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What Middle School Students Know About Careers and the Influences Surrounding Their Choices

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ABSTRACT
Students in school face a wide range of education and career choices, and given the importance of education and career decisions for life success, it is important that they make informed choices. This study examined students' knowledge and sources of information about careers. In addition, the authors explored how students make career choices and who helps them. This study sought to determine what middle school students know about careers, the factors influencing their career choices, and their knowledge of the minimum educational requirements for entry into these fields. Data for this study were collected from middle school students (grades 6-9) using surveys that were completed as part of a financial literacy simulation activity. The four main career clusters of interest to the students were: (a) health science; (b) arts, audio/video technology, and communication; (c) science and technology and law; and (d) public safety, corrections, and security. Of the selected career clusters, some were not in demand in their geographic region whereas other careers were in greater demand than students selected. A small percentage of the students correctly knew the educational requirements for their chosen careers. Finally, this article provides suggestions and resources for teachers to incorporate career exploration in middle school.

Keywords: career awareness, influences, middle school

INTRODUCTION
Career awareness, also known as career exploration, refers to expanding one's understanding of possible career paths and job opportunities, and skills required to be successful in a desired occupation (Hendricks, 2018). This awareness, however, does not just happen; "it's a process and not just a destination" (Kosine & Lewis, 2008 p. 227). Career awareness involves investing time into conducting research to understand the available occupational fields, job expectations and responsibilities, required qualifications, work environments and conditions, job outlook, and expected salaries. In general, the process of preparing individuals for future careers starts with identification of their interests followed by the development of skills required for a particular occupation or field.

Although some career preparation programs in K-12 schools today are excellent, others are not effective at preparing young people for the competitive jobs available in today's economy (Council of Chief State Officers, 2014). Many individuals are not aware of their own skills and experience and the requirements for different jobs (Steed, 2018). To compound the problem, some schools provide students with little information on post-secondary and career options and very few opportunities to engage in career exploration (American School Counselors Association, 2018). The absence of career development programs means a number of graduates end up being "mismatched" to the jobs they find after graduation. Judging by the role work plays in an individual's life, the lack of career exploration devalues work (AIR, 2013).

In general, work defines one's personality, habits, and lifestyle, and therefore, finding one's "perfect" occupation is an important and challenging task (Kosine & Lewis, 2008). Besides, "finding the right career often leads to a lifetime of satisfaction while not finding the right career can lead to poor self-esteem, lowered self-efficacy, a lack of life satisfaction, and even depression" (Csikszentmihalyi & Le Fevre, 1989; Haworth & Hill, 1992; Wang, Lesage, Schmitz, & Drapeau, 2008; Warr, 2007, as cited in Stone, 2013 p. 306). Furthermore, people who find satisfaction in their work are generally committed to their organizations, and have greater productivity and lower turnover (Redmond, 2016; Vance, 2006).

REVIEW OF LITERATURE
A number of career development theories exist to explain the phenomenon of career choices and development. The Social Cognitive Career Theory (SCCT) developed by Lent, Brown, and Hackett (1994) is based on Albert Bandura's (1977) general social cognitive theory and is one of many career development theories.

Social Cognitive Career Theory
According to Leung (2008), SCCT offers three segmental, yet interrelated process models of career development seeking to explain (a) the development of academic and vocational interest; (b) how individuals make educational and

career choices; and (c) educational and career performance, and stability. Furthermore, the three segmental models have different emphases, which centers around three core variables, which are self-efficacy, outcome expectations, and personal goals.

