A Pipeline to Success?

Evaluating the Effectiveness of the Summer Academy to Inspire Learning

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Abstract: The Summer Academy to Inspire Learning is a college pipeline program run out of the University of Oregon. The program focuses on helping underrepresented and first generation students who may have the desire to attend college, but lack the financial or social resources to navigate the college application process. This paper builds on the research of Marshall and Scott (2012), and looks to find s significant impact of the SAIL program on college attendance where the previous paper did not. By collecting data from SAIL participants, Oregon education statistics, and an online survey, we looked to isolate the effects of SAIL on achieving its stated goals. Our results indicated that SAIL students attended college at a higher rate than their classmates, but we were unable to find a significant impact of SAIL while controlling for outside factors.

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Introduction

Post-secondary education is a dream for many students, but can only be achieved through a specific combination of personal resources and social upbringing. For some students, especially those who are first generation, low-income, or belong to a minority group, those resources can be difficult to find at home. Mentorship programs have been employed as a method of reducing the gap between privileged and underprivileged students in higher education. In a study of a college mentorship program, Carrell and Sacerdote (2013) found that "mentoring treatment is largely acting as a substitute for the potentially scarce resource of parental help or skill." This lack of mentorship is especially prevalent for low-income, underrepresented, and first generation college students. High schools and colleges use a variety of methods to try to address this gap and help more underrepresented students achieve their college goals.

The Summer Academy to Inspire Learning (SAIL) was founded in 2005 at the University of Oregon (UO) to help address the needs of low-income and minority students in college admission and success. It functions as "an innovated (sic) pipeline program that serves middle and high school students from underrepresented backgrounds, which include lower income and/or first generation college students, with the aim of encouraging students to enroll and succeed in college through early exposure and exploration." ("About SAIL"). SAIL targets students from Lane County high schools who may have the academic ability to attend college, but lack the financial and social support to complete college applications and feel comfortable in a university setting. Students participate in a week long summer session on the UO campus. During that time, they take a course taught by a UO professor. Topics include Economics, Product Design, World Cultures, and Chemistry, among others. Students also have the opportunity to participate in sessions about college admissions and financial aid, and receive

mentoring from UO students throughout the school year to help them fill out college applications, apply for scholarships, and find the resources necessary to ease their transition into higher education.

This study looks to evaluate the effectiveness of the SAIL program on achieving its stated goals of sending underrepresented students to higher education. Marshall & Scott (2012) examined the same program, and concluded that no significant difference of high school graduation rates existed for SAIL students versus their peers. We relied on a new set of data and hoped to find significant results.

Literature Review

A plethora of previous research exists on the requirements for college admittance for low-income and minority students. Tinto (2010) identifies expectations, support, feedback, and involvement as necessary for student success in college. Stage and Hossler (1989) identify three stages of college admission: Predisposition, Search, and Choice. They found that two of the biggest indicators of student success in the predisposition phase (where students are deciding whether or not to continue education after high school) are parental expectations and education levels. Parental expectations, however, are positively correlated with family income (Hamrick and Stage, 2004), indicating that many low income students lack the family and social backing to help them navigate the complicated college admission process.

Despite general increases in college attainment for high school students, low-income students have seen smaller increases in enrollment than higher income students (Myers and Schirm, 1999). And while low-income students express desire to attend college at around the same rate as other income groups (Strayhorn, 2016), they have a lower rate of college attendance than high income students (U.S. Department of Education, National Center for Education Statistics, 2017). Additionally, low-income and minority students who do end up attending college tend to do worse and drop out at a higher rate than their high-income, white classmates (Strayhorn, 2016). This research shows that there is a significant need for college going interventions for these underrepresented students, which SAIL and other similar programs seek to provide.

SAIL focuses on addressing the barriers facing minority and low income students in college acceptance and success. Martinez & Kloppot (2005) identify five major predictors of college attendance and completion for these students: “academic preparation, social support,

access to information, parental involvement and knowledge about college, and financial aid." They go on to explain the importance of social support:

> Often students of color, those from low-income families, and students whose parent(s)/caretaker(s) did not attend college do not have the knowledge, information, or social and cultural capital to understand the academic work and college application processes needed to plan and pursue postsecondary education.

This is the gap which SAIL seeks to bridge by acting as a replacement for the information and capital gap for these students.

Many colleges and universities across the United States offer Summer Bridge Programs, but few offer a "Pipeline" program such as SAIL[1]. Summer bridge programs (SBPs) are generally defined as a "program that occurs between high school and college that seeks to transition students to the college environment through academic activities" (Sablan, 2014). Strayhorn (2016) refers to pipeline programs as "one of the oldest strategies used to increase student enrollment and eventual success in higher education," and groups SBPs into that group.

Typically, a university will offer a program in the summer between senior year of high school and freshman year of college that will teach students study skills, refreshments on basic math or language concepts, and general preparation for the rigor of college courses. These programs generally focus only on students who are already admitted to that university. For example, Ohio's Science and Engineering Talent Expansion Program (OSTEP) is run out of Ohio State University, and focuses on helping first generation admitted freshmen in Science, Technology, Engineering, and Math (STEM) programs (Tomasko et. al., 2016). The targeted nature of this program allows the administrators to work on specific gaps in education. For

[1] Other similar programs include TRiO at University of Southern California, and the national Upward Bound program.

example, this program identifies that many first generation STEM students aren't prepared to learn concepts and don't expect the pace and rigor of first year classes (Tomasko et. al., 2016). As a result, the program can focus on improving those specific skills rather than simply providing general college tools.

SAIL is different from these types of programs because lasts for multiple years, and doesn't include only students who plan on attending University of Oregon. SAIL students typically begin the program the summer before their first year of high school, and will often continue for all four summers before graduating high school. SAIL falls outside of the definition that Sablan or Strayhorn would use, but refers to itself as a pipeline program, so we will continue to refer to it as such. Rather than only acting as bridge program, SAIL focuses its efforts mainly on preparing students for college applications, not necessarily success in college itself.

SAIL's structure may be uncommon, but many other college readiness program exist across the country. One similar program to SAIL is Project GRAD (Graduation Really Achieves Dreams), based out of Houston, TX. This program focuses on helping low-achieving middle school students prepare for high school, and getting high school students from urban schools prepared for college (Snipes et. al., 2006). A major component of Project GRAD is their College Institute summer programs, which give students an opportunity to tour college campuses, learn about financial aid and college applications, and experience college classroom instruction on a variety of topics ("High School Student Programs"). The program saw statistical gains in performance on standardized tests and college attendance, and has been expanded to include thousands of students across Texas (Snipes et. al., 2006).

These various programs, along with many others which aim to increase college attendance for low-income and minority students, indicate that interventions for

underrepresented students can have a huge effect on whether or not they end up attending college. SAIL's success is based on its ability to target specific groups who need the most help and effectively prepare students for the college application process. At least according to its stated goals and the structure of the program, SAIL has had a lasting impact on the lives of students and helped many who may not of attended college realize their dreams of higher education.

Based on past literature, the Marshall & Scott (2012) analysis, and feedback from SAIL participants, we hypothesize that SAIL will have a positive effect on graduation rates and continuing education. Marshall & Scott found a statistically insignificant variable on SAIL participation in predictors of college success. They explain this result: "it may be the case that the SAIL program does not improve any predictors of college. Rather, the intervention only promotes college entrance" (2012). This claim is supported by previous literature, but we hope to show SAIL's significant impact on college admissions.

Theory and Hypothesis

The SAIL program has provided benefits for over 500 students in the past 12 years. According to a variety of testimonials from the SAIL website, as well as the data obtained from our survey, it seems as though SAIL has had a significant effect on student outcomes. SAIL aims to increase college attendance for low-income and underrepresented students, so we expect to see a positive impact of being a full participant in SAIL. If we see a positive significant coefficient on a variable representing full participation in SAIL in a regression, controlling for demographic factors and school quality, this will indicate that students who commit themselves to SAIL will see increased benefits and will be more likely to attend college. The Marshall & Scott (2012) study was impacted by the lack of data, mainly because no students had graduated from high school yet. In this study, however, we have access to over 250 student files for our focus years, so we expect to find a positive and significant value.

Methodology

Data Sources

Data for this study was obtained primarily from three sources. First, SAIL provided data collected from surveys and applications, which contained demographic information on students including high school attended, ethnicity, and parental education levels. Second, we used data from the Oregon Department of Education (ODE) annual report cards. The ODE publishes a report card for every school in Oregon each year containing school demographics, graduation rates, test scores, and other outcome information. This data was compiled into a spreadsheet, then edited down to include only high schools and the necessary variables for our analysis. We then administered an online survey to former SAIL students using Qualtrics software to inquire about their activities post high school while receiving feedback about the quality of the program.

Data Management and Proxies

Data on SAIL participants was provided by the program coordinator Lara Fernandez. The data was collected from surveys and applications, and included notes about what students have done since graduating high school based on responses to surveys, phone calls, emails, and SAIL reunion events throughout the years. Below is the list of all the variables we received from SAIL.

Graduation Year: This variable indicates the graduation year of the student.

Gender: This qualitative variable indicates the gender of in the student.

Ethnicity: This qualitative variable indicates the ethnicity of the student.

High School: This qualitative variable indicates the high school the student attended.

City and ZIP Code: This variable indicates the city and ZIP code where the student lived while attending the SAIL program.

