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College or the Trades: Analyzing the Perception of High School
Vocational Education

By

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Abstract

As of April 5, 2022, there was almost \$1.75 trillion of student debt in the US (Hahn & Tarver). The student debt crisis, combined with the COVID-19 pandemic, has led many American young people to seek alternatives to 4-year colleges (Dickler, 2021). One possible alternative path is vocational education, in which a young person learns a trade like welding or cosmetology instead of or in addition to academic subjects. This can occur at the high school and/or postsecondary level. Historically, there has been a stigma against vocational education in favor of 4-year colleges (Gauthier, 2020). This study seeks to examine vocational education in American high schools. Specifically, the perception of various aspects of vocational education (perceived intelligence of vocational students, how much vocational tertiary education should be promoted over academic tertiary education, etc.) from people who were on the academic track and people who were on the vocational track in high school. These perceptions were collected via online survey of 90 American high school graduates, ranging in age from 18 to 94. Data show that the vast majority of academic track and vocational track individuals support vocational education being promoted as much or more than college prep courses in high schools. In addition, statistically significant findings include the fact that academic track students who had friends on the vocational track in high school had higher opinions of vocational track students' intelligence than academic track students who did not. Although this newfound acceptance of vocational education has many positive implications, steps must be taken to ensure that Black, Latine, and low-income students are not the only ones encouraged to take this route, but rather that all high school students receive the same level of encouragement.

Introduction

Although the United States has long had both academic and vocational forms of secondary education (Miller, 1993), in recent years the perception of vocational education has shifted. Many popular media/news sources have reported on the increased positive perception of vocational education in recent years, particularly in response to the COVID-19 pandemic (for example, Jessica Dickler's 2021 CNBC article profiling several students who chose to pursue vocational education or employment following high school graduation rather than a traditional four-year college). Much of the current literature regarding vocational education either is not recent enough to address the shifting perceptions of vocational education (that is, it was written before the pandemic) or deals with vocational education in countries other than the United States. In addition, much of the literature surrounding US vocational education deals specifically with post-secondary institutions or training rather than high school-level vocational education. This has resulted in a gap in the literature regarding present-day perceptions of American high school-level vocational education, which this study aims to fill.

The primary research question for this study was whether the contemporary opinion of American high school-level vocational education is more positive than negative. Specifically, though, this study was interested in the perception of vocational education from the perspective of those who were on the academic track in high school, and those who were on the vocational track. Two different surveys (similar aside from differences in questions pertaining to being on the different tracks) were administered to a total of 90 American high school graduates (73 of whom were on the academic track and 17 of whom were on the vocational track). Results showed not only an overwhelmingly positive opinion of vocational education for both groups, but also a

sizable amount of academic-track graduates who would change their path (46.6% of the academic sample would either be on a mixed academic/vocational or total vocational track) if they could do high school all over again. These results were surprising. Although they are in no way representative of the US as a whole, they do indicate that the reported-on increasingly positive perception of vocational education may indeed be true.

Literature Review

History of US Vocational Education

Vocational education in the United States underwent quite a revolution from colonial times to the late twentieth century. During colonial times, vocational education was not conducted through schools or other formal institutions, but was instead given to young people via apprenticeships or by their families, and was largely the domain of the working class (Miller, 1993). By the mid-1800's, private vocational schools, tending to focus on specific trades, began to open, with white working-class Americans being the intended students. The first vocational high school, a three-year institution with courses in things like math, drawing, and shopwork, opened in 1880 in St. Louis. Notably, the curriculum of the school was not intended to prepare students for college. Industrial education was intended as a route to upward social and economic mobility for working class white Americans, not to the level of the titans of industry, but at least out of poverty (Miller, 1993). However, by the 1970's, it was clear that vocational education was no longer serving this purpose. On the contrary, the inherent inequality of vocational high schools (the fact that the vast majority of their students did not attend university, and were therefore lacking in social prestige and career opportunities) began to be

recognized, and vocational education started to be viewed (by egalitarian education reformers, at least) as unfair and problematic (Benavot, 1983).

Stigma Against Vocational Education

When thinking about contemporary vocational education, it is important to reflect on the stigma that has historically been attached to it. This stigma has been so severe, in fact, that vocational education “historically (...) was seen as a dumping ground for students who weren’t considered college material. A two-tier educational system tracked predominantly low-income students and students of color into career and technical classes,” (Butrymowicz et al., 2022). In a two-track academic system, the track associated with poor students and students of color is the one viewed as inferior and stigmatized.

This stigma was still applicable to vocational education until at least the end of the 2010’s (Gauthier, 2020). This is particularly salient when vocational education occurs at a community college, because community colleges in general are already stigmatized (p. 5). A large part of the reason for the stigmatization of community colleges is the large number of vocational courses they offer (Gauthier, 2020). This implies that the stigma against vocational education has historically been so pervasive that not only the education itself, but the institutions that offer it have been negatively affected. Distressingly, individuals who earned associate’s degrees in vocational subjects discovered that they were stigmatized in the workplace, being described by their coworkers as less intelligent and having their educational decisions questioned (Gauthier, 2020). In addition, Gauthier points out that community colleges often receive significantly more funding for their academic offerings than their vocational courses. In an effort to reduce their institutional stigma, community colleges shortchange their

vocational offerings by giving them suboptimal amounts of funding. If vocational courses are given less funding than their academic counterparts, then students will likely have poorer outcomes. This, in turn, would contribute to a continued stigma against vocational education, indicating a vicious cycle. Clearly, vocational education, at least when attained at a community college level, faces stigma on a societal, workplace, and intra-organizational level.

