive. Written comments included:

- ❖ *I so appreciate everything that the college, staff and counselors have done to make this C² Pipeline experience a good one. Thank you!*
- ❖ *My daughter's impression of the program totally did a 360. She is more confident and I give the C2 Pipeline kudos for starting her on her way. Thank you!*
- ❖ *Keep up the good work with our youth :)*
- ❖ *I feel like this program is wonderful. I would have loved if every student was awarded in some form. Overall still a wonderful program. Thank you allowing us to be a part of it.*

Parent Survey Instrument

- A series of statements focusing on the following areas:
 - Expectations and preparedness
 - Wayne State campus and Detroit/Midtown
 - The C² Warriors College Experience
- Parents were asked to indicate, on a scale of 1 to 6, how much they agreed or disagreed with each statement.



- Questions about the information that parents believed students gained during the program, information students still needed, and information parents still needed.
- Questions about whether the program changed the parents' impressions of Wayne State University and Detroit or Midtown.

Highlights from the Parent Survey Results

Parents viewed the IPE program positively. **All** parents who took the survey agreed that:

- the program helped their child better understand day-to-day college life (100%; n=58);
- the program helped their child better understand the academic requirements of college (100%; n=58); and
- after the program, their child was more ready for college (100%; n=58).

Highlights from the Parent Survey Results

Parents had favorable impressions of Wayne State. All or nearly all agreed that:

- WSU has a strong academic program (100%; n=63);
- attending WSU would benefit their child (100%; n=63);
- they feel comfortable walking around WSU (95.2%; n=60); and
- they feel their child is safe around WSU campus (95.2%; n=60).

The majority of parents reported that the program improved their impression of:

- Wayne State (**78.3%**; 47 out of 60): and
- Detroit or Midtown (**71.2%**; 42 out of 59).

Highlights from the Parent Survey Results (cont.)

While **all** parents reported that they expected that their child would go to college (100% of 63) and that college was the right thing for them (100% of 63),

- **21.3%** (13 out of 61) worried their child was not academically ready for college;
- **44.3%** (27 out of 61) reported that they did not know about scholarships to help pay for college expenses; and
- **70.5%** (43 out of 61) felt they did not have the financial resources to send their child to college.

Conclusions and Recommendations

Findings from Survey Results

Findings from the evaluation surveys indicated that the program was reaching several of its expected outcomes:

- Students reported:
 - Greater understanding of what it is like to work in a healthcare career; and
- Parents reported:
 - High ratings for the IPE program; and
 - Improved impressions of Wayne State and of Detroit or Midtown.

Opportunities Identified by Evaluation

The program also has opportunities to refine operations:

- After the program, participants had less confidence in their future plans.
- Participants also had had a lower perception of WSU and were less interested in attending. This was true for three of the five program years and the decrease was statistically significant in 2017 and 2018.

Staff can consider:

- how to support students:
 - as they transition to independence; and
 - to increase their academic skills *and* their confidence in their abilities to do so.
- Exploring with students their impressions of WSU to understand the reasons for the decrease:
 - either through a debrief session at the end of IPE or with a focus group conducted by the evaluation team.

Opportunities Identified by Evaluation (cont.)

- To help address parents' concerns that students are not academically ready for college and parents' perception of additional information needed by students, staff can:
 - continue working with the students in the afterschool programs, covering topics such as:
 - personal finance and budgeting;
 - college costs and scholarships; and
 - careers and success after college.

- Some parents also identified information they felt that they still needed, such as understanding the costs of college, applying for financial aid, and scholarships.
 - C² Pipeline could consider supplementing the afterschool program with a parent education component to address these areas, or adding a related parent workshop to the summer program.

Detailed Results from Student Pre- and Post- Program Surveys

A note on Statistically Significant Findings

While each year several findings have been statistically significant, it has not been a consistent set of items.

- Repeatedly testing 29 items over the five years has increased the probability of incorrectly identifying random fluctuations as a true change. 21 (72.4%) items have had statistically significant changes at least one year.