Free/Reduced Lunch: This binary variable indicates whether a student qualified for Free/Reduced Lunch.

Arrival method: This qualitative variable indicates how a student planned to arrive the SAIL program. Observations are asked on their application about their preferred arrival method, and are offered a free bus pass if needed.

Camp Types: This qualitative variable indicates in which camps each student participated.

Insurance: This qualitative variable indicates the type of insurance under which the student was covered while attending the SAIL.

Parental Education: This qualitative variable indicates the highest level of education that each student's parents obtained.

Now: This qualitative variable indicates what the student is currently doing to the best knowledge of SAIL.

However, the data we received from SAIL was incomplete. For many of the observations, data on ethnicity, arrival method, free and reduced lunch, insurance, parental education and post high school activities were missing. As a result, we revisited the physical applications and surveys to fill in missing data points. We were able to catalog some of the missing data, but were unable to fill all the gaps in our variables. We then created a single dataset of all students who attended the programs from the summers of 2009 through 2015, and assigned each observation an ID based on their graduation year, which raged from 2013 to 2016. Students who graduated in the same year were grouped into one of four cohorts. While a full time SAIL participant would ideally attend all four summer camps, many students do not, so some variables which differ across years (such as arrival methods) were incomplete for certain students. The following

variables were derived from the provided data and transformed into binary variables in order to conduct our analysis.

Identification (ID): Each student was given an ID based on their graduation year, allowing us to preserve the anonymity and sensitive personal information.

Graduation Year (*GRADYEAR):* This variable indicates the graduation year of each student.

Gender (FEMALE): This binary variable indicates the gender of each student. It equals one if the student is female, and zero if the observation was a male. A positive coefficient is expected, as female students tend to go to college at a higher rate (Jacob, 2002).

Ethnicity_Asian (eth_a): This binary variable equals one if a student identifies his/herself as Asian, it equals zero otherwise. A negative coefficient is expected, as minority students tend to attend college at a lower rate than their counter white classmates. (Krogstad & Fry, 2002).

Ethnicity_Black (eth_b): This binary variable equals one if a student identifies his/herself as Black/African American, it equals zero otherwise. A negative coefficient is expected, as minority students tend to attend college at a lower rate than their white classmates.

Ethnicity_Hispanic (eth_h)*:* This binary variable equals one if a student identifies his/herself as Hispanic/Latino, it equals zero otherwise. A negative coefficient is expected, as minority students tend to attend college at a lower rate than their white classmates.

Ethncity_AmericanIndian (eth_an)*:* This binary variable equals one if a student identifies his/herself as American Indian or Alaskan Native, it equals zero otherwise. A negative coefficient is expected, as minority students tend to attend college at a lower rate than their white classmates.

Ethnicity_White (eth_w): This binary variable equals one if a student identifies his/herself l as White, it equals zero otherwise. A positive coefficient is expected, as white students tend to attend college at a higher rate than their minority classmates.

Ethnicity_OtherMultiple (eth_o): This binary variable equals one if a student identifies his/herself through multiple identities, it equals zero otherwise. A negative coefficient is expected, as minority students tend to attend college at a lower rate than their white classmates.

Rank (RANK): This continuous variable indicates the percentile rank each high school received from our Principal Component Analysis (PCA) which will be explained later in this section. The variable ranges from one to five with five representing a school in the top 10% of schools in Oregon, and one representing a school in the lowest 5%. A positive coefficient is expected, as students who attend better schools are more likely to attend college.

Zip Code (ZIP): This variable indicates the zip code of each observation.

Income (INCOME): This continuous variable represents the median income for the ZIP code where each student lives. This was taken from the Internal Revenue Service database of tax returns, and was calculated by dividing the total income of the ZIP code by the total number of returns. Data was only available up to 2014, so observations who graduated in 2015 or 2016 received this proxy for income based on the 2014 estimate. A positive coefficient is expected, as higher-income students are more likely to attend college (Kim & Sherraden, 2011).

Lunch (L): This binary variable equals one if a student is part of the free and reduced lunch program and zero if not. This variable was recorded for each camp year. A negative coefficient is expected, as students who participate in this program are more likely to come from low income families and may not have the aforementioned social backing to attend college.

Arrival Method (AM): For this variable we assigned a numerical value indicating the arrival method each student selected during the SAIL application process. A one is assigned if an observation is accompanied by a family member. A two was assigned if an observation is unaccompanied, meaning an observation arrived to the SAIL camp using the provided bus pass, walking, biking or driving by themselves. A three was assigned if an observation arrived both accompanied and unaccompanied.

Camp (CAMP): This binary variable indicates whether an observation attended SAIL in the given summer. This variable was recorded throughout all four SAIL summer camps.

CampYears (CAMPYRS): This continuous variable measures the total number of summers a student attended the SAIL program, which ranges from zero to four. A positive coefficient is expected, as a student who attended the program for longer is more likely to attend college.

InsuranceType (INSTYPE): This binary variable equals one if an observation receives medical insurance from a Medicare, Medicaid, The Affordable Care Act, or any other low-income insurance program; it equals a zero otherwise. A negative coefficient is expected, as this variable acts as another indicator of the socioeconomic status of a student, and lower-income students

Parent Education (PARENTEDU): This qualitative variable indicates the highest level of education a student's parent achieved.

Continuing Education (CONTEDU): This binary variable equals one if an observation attended a two-year or four-year college after graduating high school, it equals a zero otherwise.

ContinuingType (CONTTYPE): For this variable we assigned a numerical value which indicates whether the student is currently attending a university or two-year college, working, or

any other activity. A one is assigned if an observation attended a four-year university that provided a bachelors, masters or PhD degree. A two is assigned if an observation attended a two-year college that provided associate degrees. A three was assigned if a student did not attend college.

Survey

In order to collect further data beyond what SAIL provided, we conducted a survey of former SAIL students. Using advice from Cox (1996), we developed a short survey to be administered via Qualtrics online software. To increase our response rate, we offered a monetary incentive in the form of a raffle to win a $100 gift card. We obtained 291 email addresses from the SAIL application materials, but missed many students who did not provide an email address. The data contained mailing addresses for some students, so we had the opportunity to send out paper surveys in order to reach more students. However, the time and cost were prohibitive, and many students may have moved, making a mailed survey too expensive and unlikely to increase our response rate. Out of the 291 emails entered in the Qualtrics system, 4 failed to send, and 61 bounced. This was likely a result of the out of date emails from participants in older camps. In the end, we sent 227 emails with information about the survey and a link to participate. Students were given three weeks to complete the survey, and follow-up emails were sent periodically to remind participants. The full survey can be found in Appendix 1.

After the three weeks we received 30 survey responses, resulting in a 13.3% response rate. Despite this low response rate, we were able to calculate some significant results. In our sample, 87% of students graduated high school and attended either a two or four-year college. In addition, 83% of respondents “Strongly Agreed” with the statement “I enjoyed my experience in the SAIL program.” 69% responded “Strongly Agree” or “Somewhat Agree” to the statement

“SAIL prepared me to apply for college.” 86% responded “Strongly Agree” or “Somewhat Agree” to the statement “SAIL improved my expectations of my ability to attend/do well in college.” These results indicate that the majority of students saw a benefit from participating in the SAIL program. (Further results can be found in Appendix 2).

Prior to constructing our survey, we hoped to used Strayhorn’s (2011) detailed survey (the *Summer Institute Survey*) to assess student outcomes. However, we were unable to access this survey because the creators were in the process of monetizing the online questionnaire, therefore could not share the survey with us. As a result, we did not rely on Strayhorn’s survey structure to construct our analysis. We recommend that SAIL develop a comprehensive survey to be administered at the beginning and end of a student’s time in SAIL. This type of survey can be more effective at evaluating the changes in expectations or outcomes (Tomasko, 2016), and will make further analysis simpler. A list of potential questions for further surveys and a further description of the survey can be found in the “Recommendations” section of this paper.

Principal Component Analysis and School Ratings

In order to control for each student's school quality, we looked to created a single variable that can explain the quality of a high school in Oregon. We first hoped to get this variable from the Oregon Department of Education report cards. The Every Student Succeeds Act (ESSA) was passed by President Obama in 2015, as part of national educational efforts to increase school and student outcomes. One of its main provisions was aimed at increasing assessment methods (Act, 2015). Oregon had a waiver as part of the Elementary and Secondary Education Act which allowed them to assign ratings to each school based on student outcomes and similar schools. They did so by placing each school into a percentile and assigning each one a value ranging from one to five, with five indicating higher quality schools. This waiver expired

on August 1, 2016, therefore the report cards for the school year 2014-2015 and 2015-2016 do not contain a school rating. Without ratings for these school years (or beyond), we had to develop our own ranking system as a proxy for school quality. To do so, we ranked every high school in Oregon based on a variety of factors, and then assigned percentile ranks to each school in Eugene and Springfield.

We used Principal Component Analysis (PCA) with school data collected from the ODE to assign new percentile rankings. PCA is a statistical technique used to estimate a set of uncorrelated components from a large set of correlated variables (Tipping & Bishop, 1999). Because of the large number of variables for each school, we used PCA to determine the few factors which best described the difference between each school. We used the following variables obtained from the ODE report card databases:

Writing Met: This continuous variable measures the percent of students at the school meeting or exceeding the statewide benchmark for writing standardized tests in 11th grade.