This stigma is not limited to the vocational education in the United States. In fact, it is a worldwide phenomenon, occurring in regions as diverse as Europe, Asia, and the Middle East. Although countries like Belgium, Saudi Arabia, and China may seem to have few similarities, they do have at least one thing in common: a stigma against vocational education.

As China's economic system develops, more and more Chinese students want to attend high school-level education, even if that education is vocational instead of academic. However, there is still a pervasive sense of shame and inferiority associated with attending a vocational high school, even though many students and their parents are lobbying for more to be opened (Hansen & Woronov, 2013). This stigma is harsher for urban than rural students, as urban students generally attend vocational high schools due to failure to pass the academic high school entrance exams, while rural students often enroll in vocational high schools due to a genuine desire to attain a more secure job than farming, even if an academic high school was their first choice (Hansen & Woronov, 2013). The authors interviewed various students and teachers at a vocational high schools in Nanjing, China. The kinder teachers reported that the students ended up at said school because they simply were not good test takers, but other teachers simply referred to their students as lazy and stupid, with many of the students characterizing themselves with the same adjectives (Hansen & Woronov, 2013). A large part of

the reason for this stigma is the inability of students at vocational high schools to take the college entrance examination, meaning that by the time they finished junior high school, their future prospects were already limited (Hansen & Woronov, 2013).

Saudi Arabia also has a stigma against vocational education (Aldorassi, 2020). The reason for this stigma is somewhat similar to China's, in that it is largely due to rapid economic development and subsequent shifts in societal values. In post-1980 Saudi Arabia, most young people chose academic tertiary education over vocational education or training, leading to a dependence on foreigners for skilled labor jobs that continues to the present day (pp. 1-2). The Saudi stigma is comprised of both economic, social status, and gender dimensions. Jobs that are attained due to vocational education are perceived as paying much lower wages than they actually do (p. 6). In addition, the societal preference for white-collar jobs is so strong that many Saudi college graduates (including 68% of unemployed female college graduates) choose to remain unemployed rather than to take a job with a lower social status (p.6). In regards to gender, women have historically been forbidden to work in jobs that require physical labor (with the exception of nursing), so enrolling in vocational education or attaining a skilled job is even more stigmatized for women than for men (p. 8).

Vocational education in Belgium carries a heavy societal stigma, with 20% of vocational students reporting "that some people look down on them due to their studies," (Spruyt et al., 2015, p. 761). The Belgian education system relies heavily on tracking once children reach the age of 12, when children are first sorted into a higher or lower academic track. Once children turn 14, they are then sorted onto one of four academic tracks, with vocational being the lowest. If a child performs poorly, they are able to be moved onto a lower track, including the

vocational track. The Belgian stigma seems particularly salient because being placed on the vocational track is a clear indication of a student's chronic or acute academic failings, which makes the fact that 39.5% of Flanders citizens report vocational education as having a very negative image seem less mysterious (Spruyt et al., 2015).

Present Day US Views on Vocational Education

In the early years of the 2020's, the view on vocational education is shifting for, if not all, many Americans, including those who have previously received degrees from four-year colleges and universities. Although there are innumerable reasons for the (now largely positive) view of vocational education (now commonly referred to as career and technical education, or CTE), two major reasons seem to be the US student debt crisis and the continual fallout from the COVID-19 pandemic (Dickler, 2021).

In order to have the firmest possible foundation for understanding the significant and relatively sudden American cultural shift towards valuing vocational education, it is necessary that one understand the societal context of the early 2020's. As of June 9, 2022, Americans owed \$1.75 trillion in student debt, (Hahn & Tarver). Americans aged 35 to 49 owed the highest amount of student debt (\$622 billion split among 14.4 million people), followed by Americans aged 25 to 34 (\$500 billion split among 14.9 million people), then Americans aged 50 to 61 (\$282 billion split among 6.4 million people), then Americans aged 24 and under (\$110 billion split among 7.6 million people), with Americans 62 and older owing the least amount of student debt (\$98 billion split among 2.4 million people) (Hahn & Tarver). Clearly, student debt affects many Americans at all different stages of the adult lifespan, from people in their late teens and early 20's to those approaching retirement age. If so many Americans of all ages are

experiencing student debt, it is logical that the burden and concern it imposes may enter into evolving opinions of vocational education. In addition, the ongoing COVID-19 pandemic continues to cause ripple effects in the American economy and society more broadly, leading some to be weary of the expensive price tag of 4-year colleges (Dickler, 2021). One popular media article, published in Business Insider, gives an extreme example of an American burdened by student debt. Nick Crocker, a 37-year-old man saddled with \$108,100 in student debt. Crocker and his fiancé live in a remodeled school bus rather than a house. He cannot afford the latter due to his low wages and massive amounts of debt (Sheffey, 2022). Although their situations may not be as extreme as Crocker's, many Americans have gained a keen financial awareness in the wake of sky-high student loans and a years-long pandemic. This has had such a profound effect, in fact, the federal government has taken notice. As of late July 2022, President Biden is in the process of determining whether to cancel all or a portion of federal student debt and whether or not to extend the COVID-era student loan payment pauses (Minsky, 2022). Although it is not certain, it is said that the President is leaning towards extending the student-loan pause through the end of 2022 and canceling \$10,000 of federal student debt per borrower (Minsky, 2022). Since Biden's plan has not been finalized, let alone implemented, it is impossible to say what, if any, impact it will have on American attitudes towards 4-year colleges. However, the fact that the president is even considering such a plan indicates a wide-spread and profound dissatisfaction with the current 4-year education system (and the payment required to participate in it).