Year	Number of Statistically Significant Findings
2014	7
2015	4
2016	3
2017	12
2018	10

Number of Years Statistically Significant	Number of Items
0	8
1	11
2	7
3 or more	3

Preparing for College

	Average Response	
	Pre – Program	Post-Program
1. I am confident that my decision to go to college is the right thing for me. (N=55)	5.65	5.49 ↓
2. I am having a hard time breaking away from my family, and attending college will make the situation worse. (N=55)*	2.31	2.96 ↑
3. I have some serious misgivings about going to college. (N=55)*	1.82	2.85 ↑
4. My family and I talk about my college and career plans. (N=55)	5.38	5.13 ↓

* statistically significant (p≤0.05)



Preparing for College

		Average Response		
		Pre – Program	Post- Program	
5.	I know how to apply for colleges. (N=53)	3.94	4.34	↑
6.	I know the admission requirements for the colleges I want to attend. (N=55)	4.22	4.36	↑
7.	I understand the FAFSA (Free Application for Federal Student Aid) process and plan to complete it. (N=53)	3.94	4.02	↑
8.	I have the financial resources that I need to go to college. (N=53)	3.06	3.47	↑
9.	I know about various scholarships that could help me pay for college. (N=53)	4.04	4.32	↑

* statistically significant (p≤0.05)



Preparing for College

	Average Response	
	Pre – Program	Post-Program
10. I want to live on campus during my college years. (N=53)*	5.13	4.72 ↓
11. I feel prepared to deal with all the new experiences that come with being in college. (N=53)	4.85	4.70 ↓
12. I will need better study habits than I have right now so I can do well in college. (N=53)	4.68	4.77 ↑
13. I am convinced that I will eventually master concepts in my academic courses that might be difficult to understand at first. (N=53)*	5.36	4.81 ↓

* statistically significant (p≤0.05)



Career Choices

		Average Response	
		Pre – Program	Post- Program
14.	I have chosen a major and I feel confident about my decision. (N=53)*	4.83	4.38 ↓
15.	I am very confused about what career I should have. (N=53)*	2.21	2.83 ↑
16.	I have found at least one career that seems to fit well with my personality and interests. (N=53)	5.11	4.89 ↓
17.	I have made a firm decision to enter a certain career and have begun planning my life around that decision. (N=53)	4.55	4.34 ↓

* statistically significant (p≤0.05)



Knowledge About Health Careers

	Average Response	
	Pre – Program	Post-Program
18. I am not sure what steps I would need to take to become a health or STEM professional. (N=52)	3.40	3.50 ↑
19. I have an understanding of what it is like to work in a health/STEM career. (N=52) *	3.75	4.27 ↑

* statistically significant (p≤0.05)



Thoughts On Teamwork

		Average Response		
		Pre - Program	Post-Program	
20.	I like working in a team with people. (N=52)*	4.90	4.48	↓
21.	I can work well with others as a team. (N=50)*	5.20	4.78	↓
22.	Teamwork is important in solving health/STEM problems. (N=52)	5.42	5.17	↓
23.	Health care is better when there are people from different fields working together. (N=52)	5.08	5.15	↑

* statistically significant (p≤0.05)



Wayne State Campus And Detroit

		Average Response		
		Pre-Program	Post-Program	
24.	I think Wayne State University has a strong academic program. (N=52)	5.25	4.96	↓
25.	I think attending Wayne State University could help me reach my career goals. (N=52)*	5.37	4.54	↓
26.	I feel comfortable walking around the Wayne State campus. (N=51)	5.08	5.22	↑
27.	Midtown Detroit has a lot to offer to students. (N=51)	4.94	5.08	↑
28.	There are many great activities in Detroit for young people. (N=52)	5.00	5.02	↑
29.	I enjoy spending time in Detroit. (N=51)	4.90	5.04	↑

* statistically significant (p≤0.05)



Percentage of Students Who Listed Wayne State as One of Top Choices for Colleges

	Pre-Program	Post-Program
Wayne State as first choice	46.0% (n=23)	25.0% (n=13) ↓
Wayne State as one of the top three choices	82.0% (n=41)	63.5% (n=33) ↓

Students' Education and Career Plans

The below table displays findings **only** for students who completed both pre- and post-program surveys.

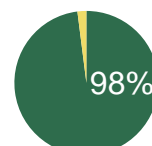
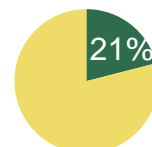
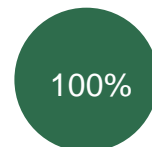
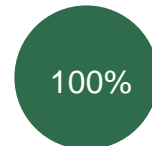
	Pre-Program [^]	Post-Program	
STEM/Health Major	74.5% (n=38)	68.1% (n=32)	↓
STEM/Health Career	58.2% (n=32)	47.2% (n=25)	↓
Primary Health Care	40.0% (n=22)	46.2% (n=24)	↑