Reading Met: This continuous variable measures the percent of students at the school meeting or exceeding the statewide benchmark for reading standardized tests in 11th grade.

ELA Met: This continuous variable measures the percent of students at the school meeting or exceeding the statewide benchmark for English/Language Arts standardized tests in 11th grade. In the 2014-2015 school year, Oregon combined the Writing and Reading tests into one ELA test, so this variable was used for the 2014-201515 and 2015-2016 analysis.

Science Met: This continuous variable measures what percent of students at the school met or exceeded the statewide benchmark for science standardized tests in 11th grade.

Math Met: This continuous variable measures what percent of students at the school met or exceeded the statewide benchmark for math standardized tests in 11th grade.

Grad Rate: This continuous variable measures the percentage of students who graduated in the previous school year.

Stay Rate: This continuous variable measures the percentage of students who did not drop out during the previous school year. This was calculated by subtracting the dropout rate provided by the ODE from 100.

Continuing Education Rate: This continuous variable measures the percentage of students who graduated two years prior and went on to attend higher education of any sort.

The chart below (Table 1) shows some summary statistics for the eight relevant variables for each year, along with the values for Springfield High School (SHS) where the plurality of SAIL students attended.

	2012/2013			**2013/2014**			**2014/2015**			**2015/2016**		
Variable Name	Mean	Std. Dev.	SHS	Mean	Std. Dev.	SHS	Mean	Std. Dev.	SHS	Mean	Std. Dev.	SHS
Writing Met	56.01	17.21	58.2	55.54	16.51	52.2	*	*	*	*	*	*
Reading Met	79.62	12.66	80.3	79.48	12.49	78.9	*	*	*	*	*	*
ELA Met	*	*	*	*	*	*	60.79	18.54	64.4	62.54	18.35	65.7
Science Met	61.45	17.82	58.2	60.81	18.4	60.4	60.51	20.03	58.6	57.81	19.45	50.8
Math Met	60.52	19.75	65.9	61.39	19.73	60.1	29.01	15.02	29	30.51	14.54	24.6
Grad Rate	68.68	22.86	61.3	67.87	23.23	63.7	72.61	21.93	68.7	73.71	21.7	64.9
Stay Rate	96.11	7.52	95.5	95.36	7.76	96.9	95.54	7.7	96.7	95.18	8.03	96.1
Cont. Ed. Rate	55.15	16.53	55.1	53.11	17.32	51.9	52.58	18.15	47.5	51.27	19.09	42

Table 1 (* indicates a variable which was missing for that year)

We used the variables above to estimate a different ranking and percentile for each school for each year. First, PCA was run using Stata, which creates the maximum number of components that can explain any portion of the variation and assigns each an Eigenvalue

(Tipping & Bishop, 1999). Then, using Kaiser's Rule (Zwick & Velicer, 1986) and a Scree plot, we look for components whose Eigenvalue is greater than one, meaning they describe a significant portion of the variance. Each set of year variables granted only one Eigenvalue greater than one, so we decided to use two components in our analysis. We then rotate the principal components using "varimax" rotation (Ding & He, 2004). This allows us to estimate which component best explains the variance in a variable, which is shown in the figures below.

Variable	Comp1	Comp2	Unexplained
zreadin~1213	0.5743		.1932
zmathmet1213	0.4559		.1738
zwritin~1213	0.4638		.2739
zscimet1213	0.4492		.2944
zgradra~1112		0.6288	.1593
zstayra~1112		0.6899	.1929
zconted1011		0.3267	.345

Figure 1: 2012/13 Components

Variable	Comp1	Comp2	Unexplained
zreadin~1314	0.5816		.2076
zmathmet1314	0.4204		.1729
zwritin~1314	0.3832		.2854
zscimet1314	0.5437		.2947
zgradra~1213		0.5472	.2047
zstayra~1213		0.6731	.1749
zconted1112		0.4094	.3098

Figure 2: 2013/14 Components

Variable	Comp1	Comp2	Unexplained
zELAmet1415	0.5179		.319
zMATHmet1415	0.5444		.2564
zSCImet1415	0.5076		.3658
zgradra~1314		0.6416	.1172
zstayra~1314		0.7634	.08964
zconted1213	0.4064		.5015

Figure 3: 2014/15 Components

Variable	Comp1	Comp2	Unexplained
zELAmet1516	0.4604		.2848
zMATHmet1516	0.5499		.2239
zSCImet1516	0.6164		.2819
zgradra~1415		0.6533	.1253
zstayra~1415		0.7077	.1352
zconted1314	0.3183		.5312

Figure 4: 2015/16 Components

The charts above indicate the percentage of the variation in each variable that is explained by one of the two components. Only the largest portion of the variation is shown, along with the percentage that is unexplained. For the school years of 2012-2013 and 2013-2014, the first component explains the variation of test scores, and the second component best explains the student's outcomes (graduation rate, stay rate, and continuing education rate). For 2014-2015

and 2015-20116, the the first component explains the test scores and continuing education rate, and the second component explains the graduation rate and the stay rate.

A Kaiser-Meyer-Olkin (KMO) test was run to evaluate sampling adequacy. In this test, a KMO value greater than 0.5 indicates that the variable is adequate to use in a PCA examination (Dziuban & Shirkey, 1974). All of the variables used in our PCA were given a KMO value above 0.5 for each year, so we can move on with our analysis.

Finally, we predicted the score for each component for each observed school, and each school was assigned Principal Component 1 and 2. The summary statistics for the 2015-2016 school year rankings can be seen in Figure 5

Variable	Obs	Mean	Std. Dev.	Min	Max
pc1	292	3.34e-09	1.902163	-7.70919	3.613822
pc2	292	-6.22e-10	.8942007	-2.390349	3.591862

Figure 5

After estimating our two factor components for each school, we averaged the two values and ranked each school in numerical order. Next, we broke each school into a percentile using the same percentile breaks as ODE, which were: lower 5%, 5%-15%, 15%-44%, 44%-90%, and upper 90%. Each school was assigned a value from one to five, with five being the highest. The final results for the six schools in the Eugene and Springfield area with the highest student population in SAIL are listed on Table 2 below:

School	2012/13	2013/14	2014/15	2015/16
North Eugene	4	3	4	4
Churchill	4	4	4	4
Sheldon	4	4	5	5
South Eugene	5	4	5	5
Gateways	1	1	*	*
Willamette	3	3	1	3
Springfield	3	3	4	3
Thurston	4	4	3	3
A3	4	4	4	3

For the 2012-2013 and 2013-2014 school years, these new rankings were correlated with the original rankings. The 2012-2013 rankings had a correlation value of .7699, and the 2013/14 rankings had a value of .7427. A sufficiently high correlation between our generated rankings and the original rankings, indicating our rankings are decent proxy for school quality.

Data Summary

Prior to running any sort of statistical analysis we summarized the data to observe SAIL's success over the graduation years of 2013-2016. Out of the 240 observation, only 205 attended the program at least one summer. Out of the 205 observations, we only have continuing education data for 143 students, which limited out analysis.

Table 3 below shows selected summary statistics for each year, broken up by gender. There was a 10.06% increase in attendance from the 2013 to the 2014 cohort. Then it increased .46% from the 2014 to the 2015 cohort. Then there was a 11.31% decrease onto the 2016 cohort. Unlike the female student, the attendance rate for males gradually decreased up until the graduation year of 2016. There was a 14.63% decrease in attendance from the 2013 to the 2014 cohort. Then there was a .86% decrease from the 2014 to the 2015 cohort. Then its decrease onto the 2016 cohort by a 21.49% change.

A higher percentage of female students continued their education post high school graduation than male students. This is true for all graduation years when it comes to continuing onto a four-year college, but not for two-year college. This appearance of higher success for female students may be attributed to their greater attendance rate across all graduation years. For both genders, more than 50% of SAIL students continued to pursue higher education every year. This summary indicates that SAIL has been successful at sending majority of participants to higher education, but further statistical analysis is necessary to estimate the true effect of SAIL

	Graduation Year								# of Observations
	2013		2014		2015		2016		
Gender	Female	Male	Female	Male	Female	Male	Female	Male	
Attendance	59.26%	40.74%	65.22%	34.78%	65.52%	34.48%	58.11%	41.89%	205
Attended 1 camp	14.81%	3.7%	26.09%	4.35%	24.14%	18.97%	21.62%	18.92	205
Attended 2 camps	7.41%	7.41%	15.22%	4.35%	12.07%	1.73%	20.27%	5.41%	205
Attended 3 camps	18.52%	11.11%	8.69%	10.86%	13.79%	6.89%	8.11%	9.45	205
Attended 4 camps	18.52%	18.52%	15.22%	15.22%	15.52%	6.89%	8.11%	8.11	205
Cont. Edu. Total	65.22%		85.18%		72.22%		85.96%		143
Cont. Edu.	39.13%	26.09%	48.15%	37.03%	38.89%	33.33%	57.89%	28.07%	143
Four year college	26.09%	8.69%	29.63%	25.92%	27.78%	25%	43.85%	19.29%	143
Two year college	13.04%	17.39%	18.52%	11.11%	11.11	8.33%	14.04%	8.78%	143
Did not continue education	13.04%	21.74%	7.41%%	7.41%	22.22	5.56%	7.02%	7.02%	143

Table 3

Alternative Analysis

Because more than 50% of SAIL students continued their education post high school, we decided to use a t-test to compare the mean continuing education rates across schools. In this analysis, we focused on Springfield High School and Willamette High School (both in Springfield, OR), where the majority of SAIL students (about 73%) attended high school. First, we calculated SAIL's continuing education rate for students who attended each school from the

years 2012 to 2016 by taking the percentage of students who reported their activities after high school that went on to higher education. Then we compared that to the continuing education rates from those two schools from 2013 to 2016 taken from the ODE data. Finally, we performed a two-way t-test on the continuing education rates for SAIL participants against the average of the schools they attended.