Several popular media articles have been published regarding the decline in 4-year college attendance among high school seniors during the COVID-19 pandemic, as well as the

simultaneous rise in desire for vocational education. One such article, published in September 2021 by CNBC, reports on some of the massive changes occurring in post-pandemic American tertiary education. For one, a (at the time of publishing) newly released survey found that, in the span of less than a year, high school students reported being less likely to attend a four-year college upon graduation, as only 53%, down from 71% the previous year, planned to attend a four-year college (Dickler, 2021). Not coincidentally, this survey took place during the COVID-19 pandemic. Notably, during the height of the pandemic, employers like Apple and IBM “stopped requiring college degrees,” (Dickler, 2021). This may have signaled to students that there were routes to a rewarding career (even at a prestigious company like Apple) that did not involve the time and money invested in attaining a four-year degree.

In addition, some people who have already earned bachelor’s (or higher) degrees are beginning to enroll in vocational schools for professions like firefighting (Marcus, 2020). One article, published in USA Today, details the author’s decision to attend a vocational program to become an aviation maintenance technician after earning a four-year degree in math but being unable to find a job other than becoming a math teacher, when what she really wanted was to be a pilot. She notes that she felt expected to go to a four-year college growing up, and although she does not regret it, she wishes that vocational options were presented to students beginning in high school, to help students choose the right path for themselves, rather than going to college by default (Taunton, 2022). Although by no means a majority of individuals who have attained bachelor’s degrees are pursuing this path, there is certainly something to be said for the short-sightedness of pushing all schoolchildren onto the 4-year college track,

leaving not just economic impacts on a macro scale, but negative emotional impacts on the personal level as well.

It is also critical to note the demographics of certificate and associate's degree students. If those pursuing certificates and associate's degrees are predominantly BIPOC and low-income, while those pursuing four-year degrees are predominantly white and higher-income, then encouraging low-income and BIPOC students (and not their higher-income and white peers) to pursue routes other than four-year degrees may perpetuate pre-existing inequalities. Dependent students in the bottom income quartile enrolled in tertiary education are much more likely to be in vocational/associate's programs than their peers in the highest income quartile (54% of bottom income quartile dependent students enrolled in tertiary education are in certificate/associate's programs compared to only 24% of top income quartile dependent students enrolled in tertiary education) (CEW Georgetown, 2021). In addition, Latine post-secondary students are the most likely to be enrolled in certificate/associate's programs (62%), followed by Black post-secondary students (56%), then students from other races (48%), then white students (47%) (CEW Georgetown, 2021). This is especially important to note because of the risk of tracking Black, Latine, and low-income students to vocational education while white, Asian, and higher-income students continue to attend four-year colleges, perpetuating inequality (Marcus, 2020). Great care must be taken in order to ensure that vocational education is promoted equally to all students, including high-income white students, not just low-income Black and Brown students.

In sum, vocational education has a long history in the United States, having existed since colonial times and persisted into the present day. Although vocational education (which can

occur at the secondary level, postsecondary level, or both) has changed in many ways since its inception, the stigma associated with vocational education has persisted until at least the end of the 2010's. In addition, this stigma is found in nations as diverse as Saudi Arabia, China, and Belgium, meaning that stigma against vocational education is not exclusively an American problem. However, as the 2020's dawned, a worldwide pandemic and a crushing student loan debt crisis has appeared to dull the American appetite for four-year college educations and has supposedly increased the demand (and improved the perception of) for vocational education, at least according to some popular media sources like USA Today or Business Insider. Due to vocational education's pervasive (and international) stigma, the researcher sought to ascertain whether or not this newfound appreciation for vocational education truly existed amongst average Americans, or whether the historic stigma persisted.

Method

Participants

A total of 90 participants participated in this study. 73 of these participants completed the academic track survey (meaning that they were on the academic track in high school), and 17 completed the vocational track survey (meaning that they were on the vocational track in high school). In order to qualify for the study, participants had to be at least 18 years old and have graduated from high school by the time of participation. Participants had attended high schools in the states of Maine, Illinois, and Arizona. These high schools were selected due to their rural, suburban, and urban settings, as well as the regional (North, Midwest, and Southwest) diversity among them. However, the participants were not representative of the US

as a whole, as they were overwhelmingly female and white (with 60% of participants being female and 84.4% of participants being white).

Participants were recruited via Facebook posts and snowball sampling. One or two alumni from the targeted schools were contacted and asked to take the survey pertaining to them (that is, academic or vocational), and then share the link with other alumni. In addition, the researcher created a Facebook post that was shared by several of the initial alumni contacts in order to recruit more participants, particularly those that the initial contacts may not have been comfortable personally contacting with a request to participate in the study.

Academic Survey

The age range for the 73 participants who completed the academic survey was 18-94, with a median age of 23 and an average age of 32.25, meaning that most participants were towards the younger side of this age range. 46 participants (63%) identified as women, 24 identified as men, and 3 identified as non-binary. 64 participants identified as white (87.7%), 4 participants identified as Asian, 3 participants identified as Hispanic/Latine, 1 participant identified as Black, and 1 participant identified as mixed (white/Asian).