Detailed Results from Parent Surveys

Expectations And Preparedness

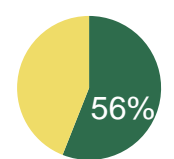
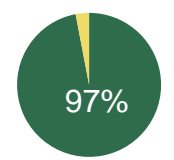
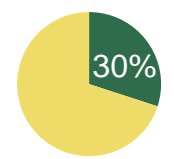
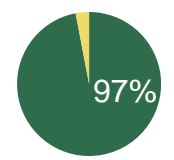
	Item	N	Average Response
1.	I expect that my child will graduate high school on time.	63	5.95
2.	I expect that my child will go to college.	63	5.94
3.	I feel that college is the right thing for my child.	59	5.92
4.	I worry that my child is not ready for college academically.	61	2.02
5.	My child and I talk about college and career plans.	62	5.60

■ Agree
■ Disagree



Expectations And Preparedness

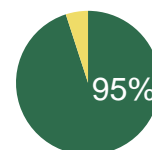
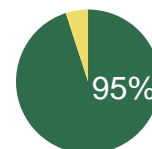
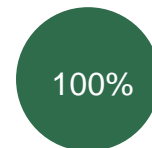
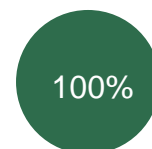
	Item	N	Average Response
6.	I know what kinds of things I can do to help my child be ready for college.	62	5.31
7.	I am helping prepare my child for college.	63	5.65
8.	Our family has the financial resources to send my child to college.	61	2.85
9.	I plan to complete the FAFSA (Free Application for Federal Student Aid) with my child.	63	5.75
10.	I know about various scholarships that could help our family pay for my child's college expenses.	61	3.62



Expectations And Preparedness

Item	N	Average Response
11. I think Wayne State University has a strong academic program.	63	5.63
12. I think attending Wayne State University would benefit my child.	63	5.33
13. I feel comfortable walking around the Wayne State campus.	63	5.17
14. I feel that my child is safe around the Wayne State campus.	63	5.11

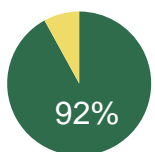
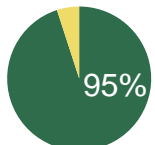
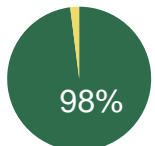
■ Agree
■ Disagree



Expectations And Preparedness

	Item	N	Average Response
15.	Midtown Detroit has a lot to offer to students.	63	5.32
16.	There are many great activities in Detroit for young people.	63	5.16
17.	I enjoy spending time in Detroit.	63	5.17

■ Agree
■ Disagree



Expectations And Preparedness

	Item	N	Average Response
			■ Agree ■ Disagree
18.	My child and I have talked about their time at the C2 Pipeline Warriors College Experience.	58	5.62
19.	I think the C2 Pipeline Warriors College Experience helped my child better understand day-to-day college life.	58	5.78
20.	I think the C2 Pipeline Warriors College Experience helped my child better understand the academic requirements of college.	58	5.72
21.	After the program, I feel like my child is more ready for college.	58	5.59



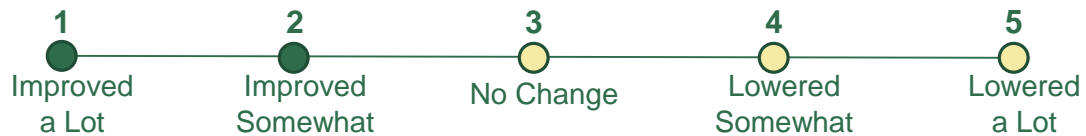
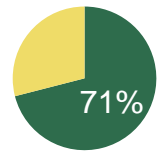
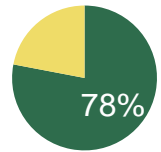
C² Pipeline Warriors College Experience

	The C² Pipeline Warriors College Experience has helped my child better understand... (N=60)	I feel my child still needs more information on... (N=60)	I feel that I still need more information on... (N=60)
Applying to colleges	77%	23%	17%
Choosing a good college for his or her needs and goals	78%	25%	10%
Understanding the costs of college	67%	23%	15%
Scholarships	58%	40%	25%
Applying for financial aid	63%	37%	20%
Planning for career and success after college	75%	33%	13%

C² Pipeline Warriors College Experience

	Question	N	Average Response
23.	How did the C ² Pipeline Warriors College Experience change your impressions of Wayne State University?	60	1.60
24.	Has the C ² Pipeline Warriors College Experience changed your impressions of Detroit or Midtown?	59	1.86

■ Improved
■ No Change



Evaluation of the 2017 C² Pipeline College Warriors Experience



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