The SAIL participants who attended Springfield and Willamette High Schools had an average continuing education rate of 87.89%, while the average across those two schools was 52.31%. A test of the null hypothesis that these two means are equal garnered a t-value that was significant at the 1% level. This indicates that, not controlling for other factors that may affect college attendance, SAIL students attend college at a significantly higher rate than other students at their schools. While this type of test may not be able to isolate the effects of attending SAIL, and cannot control for the external factors that likely affect a student's continuing education, it shows that SAIL is at least effective at raising the college attendance versus local high schools. In order to isolate the effects of attending the SAIL program, we move onto the regression analysis.

Econometric Analysis

Using regression analysis will help us examine the relationship between continuing education and participation in the SAIL program. A regression analysis is a statistical technique that attempts to explain movements in the dependent variable as a function of movements in the explanatory variables. A regression model with a single independent variable can be expressed as a simple linear regression model,

$$Y_i = \beta_0 + \beta_1 X_i + u_i$$

where i indexes the ith observation. Y_i is the ith observation in the explanatory variable and X_i is the ith observation on the independent variable. In this model β_0 is the intercept of the model and β_1 is the key parameter that attempts to explain how Y_i is influenced by the explanatory variables in the regression model. The disturbance term u_i absorbs what is unexplained by the model. In the fitted model b_0 and b_1 are the parameter's estimates. The distance between the fitted model and the regression model is called the residual, e_i. The sum of all residuals is called the Residual Sum of Squares (RSS). We will use Ordinary Least Square (OLS) to estimate the parameters while minimizing the RSS in order to find the model which best fits our data (Mastromonaco, 2015).

Using the unbalanced panel data set from SAIL data and PCA and the OLS estimator method, we will be able to estimate the effect of SAIL attendance on continuing education. Since 205 observations out of the 240 observations have attended SAIL, we created a binary variable indicating full participation. The binary variable "*fullpart*" takes the numerical value of one if an observation attended the summer program for more than two years, and zero if otherwise. Controlling for other aspects of each observation, the value on full participant will be estimated using an OLS regression. Without using any other variables, the base model regresses full participation on continuing education but does not take into account the effects of the observation's education and familial background, both of which are expected to have a large effect on college attendance. Therefore, we tested the following models to estimate the significance of full participation controlling for other explanatory variables (Mastromonaco 2015). The first model we will estimate controls for the rank of the attended high school, and measures the effect of attending the SAIL program for more than two years on continuing education post high school graduation.

1) $CONTEDU_i = \beta_0 + \beta_1 fullpart_i + \beta_2 RANK_i + \varepsilon_i$

For the second model, we controlled for the rank of the attended high school, the gender of the observation, first generation college status and logged income. The binary variable, *firstgen*, indicates if a student is first generation college attendee in the family. By tabulating parental education, we assigned a one if a student's parent did not attempt to complete a higher education degree (e.g. associate's degree, bachelor's degree, master's degree or doctoral degree). A zero is assigned if otherwise. For the second variable, *lnincome*, we took the natural log of the median household income in order to capture a sizeable effect of an income increase on continuing education.

2) $CONTEDU_i = \beta_0 + \beta_1 fullpart_i + \beta_2 RANK_i + \beta_3 FEMALE_i + \beta_4 firstgen_i + \beta_5 lnINCOME_i + \varepsilon_i$

In the third model, we controlled for the previous variables and whether an observation qualified for free and reduced lunch as well their arrival method for their last SAIL camp. Because there are three numerical values indicating a type of arrival method (1: unaccompanied, 2: accompanied, 3: both), we tabulated the variable *AM4* and created a new binary variable, *am4*, which equals one if the student indicated they would attend accompanied or both accompanied and unaccompanied and zero otherwise. This captures the effects of parental involvement a student's academic success.

3) $CONTEDU_i = \beta_0 + \beta_1 fullpart_i + \beta_2 RANK_i + \beta_3 FEMALE_i + \beta_4 firstgen_i + \beta_5 lnINCOME_i + \beta_6 L4_i + \beta_7 AM4_i + \varepsilon_i$

The fourth model controls for each student's free and reduced lunch qualification as well the planned arrival method for each student all four years in the program. We then used the same

method as model three to generate three new binary variables indicating the student's arrival method for the first three attended SAIL camps.

4) $CONTEDU_i = \beta_0 + \beta_1 fullpart_i + \beta_2 RANK_i + \beta_3 FEMALE_i + \beta_4 firstgen_i + \beta_5 lnINCOME_i + \beta_6 L2_i + \beta_7 L2_i + \beta_8 L3_i + \beta_9 L4_i + \beta_{10} AM1_i + \beta_{11} AM2_i + \beta_{12} AM3_i + \beta_{13} AM4_i + \varepsilon_i$

In addition to the previous variables, models five and six control for the type of insurance each observation is covered under. The binary variable *instype* indicating the student's type of insurance coverage.

5) $CO\square TEDU_i = \beta_0 + \beta_1 fullpart_i + \beta_2 RANK_i + \beta_3 FEMALE_i + \beta_4 firstgen_i + \beta_5 lnINCOME_i + \beta_6 L4_i + \beta_7 AM4_i + \beta_8 INSTYPE_i + \varepsilon_i$

6) $CONTEDU_i = \beta_0 + \beta_1 ful\square part_i + \beta_2 RANK_i + \beta_3 FEMALE_i + \beta_4 firstgen_i + \beta_5 lnINCOME_i + \beta_6 L2_i + \beta_7 L2_i + \beta_8 L3_i + \beta_9 L4_i + \beta_{10} AM1_i + \beta_{11} AM2_i + \beta_{12} AM3_i + \beta_{13} AM4_i + \beta_{14} \square NSTYPE_i + \varepsilon_i$

Alternative Models

Because of the expected issues with significance, we estimated two more model sets replacing the independent variable. Using the variable CONTYPE, we created two new independent variables. For the models 7 through 12 the independent variable, *ctype1*, is a binary variable which equals one if a student continued their education at a four-year college after graduating High School, and zero otherwise.

7) $ctype1_i = \beta_0 + \beta_1 fullpart_i + \beta_2 RANK_i + \varepsilon_i$

8) $ctype1_i = \beta_0 + \beta_1 fullpart_i + \beta_2 RANK_i + \beta_3 FEMALE_i + \beta_4 firstgen_i + \beta_5 lnincome_i + \varepsilon_i$

9) $ctype1_i = \beta_0 + \beta_1 fullpart_i + \beta_2 RANK_i + \beta_3 FEMALE_i + \beta_4 firstgen_i + \beta_5 lnincome_i + \beta_6 L4_i + \beta_7 am4_i + \varepsilon_i$

10) $ctype1_i = \beta_0 + \beta_1 fullpart_i + \beta_2 RANK_i + \beta_3 FEMALE_i + \beta_4 firstgen_i + \beta_5 lnincome_i + \beta_6 L1_i + \beta_7 L2_i + \beta_8 L3_i + \beta_9 L4_i + \beta_{10} am1_i + \beta_{11} am2_i + \beta_{12} am3_i + \beta_{13} am4_i + \varepsilon_i$

11) $ctype1_i = \beta_0 + \beta_1 fullpart_i + \beta_2 RANK_i + \beta_3 FEMALE_i + \beta_4 firstgen_i + \beta_5 lnincome_i + \beta_6 L4_i + \beta_7 am4_i + \beta_8 instype_i + \varepsilon_i$

12) $ctype1_i = \beta_0 + \beta_1 fullpart_i + \beta_2 RANK_i + \beta_3 FEMALE_i + \beta_4 firstgen_i + \beta_5 lnincome_i + \beta_6 L1_i + \beta_7 L2_i + \beta_8 L3_i + \beta_9 L4_i + \beta_{10} am1_i + \beta_{11} am2_i + \beta_{12} am3_i + \beta_{13} am4_i + \beta_{14} instype_i + \varepsilon_i$

For the models 13 through 18 the independent variable, c*type2*, is a binary variable which equals one if a student continued their education at a two-year college after graduation, and zero if otherwise.