In terms of education, 5 participants (6.8%) described their mother's highest level of completed education being the eighth grade or below. 2 described it as being some high school, 9 as a high school diploma/GED, 7 as some college, 6 as an associate's degree, 27 (37%) as a bachelor's degree, and 17 as a master's degree or higher. As for their father's education, 3 participants described their father's highest level of completed education being 8th grade or below (4.1%). 4 described it as being some high school, 8 as a high school diploma/GED, 8 as some college, 3 as an associate's degree, 17 as a bachelor's degree, 28 (38.4%) as a master's

degree to higher, and 2 participants chose the don't know or N/A option. In terms of their own education, 6 participants (8.2%) identified their highest level of education being a high school diploma/GED. 13 participants identified it as being some college, 27 as a bachelor's degree (37%), 18 as a master's degree or higher, and 9 identified themselves as being currently in school. When asked to describe the location of their high school, 17 (23.3%) identified it as being rural, 47 (64.4%) as being suburban, and 8 as being urban (11%), while one participant (1.4%) declined to answer.

Vocational Survey

The age range of the 17 participants who completed the vocational survey was 18-58, with a median age of 23 and a mean age of 29.06. In terms of gender, 8 participants (47.1%) identified as men, 8 participants identified as women, and 1 participant identified as nonbinary. 12 participants (70.6%) identified as white, 4 participants identified as Hispanic/Latine, and 1 participant identified as mixed race.

In terms of education, 4 participants (23.5%) described their mother's highest level of completed education as being a high school diploma/GED. 5 (29.4%) described it as being some college, 3 described it as being an associate's degree, 3 described it as being a bachelor's degree, and 2 described it as being a master's degree or higher. In terms of their father's highest level of completed education, 2 (11.8%) participants described it as being 8th grade or below. 6 participants (35.3%) described it as being a high school diploma/GED, 1 described it as some college, 4 described it as a bachelor's degree, 2 as a master's degree or higher, and 2 chose the don't know or N/A option. In terms of their own highest level of completed education, 1 participant (5.9%) described it as a high school diploma/GED. 3 participants

described it as being some college, 2 as an associate's degree, 3 as trade/tech school, 6 (35.3%) as a bachelor's degree, and 2 identified as being currently in school. When asked to describe the location of their high school, 7 (41.2%) of participants described it as being suburban, 5 (29.4%) as being rural, and 5 (29.4%) as being urban.

The length of the vocational program varied, with 1 participant describing it as lasting all four years of high school (9-12), 1 as lasting three years (10th-12th), 7 (41.2%) as lasting two years (11th-12th grade), 1 as lasting 1.5 years, 6 as lasting one year (12th grade for all but one student, who was on the vocational track for only tenth grade), and 1 participant declined to answer. When given the option to describe what their specific vocational course was, the participants identified a wide variety of subjects, including mechanics, nursing assistant's training, criminal justice, welding, early childhood development, woodworking, and biotechnology. When asked if they were currently working in the field they had studied, 5 participants said no, 7 (41.2%) said yes, 4 said they had in the past but no longer were, and 1 declined to answer. When asked if their vocational education had resulted in qualifications, 8 (47%) of participants said yes, 3 said no, and 6 declined to answer. 1 participant indicated that they received a degree in addition to their high school diploma (a vocational diploma) due to their vocational education, while 16 (94.1%) did not receive an additional degree. Finally, when asked if they had completed their vocational program, 14 participants (82.4%) said yes, 2 (11.8%) said no, and 1 (5.9%) declined to answer.

When the two groups were compared, some statistically significant differences were found. Vocational students were asked what their parents' opinion of them participating on the vocational track was, while students from the academic survey were asked what their parents'

opinion of them participating in the vocational program would have been. Responses were coded in such a manner that higher numbers indicated higher levels of approval, with 1 indicating a negative parental opinion and 4 indicating a very positive parental opinion. The mean for vocational track students (3.31) was higher than for academic track students (2.40), with the two-tailed p value equaling 0.0015, meaning that there is a 99.85% chance that this result is not due to chance.

In addition, students in the academic group were more likely to have fathers with a higher level of completed education than students in the vocational group. (Interestingly, there was no statistically significant difference between mothers' education levels for the two groups). Education levels were coded in such a way that lower numbers corresponded to lower levels of completed education. 1 equated to having completed the 8th grade or below, 2 to having completed some high school, 3 to attaining a high school diploma or GED, 4 to completing some college, 5 to attaining an associate's degree, 6 to attaining a bachelor's degree, and 7 to having attained a master's degree or higher. The mean for the vocational group was 3.65 (indicating a high school diploma or GED being the average level of education for vocational track students' fathers), compared to 5.21 for the academic group (indicating that an associate's degree was the average level of education for academic track students' fathers). The p-value was 0.0071, meaning that there is a 99.29% chance that this difference was not due to chance.

Finally, and notably, members of the vocational sample were more likely to be people of color than members of the academic sample. Participants self-reported racial/ethnic identities were coded in such a way that the lowest value (that is, 1) corresponded to a white identity,

with 2 corresponding to an Asian identity, 3 corresponding to a Hispanic/Latine identity, 4 to a Black identity, and 5 to a mixed-race identity. The average for the academic sample (1.23) was lower than for the vocational sample (1.71). This was statistically significant, with a p-value of .0371, meaning that there was only a 96.29% chance that this difference was due to chance. It must be stated that the academic and vocational samples were lopsided (with the academic total of 73 being much larger than the vocational sample's total of 17), but regardless, is an important statistic to keep in mind, especially when one considers the fact that low-income and BIPOC students are more likely to pursue vocational education or associate's degrees/certificates than their higher-income and white peers (CEW Georgetown, 2021).