13) $ctype2_i = \beta_0 + \beta_1 fullpart_i + \beta_2 RANK_i + \varepsilon_i$

14) $ctype2_i = \beta_0 + \beta_1 fullpart_i + \beta_2 RANK_i + \beta_3 FEMALE_i + \beta_4 firstgen_i + \beta_5 lnincome_i + \varepsilon_i$

15) $ctype2_i = \beta_0 + \beta_1 fullpart_i + \beta_2 RANK_i + \beta_3 FEMALE_i + \beta_4 firstgen_i + \beta_5 lnincome_i + \beta_6 L4_i + \beta_7 am4_i + \varepsilon_i$

16) $ctype2_i = \beta_0 + \beta_1 fullpart_i + \beta_2 RANK_i + \beta_3 FEMALE_i + \beta_4 firstgen_i + \beta_5 lnincome_i + \beta_6 L1_i + \beta_7 L2_i + \beta_8 L3_i + \beta_9 L4_i + \beta_{10} am1_i + \beta_{11} am2_i + \beta_{12} am3_i + \beta_{13} am4_i + \varepsilon_i$

17) $type2_i = \beta_0 + \beta_1 fullpart_i + \beta_2 RANK_i + \beta_3 FEMALE_i + \beta_4 firstgen_i + \beta_5 lnincome_i + \beta_6 L4_i + \beta_7 am4_i + \beta_8 instype_i + \varepsilon_i$

18) $$type2_i = \beta_0 + \beta_1 fullpart_i + \beta_2 RANK_i + \beta_3 FEMALE_i + \beta_4 firstgen_i + \beta_5 lnincome_i + \beta_6 L1_i + \beta_7 L2_i + \beta_8 L3_i + \beta_9 L4_i + \beta_{10} am1_i + \beta_{11} am2_i + \beta_{12} am3_i + \beta_{13} am4_i + \beta_{14} instype_i + \varepsilon_i$$

Results

Table 4 shows the results for models one through six. They are arranged in columns with the independent variable in the first line and the explanatory variables descending vertically. In column one the coefficient on full participant was -0.0271, which intuitively does not make sense. Essentially the model estimated a negative impact on continuing education while controlling for the rank of the attended High School. In columns two through six the estimated coefficients on full participant remained positive and statistically insignificant.

In column four the estimated coefficient of .189 for the variable RANK was statistically significant at the 1% significance level. With only 36 observations out of the 205 observation who attended the SAIL program, the coefficient does not necessarily mean an increase in school rank has positive effect on continuing education. While columns two, three and five display significant coefficients on the income variable, they are negative. In other words, an increase on income has a negative effect on continuing education, which again, intuitively does not make sense.

Therefore, it's hard to determine whether the explanatory variables are able to capture some of the external effects on a student's continuing education. As for the variables on free and reduced lunch, arrival method and insurance type, we can also say there is no apparent external effect on the student's decision to attend a two or four-year college. Despite controlling for much of the variance in the independent variables, we were unable to find any models where the estimated coefficient on full participation was significant at the 5% or 10% significance level.

In another attempt to analyze the effects of SAIL, we decide to run two more sets of regressions, each set with a different independent variable. The dependent variable *ctype1* indicates attending a four-year college, while c*type2* indicates attending a two-year college. From tables two and three, it is also clear the estimated coefficient of the variable full participant remains statistically insignificant.

Table 4: Models 1-6

VARIABLES	(1) CONTEDU	(2) CONTEDU	(3) CONTEDU	(4) CONTEDU	(5) CONTEDU	(6) CONTEDU
fullpart	-0.0271	0.0273	0.0148	0.0123	0.111	0.0241
	(0.0665)	(0.0794)	(0.0864)	(0.178)	(0.131)	(0.215)
RANK	0.0687	0.0670	0.0334	0.189*	0.103	0.271**
	(0.0482)	(0.0526)	(0.0567)	(0.0929)	(0.0796)	(0.101)
FEMALE		-0.0437	-0.0481	0.142	0.0239	0.187
		(0.0819)	(0.0850)	(0.155)	(0.116)	(0.165)
firstgen		0.0400	0.0648	-0.109	0.0252	0.0231
		(0.0812)	(0.0850)	(0.152)	(0.120)	(0.166)
lnINCOME		-0.105**	-0.104*	0.477	-0.0988*	0.848*
		(0.0523)	(0.0534)	(0.426)	(0.0586)	(0.475)
L1				-0.0720		-0.0769
				(0.238)		(0.265)
L2				1.330**		1.356**
				(0.475)		(0.489)
L3				-1.071**		-0.775
				(0.476)		(0.460)
o. L4				-		-
am1				0.241		
				(0.141)		
am2				-0.116		
				(0.231)		
am3				0.0329		
				(0.229)		
am4			-0.0136	-0.0406	-0.0226	
			(0.0874)	(0.183)	(0.121)	
L4			0.0693		-0.0154	
			(0.0994)		(0.157)	
instype					0.0881	-0.326
					(0.135)	(0.215)
AM1						-0.0369
						(0.0973)
AM2						-0.277
						(0.170)
AM3						0.0190
						(0.147)
AM4						0.0457
						(0.188)
Constant	0.581***	0.908***	0.965***	-1.522	0.621*	-2.507
	(0.162)	(0.237)	(0.263)	(1.486)	(0.356)	(1.598)
Observations	152	100	95	36	60	31
R-squared	0.015	0.056	0.054	0.452	0.100	0.570

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 5: Models 7-12

VARIABLES	(1) ctype_1	(2) ctype_1	(3) ctype_1	(4) ctype_1	(5) ctype_1	(6) ctype_1
fullpart	-0.0330	0.0498	0.0184	-0.312	0.127	-0.213
	(0.0805)	(0.101)	(0.108)	(0.252)	(0.158)	(0.329)
RANK	0.128**	0.111*	0.0959	0.180	0.161	0.134
	(0.0584)	(0.0667)	(0.0710)	(0.132)	(0.0960)	(0.167)
FEMALE		-0.0719	-0.0879	0.0274	-0.0169	0.0922
		(0.104)	(0.106)	(0.220)	(0.140)	(0.266)
firstgen		-0.0712	-0.0760	0.0410	-0.101	0.0141
		(0.103)	(0.106)	(0.215)	(0.145)	(0.269)
lnINCOME		-0.0821	-0.0850	0.126	-0.0782	0.00586
		(0.0663)	(0.0668)	(0.603)	(0.0706)	(0.733)
L1				-0.262		-0.394
				(0.337)		(0.411)
L2				0.771		0.984
				(0.672)		(0.810)
L3				-0.135		-0.287
				(0.675)		(0.785)
o. L4				-		-
am1				0.0496		0.0684
				(0.200)		(0.259)
am2				0.450		0.277
				(0.328)		(0.423)
am3				-0.256		-0.157
				(0.325)		(0.415)
am4			-0.0811	-0.175	-0.0754	-0.0246
			(0.109)	(0.260)	(0.146)	(0.364)
L4			0.177		0.149	
			(0.124)		(0.189)	
instype					0.0706	0.00977
					(0.163)	(0.332)
Constant	0.144	0.520*	0.509	-0.465	0.118	-0.0573
	(0.196)	(0.300)	(0.330)	(2.105)	(0.429)	(2.504)
Observations	152	100	95	36	60	31
R-squared	0.032	0.046	0.072	0.357	0.103	0.319

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 6: Models 13-18

VARIABLES	(1) ctype_2	(2) ctype_2	(3) ctype_2	(4) ctype_2	(5) ctype_2	(6) ctype_2
fullpart	0.00596	-0.0226	-0.00363	0.325	-0.00636	0.297
	(0.0708)	(0.0880)	(0.0945)	(0.219)	(0.135)	(0.282)
RANK	-0.0591	-0.0442	-0.0625	0.00900	-0.0518	0.0962
	(0.0514)	(0.0583)	(0.0620)	(0.115)	(0.0828)	(0.143)
FEMALE		0.0282	0.0398	0.114	0.0452	0.0709
		(0.0907)	(0.0930)	(0.192)	(0.120)	(0.228)
firstgen		0.111	0.141	-0.150	0.131	-0.101
		(0.0900)	(0.0930)	(0.188)	(0.124)	(0.230)
lnINCOME		-0.0228	-0.0192	0.352	-0.0250	0.330
		(0.0580)	(0.0584)	(0.525)	(0.0608)	(0.628)
L1				0.190		0.260
				(0.294)		(0.352)
L2				0.559		0.594
				(0.586)		(0.694)
L3				-0.936		-0.834
				(0.588)		(0.673)
o. L4				-		-
am1				0.191		0.0944
				(0.174)		(0.222)
am2				-0.566*		-0.453
				(0.285)		(0.363)
am3				0.289		0.248
				(0.283)		(0.355)
am4			0.0675	0.134	0.0574	0.00345
			(0.0956)	(0.226)	(0.123)	(0.312)
L4			-0.107			
			(0.109)			
o.am4					-	
instype					-0.0411	-0.177
					(0.118)	(0.284)
Constant	0.437**	0.388	0.456	-1.057	0.386	-1.234
	(0.172)	(0.263)	(0.288)	(1.834)	(0.361)	(2.145)
Observations	152	100	95	36	61	31
R-squared	0.009	0.021	0.053	0.329	0.034	0.304

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Conclusion

Our results indicate that SAIL students graduate at a higher rate than other students at their schools. However, we were unable to isolate the effect of SAIL attendance on college acceptance controlling for demographic and education factors. Two big reasons may explain our lack of significance in OLS regressions. First off, there is a potential effect of selection bias in our sample. Because all participating SAIL students choose to attend the camp, they are more likely to have a desire to attend college. To fully accurately estimate the effects of SAIL, we need to perform a full experiment, randomly assigning some students to SAIL while others are not asked to participate. This, however, runs contrary to the mission of SAIL, so isn't a potential option.