Materials and Procedure

This study was conducted using Google Forms. Participants took one of two surveys, the academic survey or the vocational survey, depending on the track they had been on in high school. The academic survey consisted of 25 questions, and the vocational survey consisted of 30 questions. Both surveys began with a notice of consent to participation which included details about the study, the IRB number, and contact information. The majority of questions for each survey were either yes/no or multiple choice, although both surveys contained a few optional free-response questions for participants to explain their answer to the multiple-choice question they had just been asked. In addition, the demographic questions regarding participants' gender and race were free response rather than multiple choice so participants could describe their identities however they wished.

Aside from demographic questions, the academic survey focused on establishing the participant's perception of their own success, in terms of both academics and work.

Participants were asked to describe their high school class rank, and their overall perceptions of their success in academics and work. These questions were asked to complement the participant's later responses to questions regarding whether or not they would be more successful had they participated in vocational education and if they would participate in vocational education if they could re-do high school. The academic-track participants were also asked questions regarding their perception of the vocational program. Here, "perception" was taken to comprise the intelligence of vocational students, the likelihood of success in their careers, what proportion of the top and bottom tenth of their high school class was likely on the academic (and therefore not vocational) track, and whether or not their parents would have had a positive, negative, or neutral opinion of them participating in the vocational program. The latter question's purpose was to check for stigma against the vocational education program that originated from somewhere beyond the participant themselves (i.e. from family values, the local community, society at large, etc.).

In addition, participants were asked whether they knew anyone in the vocational program, whether they were friends with anyone in the vocational program, and whether or not they spent time outside of school with anyone from the vocational program. This was intended to gauge the extent to which academic track students mingled with their vocational track counterparts, and to analyze whether or not any potential mingling had an effect on their perception of vocational education more broadly. Finally, they were directly asked their opinions regarding the extent to which vocational education should be promoted and if they would be on the academic track, vocational track, or a mix of the two if they could redo high school, in order to gauge their opinions of vocational education in general and for themselves.

The vocational survey was very similar. Aside from general demographic questions, participants in this survey were also asked specific questions about their vocational program, including how many years it lasted, whether they completed it, what trade/field they studied, and whether they were working in that field now. Participants were asked the same questions regarding socialization with their opposite (in this case, academic) track peers. In terms of perception. They were also asked what their parents' opinion of them participating in the vocational program was, whether participating in the vocational program was positive, negative, or neutral for their self-esteem, as well as being directly asked whether or not there was a stigma against the vocational program at their school. In this way, the vocational track participants' perceptions of their program and the stigma (or lack thereof) surrounding it could be measured.

Results

Free Response Results

When participants for both surveys were given the chance to explain their answers to a few questions (such as whether or not academic track students would have been more successful in vocational courses), recurring themes emerged. Examining these responses by theme adds a layer of depth and personalization to the data.

Academic track participants were asked they believed that they either would or would not have been more successful had they been on the vocational track in their high school. Overall, 53 of the 73 respondents said they would not have been more successful had they taken vocational courses. Some of their answers include:

- “There was no vocational school for what I wanted to do, nor did I know what I wanted to do after high school.”
- “As a biology major, I don’t really think many voc programs were relevant to what I had interest in.”
- “Doing a vocational education program would have taken time away from the more advanced classes that have helped me in my academics + career”

These three answers illustrate the most common reasons (about 40% of the responses) given for why the participant believed they would not have been more successful had they chosen to study on the vocational track in high school. The sentiment that the vocational program at their school had no courses that were interesting to them came up repeatedly. In addition, several respondents stated that they already knew what they wanted to pursue in the post-high school world (such as the biology major above), and their pursuits did not involve vocational training. Still others did not express a specific desire of what they wanted to do after high school, but stated that academic and/or advanced courses helped them with college and/or career prep, so vocational courses would have been a waste of time.

Another set of these answers included:

- “I am a talented liberal arts student skilled in critical thinking, my brain would not have been suited for vocational school.”
- “I’m much more book smart than hands-on, but I think vocational options are wonderful.”

The second most common reason given for believing that studying vocational courses would not have increased the participant's successes in life was due to an assertion of "book smarts" and academic talents and/or a lack of manual dexterity/the ability to work with one's hands.

The second response in this set is notable for including, unprompted, a declaration of the positive nature of vocational education even though they were not the best choice for the respondent.

A final set of these answers included:

- "Vocational education has changed a great deal since I was in high school. For a female back then there was not much opportunity in vocational education. I became a teacher and this could only be done in the academic track when I was in school."
- "My failings in the academic program were due to personal issues that likely would have affected me just the same in a vocational program."

The final set of answers for individuals that did not believe that studying vocational courses in high school would have helped them be more successful in life do not fit neatly into the other two categories. The first answer is notable for pointing out the difference between vocational education in the 2020's and when the respondent was in high school. The respondent cites gender discrimination as a key reason for her avoidance of the vocational track, and implies that vocational education today is both more inclusive and offers more opportunities than when she was young. The second response is unique (no other respondent cited personal issues and/or trouble with the academic track) in that neither academic nor vocational education

would have improved their chances of success due to problems occurring beyond the school environment.

In addition to above responses indicating why the participant would not have been more successful had they studied vocational courses in high school, there were a few indicating why the participant would have been more successful had they taken vocational courses.

(Overall, 20 of the 73 respondents indicated that they would have been more successful had they been on the vocational track.) Some of their responses include:

- “It would give me a sense of another career I was considering.”
- “I would have a better path of what to do with my future.”
- “More opportunities, learning of additional trades.”
- “Enjoy working with my hands”

There were fewer responses to why vocational education would have made one more successful, which corresponds with their being 33 fewer people who chose this option for the multiple-choice question immediately preceding this one. However, the people who did answer fell into one of two categories: Vocational education would have helped them figure out what they truly wanted to do after high school, or that they were good at working with their hands.

When given the option to elaborate on whether they thought they believed they were more successful than they would be if they hadn't done the vocational program, 13 of the 17 participants decided to answer. Due to the relatively even split between answers (6 of the 16 who answered the previous question stated that they were NOT more successful due to their vocational program, 6 of the 16 stated that they WERE more successful due to their vocational

program, and 4 of the 16 stated that they were NEUTRAL), the explanations show a great deal of variation.

Some of the answers for those who said they were NOT more successful include:

- “I have never once used my woodworking skills in any manner that would be considered beneficial to my career.”
- “My vocational program didn’t lead directly to a job. I used it eventually when I was employed in metallurgy five years later, but I haven’t used it since leaving metallurgy.”

Both of these responses indicate that the skills they learned from vocational courses did not translate into the careers/education they attained after high school, although the second response does indicate that the vocational skills they learned were handy for a time. Both of these responses illustrate the dangers of vocational education being too specific, and therefore being unhelpful to the student should they desire to change career paths.

Some of the answers for those who said they were neither more nor less successful (neutral) include:

- “My vocational experience helped me get my first internship, which was a leg up over other college freshmen, but long term I do not think it has determined my successfulness.”
- “100% a different profession.”

Both of these responses indicate that although they were not dissatisfied with their vocational education, the specific information they learned did not end up benefitting them later on (apart

from helping the first respondent secure an internship), again highlighting the dangers of vocational programs that teach only very specialized information.

Some of the answers for those who said they were MORE successful due to their vocational education include:

- “Obtaining my CNA in high school helped when I entered nursing school - more comfortable when we started clinical. Also, working as a nurse that once was a CNA made me appreciate the hard working CNAs I worked with. “
- “I was not academically strong. So having vocational training gave me a very successful career that led into retirement”

These responses are particularly interesting because they exhibit the two main reasons for those who they are more successful due to their vocational education. The second response is more typical, in which an individual who struggled in the traditional academic setting was able to study a subject (welding, in this case) that they excelled in, leading to a rewarding career.

The first response is more atypical, in that that respondent actually studied vocational courses in order to have an advantage in college. The same sentiment was expressed by another participant, meaning that two respondents to this survey studied CNA courses in high school in order to help with nursing school in the future. This is particularly fascinating because it shows that vocational education in high school does not necessarily prevent a student from attending a four-year academic college, and in fact may even be beneficial towards said goal.

Socialization Results

This section aims to examine the extent to which students on the academic and vocational tracks knew each other, were friends with each other, and spent time with each other outside of school.

One striking difference between the academic and vocational track surveys was the degree to which students on one track socialized with students on the other. All 16 participants (excepting one who did not answer) stated that they knew students on the academic track. In addition, all of these participants stated that they were friends with students on the academic track. Finally, 14 of the 16 (87.5%) indicated that they spent time outside of school with students on the academic track. The academic survey respondents, on the other hand, were less likely to know students on the vocational track. However, the vast majority did still know students on the vocational track, as 58 (out of the 72 participants who answered) knew students in the vocational program, while 14 (19.4%) did not. When asked if they were friends with anyone in the vocational program, only 46 of the 72 (63.9%) said yes. Finally, when asked if they spent time outside of school with anyone in the academic program, only 32 (44.4%) said yes, indicating that only a minority of students in the academic program actually spent time outside of school with their vocational peers, while the vast majority of vocational students spent time outside of school with their academic peers.

Stigma and Perceptions

Perception and stigma of vocational education can go hand-in-hand, as evidenced in Aldorassi's 2020 work on Saudi Arabia (the perception of vocational education/skilled jobs as low-paying and low-status leads to a continued societal stigma). This section aims to showcase

the results for questions aiming to examine the potential presence of stigma around vocational education and the perceptions of it, since the two can be so intertwined.

Regarding stigma, 11 of the 17 (64.7%) vocational survey respondents reported that there was not a stigma against vocational education at their school, while 6 (35.3%) reported that there was a stigma. The academic survey respondents were not asked directly about the presence of a stigma, but rather if they thought that, in general, the vocational students would be successful in their careers, and if they thought that the vocational students were more, less, or equally as intelligent as the academic students. Overall, 63 of the 72 (87.5%) respondents who answered the question thought that vocational students would go on to be successful in their careers, with only 9 (12.5%) thinking that they would not. In regard to the perceived intelligence of the vocational students, only 70 academic survey respondents answered, possibly indicating the controversial nature of the question. Overall, 46 of the 70 (65.7%) respondents thought that the vocational students were as intelligent as the academic students, and 24 (34.3%) thought that the vocational students were less intelligent than the academic students. (No one said that the vocational students were more intelligent than their academic peers.)