Second, our analysis lacks the necessary variables that might accurately measure success. Variables such as GPA, standardized test scores and household income are good indicators of academic success and ability to attend college (Geiser & Santelices, 2007). The students which SAIL targets likely need a larger set of resources to propel them to college such as well funded schools, mentoring programs, and other college assistance. The students who end up attending the SAIL program benefited from the provided resources. Because we can't control for these resources or the lack thereof, it is difficult to isolate the effects of participating in SAIL. Therefore, based on our analysis, SAIL may or may not be the catalyst that helps these underrepresented students go to college. In other words, too many externalities exist, and we lack the variables to capture those externalities which would allow us to accurately estimate the effect of SAIL on post high school continuing education. For future analysis we would like to control for other external factors to better isolate SAIL's effect. PCA should be run again to proxy for school quality, but including a variable of school funding could add further analysis.

Our results may not accurately isolate the effects of SAIL, but they do indicate that SAIL students attend college at a much higher rate than that of their peers. Additionally, student responses to our online survey were overwhelmingly positive, which shows the positive impact of SAIL. This program has changed many lives, and will continue to make an impact going forward.

Recommendations

In addition to the analysis we have included some general recommendations for improvements in the SAIL program's collection of data for future analysis. The most important recommendation to improve for further analysis of the program is the collection of key data. We recommend that this collection be split into two parts. First, SAIL should create a more user friendly application. The current application (Appendix 3) is lengthy and potentially confusing. It is important for further analysis that the data be collected fully and accurately. Therefore, we suggest the following guideline (Appendix 4).

Second, students will take a quick survey when they arrive at camp. This survey will ask them about their success in high school as well as a more detailed analysis of their personal goals and how likely they believe it is for them to attend college. A more detailed entry survey for incoming students is necessary for future analysis. Strayhorn (2011) details a survey administered to participants in a Summer Bridge Program, which included questions around "academic self-efficacy" and "sense of belonging." This survey would include questions which measured entering students' perceptions of their ability to attend college or graduate high school. Below is a list of potential questions.

Do you want to attend college after graduating high school?

How likely do you believe it is that you will attend college?

How likely do you believe it is that you will be accepted to a college or university of your choice?

How likely do you believe it is that you will be able to afford college through a combination of loans, scholarships, and other forms?

After these initial questions on the entry survey, an exit survey will be administered to estimate the changes in responses. By asking the same or similar questions, we can look at the differences in responses as a result of the program.

Ultimately it is important the programs carefully collects the recommended data going forward. The chart below indicates additional variables to take into account. The chart indicates whether or not the variable is already collected, whether it should be collected on the initial application or the survey administered on the first day of the summer session, and what the variable measures and why it is important to collect for future analysis.

Variable	**Is it already collected?**	**How to collect it**	**What it measures**
Middle School/High School GPA	Sometimes	Survey	The general academic ability of a student.
Parent's Education	Yes	Application	The educational background of a student, as well as a major indicator of success in college.
Race/Ethnicity	Yes	Application	The impacts of race and minority status
Family Income	No	Application	The impact of wealth status and the ability to attend college without loans or scholarships.
Gender	Yes	Application	The impact of gender bias, especially for female identified students.
Language(s) spoken at home	No	Application	The support needs for students in terms of translated applications or other materials. Also can indicate whether or not a student is ESL.
ZIP code	Yes	Application	The impact of location, distance to school, and types of neighborhoods.
Test Scores	No	Survey	The general academic ability of the student, and how well they may be able to perform on college admittance tests such as the SAT and ACT.
Free/Reduced Lunch Eligibility	Yes	Application	Another indicator of income effects.
Arrival Method	Yes	Application	The level of parental involvement in a student's success, which can indicate the amount of support they may need.

Medical Insurance	Yes	Application	Another indicator of income effects.
Continuing Information	Sometimes	Follow-ups (emails, Facebook groups, get togethers)	Where students attend college or what they do after high school.

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Appendices

Appendix 1: SAIL Follow-Up Survey

Thank you for taking this survey. We hope to use this information in order to better evaluate the Summer Academy to Inspire Learning (SAIL) program. All information will be kept confidential.

1) Name
2) Best contact email for further information.
3) What was your first year in SAIL?

- ❍ Please Select One
- ❍ 2007
- ❍ 2008
- ❍ 2009
- ❍ 2010
- ❍ 2011
- ❍ 2012
- ❍ 2013
- ❍ 2014
- ❍ 2015
- ❍ 2016

4) Please select all of the SAIL programs in which you have participated.

- ❑ Biology
- ❑ Business
- ❑ Chemistry
- ❑ Classics
- ❑ Economics
- ❑ Education
- ❑ English/Journalism
- ❑ Environmental Sciences
- ❑ German and Scandinavian
- ❑ Performing Arts
- ❑ Physics/Human Physiology
- ❑ Psychology
- ❑ World Cultures
- ❑ Other (Please specify below)

5) If you answered "Other" above, please specify which camp(s) you attended.
6) What year did you graduate from high school?
7) Where do you currently live?

- ❍ Eugene/Springfield area
- ❍ Elsewhere in Lane County
- ❍ Elsewhere in Oregon
- ❍ Outside of Oregon

8) After high school, I... Answer all that apply

- ❑ Graduated high school, did not attend college
- ❑ Graduated high school, attended a 4-year university
- ❑ Graduated high school, attended a Community College
- ❑ Graduated high school, attended a Technical College
- ❑ Graduated high school, entered the Military
- ❑ Did not graduate high school
- ❑ Other (Please specify below)

9) If you answered "Other" above, please specify.
10) If you did not attend college, please skip the next five questions and move on to the next page.
11) What is the name of the college where you received or will receive a diploma?

- ❍ University of Oregon
- ❍ Lane Community College
- ❍ Northwest Christian University
- ❍ Oregon State University
- ❍ Other (Specify below)
- ❍ N/A

12) If you answered "Other" above, please specify/

What is your current status as a college student?

- ❍ Currently enrolled
- ❍ Graduated
- ❍ Graduated, continued into further education (Masters program, etc.)
- ❍ Dropped out of college / Failed to graduate

13) What is/was your college major(s)?

14) What is/was your college GPA? (if you do not know, put N/A)
15) If you are currently employed, what is your job?

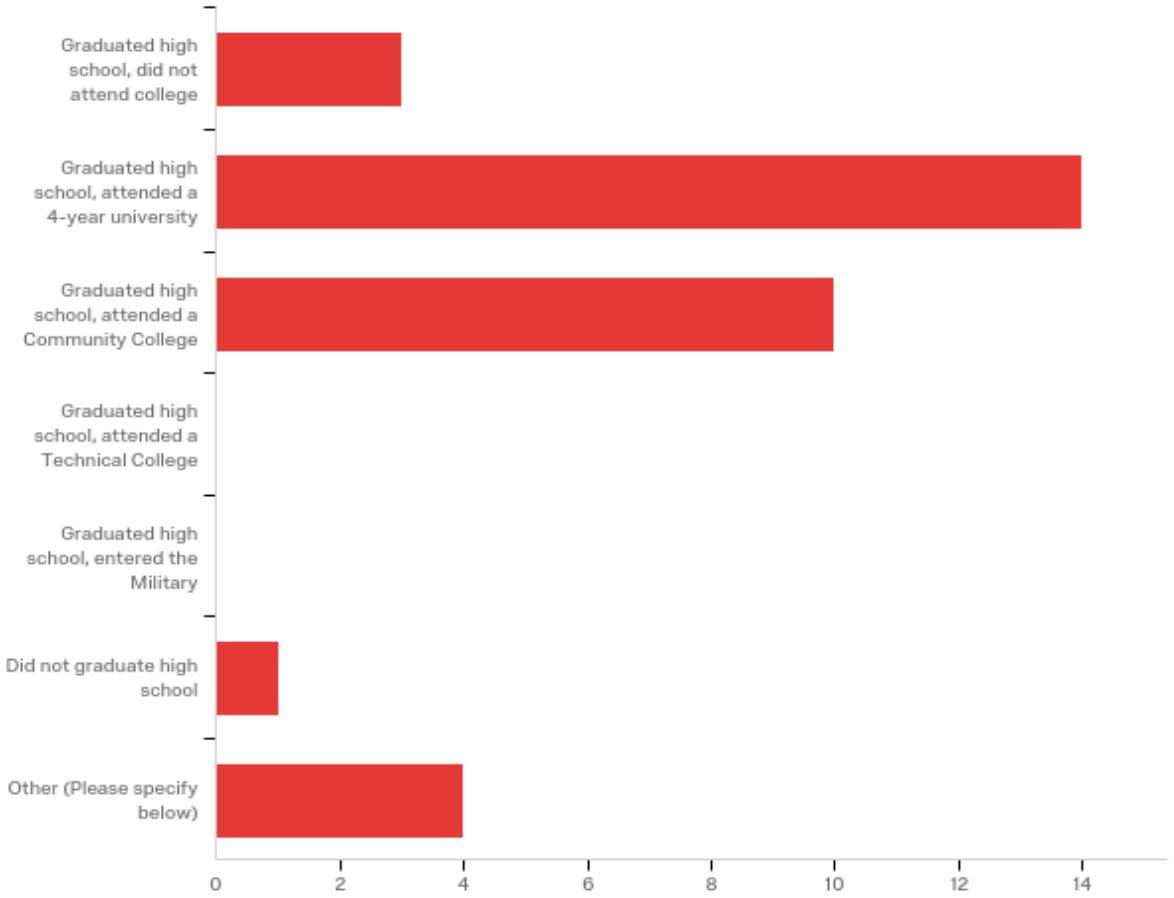
16) Please respond to the following statements on a scale from "Strongly Agree" to "Strongly Disagree"

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree	N/A
I enjoyed my experience in the SAIL program.	❍	❍	❍	❍	❍	❍
Participating in SAIL helped me get a better/higher paying job.	❍	❍	❍	❍	❍	❍
SAIL prepared me to apply for college.	❍	❍	❍	❍	❍	❍
SAIL improved my expectations of my ability to attend/do well in college.	❍	❍	❍	❍	❍	❍
SAIL helped me be a better student in college.	❍	❍	❍	❍	❍	❍

17) What are some of the parts of the SAIL program you liked?
18) What parts of the SAIL program would you improve?
19) Any other comments about SAIL?

Appendix 2: Selected Survey Results

Question 5: After high school, I…



Question 12: Please respond to the following statements on a scale from "Strongly Agree" to "Strongly Disagree"

#	Question	Strongly agree		Somewhat agree		Neither agree nor disagree		Somewhat disagree		Strongly disagree	
1	I enjoyed my experience in the SAIL program.	42.37%	25	11.90%	5	0.00%	0	0.00%	0	0.00%	0
6	Participating in SAIL helped me get a better/higher paying job.	3.39%	2	19.05%	8	48.00%	12	50.00%	2	11.11%	1

2	SAIL prepared me to apply for college.	20.34%	12	19.05%	8	24.00%	6	25.00%	1	22.22%	2
4	SAIL improved my expectations of my ability to attend/do well in college.	16.95%	10	33.33%	14	4.00%	1	0.00%	0	33.33%	3
3	SAIL helped me be a better student in college.	16.95%	10	16.67%	7	24.00%	6	25.00%	1	33.33%	3
	Total	Total	59	Total	42	Total	25	Total	4	Total	9

Percentages represent percentage of total responses of each type.

Question 13: What are some parts of the SAIL program you liked?

Some selected responses:

I loved the different camps we got to participate in each year. I also liked how involved the professors were and the knowledge they had to offer. Being able to have the hands on or activity based day were great to experience each area as a possibility. Also it was very helpful being given bus passes to get to and from class each day. And being provided snacks throughout the day kept me focused since I wasn't worried about being hungry. And the interaction from Lara has always been so nice.

It's very inclusive and supportive. The program made sure that we were always comfortable and all of our questions were answered.

Really enjoyed all the activities we did for each subject each year. I especially liked going to the cadaver lab as well as the help in college preparation.

Appendix 3: Current SAIL Application

SAIL Camp Application

Return application to:
Economics Dept./SAIL - PLC
University of Oregon, Eugene, OR 97403
sailstaff@uoregon.edu (541)-346-8378
website: sail.uoregon.edu

STUDENT NAME: _____DOB: _____ AGE: _____
GRAD YR:_____

HOW DID YOU HEAR ABOUT SAIL?_____ STUDENT SHIRT SIZE: S M L XL XXL

MIDDLE SCHOOL: _____HIGH SCHOOL: _____ GPA:_____

GRADE ENTERING (CIRCLE): FRESHMAN SOPHOMORE JUNIOR SENIOR

MAILING ADDRESS: _____CITY: _____ STATE: _____ ZIP: _____

STUDENT EMAIL: _____ STUDENT PHONE: _____

MAIN PARENT /GUARDIAN NAME: _____
EMAIL: _____ HOME/ CELL PHONE: _____

EMERGENCY CONTACT:_____ PHONE:_____

NEW OR RETURNING SAIL STUDENT: _____

GENDER OR SEX IDENTITY (CIRCLE): MALE FEMALE TRANSGENDER, TRANSSEXUAL, FTM, MTM CISSEXUAL/CISGENDER INTERSEX TWO-SPIRIT GENDERQUEER, GENDER VARIANT, GENDER NON-CONFORMING QUESTIONING PREFERRED PRONOUNS: _____

WHAT IS YOUR FAMILY'S YEARLY INCOME (ESTIMATED):

LESS THAN $15,000 $15,000-30,000 $30,000-70,000 $70,000-100,000 MORE THAN $100,000 UNKNOWN

ETHNIC BACKGROUND (CIRCLE): ALASKA INDIAN/ALASKAN ASIAN BLACK/AFRICAN AMERICAN, OR AFRICAN HISPANIC/LATINO(A)/CHICANO(A) WHITE/CAUCASIAN MIDDLE EASTERN OR ARABIC MULTI-RACIAL_____ NATIVE PACIFIC/PACIFIC ISLANDER
OTHER:_____

WHAT LANGUAGE(S) DO YOU SPEAK?

_____

PARENTS' HIGHEST LEVEL OF EDUCATION (CIRCLE): SOME HIGH SCHOOL HIGH SCHOOL DIPLOMA/ GED

SOME COLLEGE ASSOCIATE'S DEGREE BACHELOR'S DEGREE MASTER'S DEGREE PH.D

Transportation Method: bike walk parent bus other:_____Will you need a bus pass? Y/N

STUDENT'S DOCTOR:_____ PHONE:_____

MEDICATIONS & HEALTH CONCERNS (LIMITS ON PHYSICAL ACTIVITIES, ILLNESS, ETC.):

_____

HISTORY OF EATING DISORDER? Y/N DIETARY RESTRICTIONS:

_____

ALLERGIES? Y/N DESCRIBE REACTION:

_____

HAVE YOU HAD A TETANUS SHOT WITHIN THE PAST 10 YEARS? Y/N

ANY SPECIAL CONSIDERATIONS OR ACCOMMODATIONS NEED?_____

SELECT CAMP CHOICE (CAMP CHOICE IS FIRST COME, FIRST SERVE BASIS)

PLEASE CIRCLE YOUR FIRST AND SECOND CHOICE AND NUMBER THEM

1. Rising **Freshmen (7/24-7/28)**: Economics German & Scandinavian Chemistry Environmental Studies Product Design (July 17 – 21)

2. Rising **Sophomores (7/24 -7/28)**: Psychology World Cultures Performing Arts Product Design (17-21)

3. Rising **Juniors (7/17 – 7/21)**: Biology Education Physics & Physiology (7/24-7/28) Roman Mythology Product Design

4. Rising **Seniors (7/17 – 7/21)**: Business English/Journalism Product Design

As the **parent/guardian**, I hereby authorize my high school/college/university/postsecondary training program to release any and all information relating to my financial aid, grades, class standing, transfer records, or any other relevant information to the SAIL program. I authorize SAIL and its agents to use this information as necessary to administer the SAIL program and for statistical and research purposes. SAIL foundation may release this information to third parties such as the National Student Clearing House for the purpose of tracking postsecondary attendance and degree completion. Information used for statistical purposes will not have individual names or personal identifying information connected to it. This authorization shall be valid for a period of six years from my high school graduation date.

PARENT/GUARDIAN SIGNATURE: _____DATE: _____

student signature: _____date: _____

ASSUMPTION OF RISK/RELEASE & INDEMNIFICATION OF ALL CLAIMS/COVENANT NOT TO SUE

GROUP: The Summer Academy to Inspire Learning (SAIL)
DATE(S): July 10 – July 28, 2017
ACTIVITY LEADER: Lara Fernandez, Executive Director 541-346-8378
DEPARTMENT: CAS & Economics Dept. – SAIL Program

In consideration of being permitted to participate in any way in the above-described activity (hereinafter called the "Activity"), I, for myself, my heirs, personal representatives and assigns, do hereby release, waive, discharge, and covenant not to sue the State of Oregon, the Board of Trustees of the University of Oregon, and the University of Oregon (collectively, hereafter called the "University"), their officers, employees, and agents from liability from any and all claims including the negligence of the University, its officers, employees, and agents, resulting in personal injury, accidents or illness (including death), property loss, and damages arising from, but not limited to, participation in the Activity.

Assumptions of Risks: Participation in the Activity carries with it Certain inherent risks that cannot be eliminated regardless of the care taken to avoid injuries. The specific risks vary from one activity to another, but the risks range from (1) minor injuries such as scratches, bruises, and sprains (2) major injuries such as eye injury or loss of sight, joint or back injuries, heart attacks, and concussions to (3) catastrophic injuries including paralysis and death.

I have read the previous paragraphs and I know, understand, and appreciate these and other risks that are inherent in the Activity. I hereby assert that my participation in the Activity is voluntary and that I knowingly assume all such risks.

Indemnification and Hold Harmless: I also agree to INDEMNIFY, DEFEND, AND HOLD the University and its officers, employees, and agents HARMLESS from any and all claims, actions, suits, procedures, costs, expenses, damages and liabilities, including attorney's fees brought as a result of my involvement in the Activity and to reimburse them for any such expenses incurred.

Medical Treatment Authorization: I understand that an emergency may develop which necessitates the administration of medical care. In the event of injury or illness, I authorize the University to secure appropriate treatment including the administration of an anesthetic or surgery. I understand that such treatment shall be solely at my expense. Notwithstanding this paragraph, I understand and agree that the University has no obligation to provide or seek out any medical treatment for me.

Severability: The undersigned further expressly agrees that the foregoing waiver and assumption of risks agreement is intended to be as broad and inclusive as is permitted by the law of the State of Oregon and that if any portion thereof is held invalid, it is agreed that the balance shall, notwithstanding, continue in full legal force and effect.

Acknowledgment of Understanding: I have read this waiver of liability, assumption of risk, and indemnity agreement, fully understand its terms, and understand that I am giving up substantial rights, including my right to

sue. I acknowledge that I am signing the agreement freely and voluntarily, and intend by my signature to be a complete and unconditional release of liability to the greatest extent allowed by law.