When the latter question (regarding the perception of vocational students' intelligence) was subjected to further analysis, a statistically significant effect was found. Academic-track students who reported having friends in the vocational program had a significantly higher mean (1.8) than students who did not report having friends in the vocational program. Given the way the values were coded (1 meaning not as intelligent, 2 meaning as intelligent), this means that academic students with friends on the vocational track had, on average, higher opinions of their

vocational track peers' intelligence (in that it was equal to their own) than academic students who did not have friends on the academic track. A Cohen's d post-hoc was performed, resulting in a value of $-.908$, indicating a large effect.

When asked whether participating in vocational education had increased, decreased, or had no effect on their self-esteem, 12 of the 16 (75%) respondents stated that it had increased their self-esteem, 3 (18.8%) stated that it no effect on their self-esteem, and only 1 (6.3%) stated that it had decreased their self-esteem. 14 of the 17 (82.4%) vocational respondents reported feeling like they were expected to go to college when they were growing up, with just three (17.6%) reporting that they did not feel like they were expected to. Meanwhile, 66 of the 73 (90.4%) academic respondents stated that they felt like they were expected to go to college growing up, with just 7 (9.6%) stating that they did not feel like they were expected to go to college. (Notably, the academic track group of "no's" had a much higher average age than the rest of the sample at 56 and included the 94-year-old respondent, so differing societal expectations may play a role here.)

One particularly interesting result for this question for academic track students can be found in the high school location condition. Specifically, there was a statistically significant result between the suburban and urban high school groups, with those who attended suburban high schools being significantly more likely to have felt like they were expected to go to college growing up (with a mean of 1.98) compared to their urban counterparts (1.63). This was found due to an ANOVA, with $F(2,69)=6.448$, and $p=.003$. According to the way the data was coded (1 meaning one did not feel like one was expected to go to college growing up, and 2 meaning that one did feel expected to go to college growing up), the average for those who attended

suburban high schools was so high that it almost equaled the code for being expected to go to college (2). However, the eta-square was only .157, meaning that only about 16% of the variance regarding perception of college expectations between suburban and urban high school students was due to their high school's geographic location, with the rest (84%) of the variance being due to other factors.

When asked what their parents' opinion would have been of them participating in the vocational education program in high school, academic track participants offered a variety of responses. 27 of the 73 respondents (37%) said that their parents would have had a positive opinion, 11 (15.1%) said that their parents would have had a very positive opinion, 15 (20.5%) said that their parents would have had neither a positive nor a negative opinion, and 20 (27.4%) said that their parents would have had a negative opinion. When vocational track participants were asked what their parents' opinion was of them participating on the vocational track, 8 of the 16 who answered (50%) said that it was very positive, 5 (31.3%) that it was positive, and 3 (18.8%) that it was neither positive nor negative.

Participants were asked to imagine that they had the opportunity to do high school all over again. They were then asked whether they would have been on the academic track, the vocational track, or some mix of the two. Although the majority of academic survey respondents stated that they would be on the academic track (39 of the 73, or 53.4%), 28 (38.4%) stated that they would like be on a mix of the two tracks, and 6 (8.2%) said they would want to be on the vocational track. This means that nearly half (46.6%) of academic track students would choose a different path if given a choice. Interestingly, these 34 students varied quite a bit in their high school performance, ranging from the rank of salutatorian (the student

in the graduating class with the second-highest GPA) to the bottom 25%, indicating that academic performance alone was not the deciding factor. Students in this group tended to perceive the intelligence of vocational students slightly more favorably (67.6% viewed vocational students as being as intelligent as academic track students) than academic-track students overall (65.7% viewed vocational students as having the same level of intelligence as their vocational track peers), although this is not statistically significant. When presented with the same question, 12 of the 16 respondents who answered (75%) said that they would continue to be on the vocational track, while 4 (25%) answered that they would be on the academic track.

Finally, respondents from both groups were asked whether they thought that vocational education should be encouraged more, less, or the same amount as college-prep courses in high schools. Remarkably, only 2 of the 73 academic track survey respondents (2.7%) thought that vocational education should be encouraged less than college-prep courses, while 33 (45.2%) thought it should be encouraged the same amount as college-prep courses, and 38 (52.1%) thought that it should be encouraged more. Vocational track survey respondents had slightly different proportions, with 64.7% (11 of the 17 respondents) stating that vocational education should be encouraged more than college-prep sources in high school, 23.5% (4 respondents) saying that vocational education should be encouraged the same amount as college-prep courses, and 11.8% (2 respondents) stating that vocational education should be encouraged less than college-prep courses.

Discussion

This study aimed to determine whether or not the perception of high school-level vocational education by the general American population was indeed generally positive, as numerous news and popular media sources have reported during the end of the 2010's and beginning of the 2020's, or if the historic stigma (Gauthier, 2020) against vocational education was still in effect. Perception was said to include, among other things, the perceived intelligence of students on the vocational track, the presence or absence of stigma surrounding the vocational program at participants' high schools, and whether or not vocational education students were thought to be likely to achieve success in their careers after graduation. This study also sought to determine whether certain factors (such as having friends who were on the vocational track in high school) were correlated with a more positive perception of vocational education, and whether or not students who had been on the academic track had more negative perceptions of vocational education than their counterparts who had been on the vocational track. It was hypothesized that although the overall perception of vocational education would be slightly positive, academic track participants would have more negative perceptions than their vocational track counterparts (whose perceptions would be positive as opposed to slightly positive for those on the academic track). In addition, it was predicted that academic track participants who had had friends who were on the vocational track would have more positive perceptions of their vocational track peers than academic track students who did not have friends on the vocational track.