Media: I hereby irrevocably consent to and authorize the University of Oregon to use videotapes, photographs, motion pictures, recordings or other record (collectively Media) of the Activity and my and my child's participation in the Activity and to use my or my child's image, voice and/or likeness for promotional purposes. In addition, the University of Oregon shall have the right to adapt, reproduce, edit, modify, and make derivative works of and from the Media in any media or technology now known or hereafter developed in perpetuity, so long as the use is in keeping with the purposes set forth above. I recognize that the Media and other works shall be the exclusive property of the University of Oregon.

PLEASE READ THE ENTIRE AGREEMENT BEFORE SIGNING

Name of Participant (please print legibly): _____

Signature of Participant: _____ Date: _____

***** IF THE PARTICIPANT IS UNDER 18 YEARS OF AGE, A PARENT OR LEGAL GUARDIAN MUST AGREE TO AND SIGN BELOW. *****

Name of Parent or Legal Guardian (please print legibly): _____

Parent or Legal Guardian Signature: _____ Date:_____

Appendix 4: Proposed SAIL Application

SAIL Camp Application

Return application to:
Economics Dept./SAIL - PLC
University of Oregon, Eugene, OR 97403
sailstaff@uoregon.edu (541)-346-8378
website: sail.uoregon.edu

STUDENT NAME: _____ DOB: _____ AGE: _____ GRAD YR: _____

GRADE ENTERING THE UPCOMING FALL (CIRCLE): FRESHMAN SOPHOMORE JUNIOR SENIOR

MIDDLE SCHOOL (ATTENDED/ ATTENDING): _____ GPA (CUMULATIVE): _____

HIGH SCHOOL(ATTENDING): _____ GPA (CUMULATIVE): _____

MAILING ADDRESS: _____ CITY: _____ STATE: _____ ZIP: _____

STUDENT EMAIL: _____ STUDENT PHONE: _____

MAIN PARENT /GUARDIAN NAME: _____

EMAIL: _____ HOME/ CELL PHONE: _____

EMERGENCY CONTACT: _____ PHONE NUMBER: _____

STUDENT'S DOCTOR: _____ PHONE: _____
MEDICATIONS & HEALTH CONCERNS (LIMITS ON PHYSICAL ACTIVITIES, ILLNESS, ETC.):
_____

HISTORY OF EATING DISORDER? Y/N DIETARY RESTRICTIONS: _____
ALLERGIES? Y/N DESCRIBE REACTION: _____
HAVE YOU HAD A TETANUS SHOT WITHIN THE PAST 10 YEARS? Y/N

ANY SPECIAL CONSIDERATIONS OR ACCOMMODATIONS NEED? _____

See Next Page

ADDITIONAL STUDENT INFORMATION

GENDER OR SEX IDENTITY (CIRCLE): MALE FEMALE TRANSGENDER, TRANSSEXUAL, FTM, MTM CISSEXUAL/CISGENDER INTERSEX TWO-SPIRIT GENDERQUEER, GENDER VARIANT, GENDER NON-CONFORMING QUESTIONING PREFERRED PRONOUNS: _____

ETHNIC BACKGROUND (CIRCLE): ALASKA INDIAN/ALASKAN ASIAN BLACK/AFRICAN AMERICAN, OR AFRICAN HISPANIC/LATINO(A)/CHICANO(A) WHITE/CAUCASIAN MIDDLE EASTERN OR ARABIC MULTI-RACIAL_____ NATIVE PACIFIC/PACIFIC ISLANDER OTHER:_____

ADDITIONAL INFORMATION

HOW DID YOU HEAR ABOUT SAIL?_____ STUDENT SHIRT SIZE: S M L XL XXL

Transportation Method: bike walk parent bus other:_____Will you need a bus pass? Y/N

WHAT LANGUAGE(S) DO YOU SPEAK? _____

WHAT LANGUAGE(S) DO YOU SPEAK AT HOME?

_____

PARENTS' HIGHEST LEVEL OF EDUCATION (CIRCLE): SOME HIGH SCHOOL HIGH SCHOOL DIPLOMA/ GED

SOME COLLEGE ASSOCIATE'S DEGREE BACHELOR'S DEGREE MASTER'S DEGREE PH. D

WHAT IS YOUR FAMILY'S YEARLY INCOME (ESTIMATED):

LESS THAN $15,000 $15,000-30,000 $30,000-70,000 $70,000-100,000 MORE THAN $100,000 UNKNOWN

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SELECT CAMP CHOICE (CAMP CHOICE IS FIRST COME, FIRST SERVE BASIS)
PLEASE CIRCLE YOUR FIRST AND SECOND CHOICE AND NUMBER THEM

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3. Rising **Juniors (7/17 – 7/21)**: Biology Education Physics & Physiology (7/24-7/28) Roman Mythology Product Design

4. Rising **Seniors (7/17 – 7/21)**: Business English/Journalism Product Design

As the **parent/guardian**, I hereby authorize my high school/college/university/postsecondary training program to release any and all information relating to my financial aid, grades, class standing, transfer records, or any other relevant information to the SAIL program. I authorize SAIL and its agents to use this information as necessary to administer the SAIL program and for statistical and research purposes. SAIL foundation may release this information to third parties such as the National Student Clearing House for the purpose of tracking postsecondary attendance and degree completion. Information used for statistical purposes will not have individual names or personal identifying information connected to it. This authorization shall be valid for a period of six years from my high school graduation date.

PARENT/GUARDIAN SIGNATURE: _____ **DATE:** _____

STUDENT SIGNATURE: _____ **DATE:** _____

ASSUMPTION OF RISK/RELEASE & INDEMNIFICATION OF ALL CLAIMS/COVENANT NOT TO SUE

GROUP: The Summer Academy to Inspire Learning (SAIL)
DATE(S): July 10 – July 28, 2017
ACTIVITY LEADER: Lara Fernandez, Executive Director 541-346-8378
DEPARTMENT: CAS & Economics Dept. – SAIL Program

In consideration of being permitted to participate in any way in the above-described activity (hereinafter called the "Activity"), I, for myself, my heirs, personal representatives and assigns, do hereby release, waive, discharge, and covenant not to sue the State of Oregon, the Board of Trustees of the University of Oregon, and the University of Oregon (collectively, hereafter called the "University"), their officers, employees, and agents from liability from any and all claims including the negligence of the University, its officers, employees, and agents, resulting in personal injury, accidents or illness (including death), property loss, and damages arising from, but not limited to, participation in the Activity.

Assumptions of Risks: Participation in the Activity carries with it Certain inherent risks that cannot be eliminated regardless of the care taken to avoid injuries. The specific risks vary from one activity to another, but the risks range from (1) minor injuries such as scratches, bruises, and sprains (2) major injuries such as eye injury or loss of sight, joint or back injuries, heart attacks, and concussions to (3) catastrophic injuries including paralysis and death.

I have read the previous paragraphs and I know, understand, and appreciate these and other risks that are inherent in the Activity. I hereby assert that my participation in the Activity is voluntary and that I knowingly assume all such risks.

Indemnification and Hold Harmless: I also agree to INDEMNIFY, DEFEND, AND HOLD the University and its officers, employees, and agents HARMLESS from any and all claims, actions, suits, procedures, costs, expenses, damages and liabilities, including attorney's fees brought as a result of my involvement in the Activity and to reimburse them for any such expenses incurred.

Medical Treatment Authorization: I understand that an emergency may develop which necessitates the administration of medical care. In the event of injury or illness, I authorize the University to secure appropriate treatment including the administration of an

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anesthetic or surgery. I understand that such treatment shall be solely at my expense. Notwithstanding this paragraph, I understand and agree that the University has no obligation to provide or seek out any medical treatment for me.

Severability: The undersigned further expressly agrees that the foregoing waiver and assumption of risks agreement is intended to be as broad and inclusive as is permitted by the law of the State of Oregon and that if any portion thereof is held invalid, it is agreed that the balance shall, notwithstanding, continue in full legal force and effect.

Acknowledgment of Understanding: I have read this waiver of liability, assumption of risk, and indemnity agreement, fully understand its terms, and understand that I am giving up substantial rights, including my right to sue. I acknowledge that I am signing the agreement freely and voluntarily, and intend by my signature to be a complete and unconditional release of liability to the greatest extent allowed by law.

Media: I hereby irrevocably consent to and authorize the University of Oregon to use videotapes, photographs, motion pictures, recordings or other record (collectively Media) of the Activity and my and my child's participation in the Activity and to use my or my child's image, voice and/or likeness for promotional purposes. In addition, the University of Oregon shall have the right to adapt, reproduce, edit, modify, and make derivative works of and from the Media in any media or technology now known or hereafter developed in perpetuity, so long as the use is in keeping with the purposes set forth above. I recognize that the Media and other works shall be the exclusive property of the University of Oregon.

PLEASE READ THE ENTIRE AGREEMENT BEFORE SIGNING

Name of Participant (please print legibly): _____

Signature of Participant: _____ Date: _____

***** IF THE PARTICIPANT IS UNDER 18 YEARS OF AGE, A PARENT OR LEGAL GUARDIAN MUST AGREE TO AND SIGN BELOW. *****

Name of Parent or Legal Guardian (please print legibly): _____

Parent or Legal Guardian Signature: _____ Date:_____

See Next Page