The results for this study were, in many ways, surprising. The overwhelming support amongst academic track participants for vocational education was completely unexpected. 97.3% of all academic track respondents stated that vocational education should be

encouraged either more or the same amount as academic education in high schools, indicating a perception that was far more than slightly positive. Since only two participants said that vocational education should be encouraged less than academic education, this indicates a positive perception of vocational education that cuts across age, gender, and class lines. In addition, the fact that such a large proportion of the sample (46.6%) would either take a mixture of academic and vocational courses or purely vocational courses in high school if they had the opportunity to attend again was unexpected. This indicates that not only is the perception of vocational education positive in the abstract, it is actually positive enough that respondents would (in some fashion) switch to it. Both of these factors disprove the hypothesis that the overall perception of vocational education would be only slightly positive, and that the academic track group's perception would be more negative than the vocational track group's. (In fact, the vocational track group's perception of vocational education was actually lower than the academic track groups, with only 88.2% stating that vocational education should be encouraged more than or the same amount as academic education, although this is not statistically different).

In addition, it was discovered that having friends in the vocational program was indeed correlated with having a more positive perception of vocational education. This aligns well with findings from social psychology that exposure to people who belong to a different group can improve perception of said group (Lindsay, 2021). Specifically, academic track students who had friends on the vocational track had a higher opinion of vocational track students' intelligence than academic track students who did not have friends on the vocational track. This was statistically significant. It could very well be that spending time with vocational track students

allows academic track students to dispel any stereotypes regarding low intelligence for vocational track students that they may have previously been exposed to. One must consider the fact that vocational track students are more likely to know, be friends with, and spend time outside of school with students on the academic track than the other way around. High schools may want to create opportunities for students from the two tracks to spend time together (at lunch, through extracurricular activities like sports or the performing arts, etc.). Any friendships formed between students on the two tracks could potentially lead to more academic track students recognizing the intelligence of their vocational peers and the worth and importance of vocational programs.

Notably, it appears that, for these specific respondents at least, there was very little stigma against vocational education. The most obvious example of this phenomenon was 11 of the 17 vocational track respondents stating that there was not a stigma regarding the vocational track at their high school. In addition, 75% of the vocational-track sample stated that the vocational program increased their self-esteem. Meanwhile, 87.5% academic-track respondents, for their part, overwhelmingly believed that the vocational-track students would go on to be successful in their careers. In addition, only 27.4% of the academic-track sample reported that their parents would have had a negative opinion of them participating in the vocational program, indicating that (at least for members of this sample) the stigma surrounding vocational education had decreased across different generations. This is not to say that *no* stigma exists, however. 6 of the 17 vocational-track respondents *did* report that there was a stigma at their school, for example, and 24 academic-track respondents stated that they had thought their vocational-track peers were less intelligent during high school. Additionally,

as this sample was not representative of the nation as a whole, the lack of stigma cannot be assumed to be true for every American. However, it is fair to say that the lack of stigma for the respondents in this study, given their different geographic locations, ages, classes, etc., is, at least, encouraging, and certainly fascinating.

If a school district wanted to encourage more positive perceptions of vocational education/continue to decrease the stigma surrounding it, there are several methods they could utilize. For one, as previously mentioned, they could create opportunities for academic- and vocational-track students to socialize with each other. In addition, school districts could require that all high schoolers take at least one vocational course during their time in high school, regardless of whether they were on the academic track or not. This could not only create opportunities for academic-track students to interact with their vocational-track peers, but also expose academic-track students to trades (carpentry, welding, early childhood education, cosmetology, etc.) they ordinarily would not learn about. Given the high number of academic-track respondents who expressed a desire to be on a track involving at least some degree of vocational education, such a requirement may prove invaluable to helping young people decide on what fields they wish to pursue in higher education and/or in the workforce.

Limitations

First and foremost, this study had a very small sample size (90), particularly for the vocational condition, which had only 17 respondents. In addition, the sample was overwhelmingly white, meaning that the opinions of BIPOC were severely underrepresented. The troubling history of vocational education as a method of preventing Black and Latine students from attending college and entering high-income professions (Butrymowicz, Amy, &

Fenn, 2022) could very logically be correlated with more negative opinions about vocational education from BIPOC. In addition, the sample was skewed towards women and those who attended suburban high schools, meaning that the biases and opinions of these two groups were similarly overrepresented.

Future Research

Future research on this topic should aim to include more men, people who attended urban high schools, and Black, Indigenous, and Latine people. The perspectives and experiences of these groups could be completely different from their female, white, and suburban (and rural) counterparts, and must be taken into consideration in order for a more complete, equitable conclusion to be reached.

In addition, future research should explicitly ask participants what their opinions of vocational education were before and after the COVID-19 pandemic, as well as if the pandemic and resulting economic turbulence changed their views. It could also be valuable to ask participants whether or not they have student debt, (as well as how much student debt they currently carry), and see if that corresponds with their opinion of vocational education. Another potential research design could focus on current high school seniors. Through either interview or survey research, students could be asked what path they currently plan to take (obtain a vocational degree, an academic degree, or enter directly into the workforce) and why, as well as if the COVID-19 pandemic had altered their plans at all. This could be especially useful because it would provide insights into the decision-making process of the current generation of young people on the cusp of adulthood.

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