SCCT considers self-efficacy, which refers to "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (Bandura, 1986, p. 391), as a very important ingredient in career choice and success. According to the theory, personal characteristics and contextual background factors play a role in determining attainment aspirations and career interests (Dika, Alvarez, Santos, & Suárez, 2016). Therefore, individuals "are likely to become interested in, choose to pursue, and perform better at activities at which they have strong self-efficacy beliefs; as long as they also have necessary skills and environmental supports to pursue these activities" (Career Research.net, 2018, para 2). Conversely, individuals will avoid activities they think they cannot perform well. An individual's self-efficacy is, therefore, developed through personal accomplishments, vicarious learning (watching others; role models), social persuasion (feedback from others), and outcome expectations (expected rewards) (Bandura, 1986). Therefore, in developing students' career awareness, it is important to assist individuals to identify and develop skills that allow individuals to perform well in some specific areas. Also important is the creation of opportunities for individuals to receive positive reinforcement for use of their skills, and identification of occupations for individuals where these skills can be used and rewarded (LeVan, 2010). In the United States, there have been significant efforts to implement career-based developmental programs that inform children at the primary and secondary school levels (Coogan, Neary, & Evans, 2014). For instance, career development is one of the 12 components of a high quality career and technical education program (Imperatore & Hyslop, 2018). The key goals for career development among children and adolescents is exposure and awareness (Andersen & Vandehey, 2012), and these programs help inform the children (and their parents) and begin establishing skills, attitudes, and knowledge for transition into the workforce. Fortunately, many schools in the United States already have resources in the form of career centers and school counselors or vocational guidance counselors. The career centers and guidance counselors assess the needs of the students, implement, and evaluate the career development program best suited for their students (Lapan, Gysbers, & Kayson, 2007). However, due to funding issues, many of the guidance counselors are overburdened by huge caseloads (Murphy, 2016), and therefore, end up providing very little career guidance. For instance, the American School Counselor Association recommends "a student-to-student counselor ratio of 250:1 and . . . only three states meet that recommendation. The national average is 491:1" (Murphy, 2016, para. 3). Therefore, in the absence of designated personnel to assist students through the career development process, it is unclear where and how students get information about careers. This article explores issues of career awareness among middle school students, specifically, their knowledge of careers available to them after graduation.

Researchers and policymakers recommend career exploration and awareness to begin before high school, when students have to make major course decisions (Finch & Mooney, 1997; Garza & Swisher, 2017; Kerka, 2000; Marcos, 2003). Therefore, offering career awareness programs in elementary schools provides children with more time to practice critical transferable skills that are expected and required for success across any occupation (Coogan, 2016). To ensure that students make informed career decisions, it is recommended to introduce career awareness programs in middle school (ACTE & Career Cruising, 2018; Kerka, 2000). For instance, the state of Maine has expanded its CTE courses to middle school, and Indiana has a pilot program that uses an online career explorer tool that includes all middle school 8th graders (Garza & Swisher, 2017). Despite efforts in the field of career exploration by states, several studies still point to the lack of awareness of educational career options and limited curricular options to explore career opportunities among middle school students (Alsuwaidi, 2012; Johnson, 2000). Furthermore, to show the importance of career awareness in middle school, federal lawmakers have proposed and passed a bi-partisan bill—The Middle School Technical Education Program Act or Middle STEP Act—that expands career and technical education exploration programs to middle school students (Garza & Swisher, 2017).

Based on the above review of the literature, this study examined the following questions for a middle school population:

1. What do middle school students know about various occupations?

2. What are the top/popular occupations selected by middle school students?

3. How do the selected occupations compare with local employment data and future job outlook?

4. Are the students aware of the academic and training requirements for the selected occupations?

5. What are the influences of parents and personal interests on students' career selections?

METHODOLOGY

To identify students' knowledge of their career aspirations and their influences, this study used data from two surveys completed before and after a financial literacy simulation, the Reality Store®.

Participants

Participants attended a public middle school in Northeast Ohio and were a diverse cohort of students ($n = 246$, a subset of these students, $n = 81$, provided more detailed information). Within the school, the percent of students eligible for free or reduced meals was 100% (2018-2019 academic year). The ethnic distribution in this middle school was 3.8% Hispanic, 74.3% White, 9.7% African American, and 11.6% Biracial, with 20.5% students with learning disabilities. Students participated in a pre- and post-survey conducted before a financial literacy simulation in which students chose their careers and were randomly assigned their marital status and number of children. All students were enrolled in a Personal Finance Class in which earning an income, saving, spending, credit, and money management were all discussed.

Reality Store®

The Reality Store® is part of the *Women Helping Girls with Choices (Choices)* program sponsored by Indiana Women's Education Foundation (IWEF, 2002) throughout the State of Indiana. The Choices program's goal is to provide opportunities to improve the economic self-sufficiency of women. It is the IWEF's contention, from evidence of state poverty data, that young women and men between the ages of 14 and 20 make critical decisions that affect the course of their whole lives, such as educational paths, career options, lifetime mates, and family timing. These adolescents and young adults should make these decisions with an understanding about the realities of and options for their futures.

The goals of the Reality Store® program are to:

1. Assist all students in applying basic skills in financial planning, goal setting, decision-making, and career planning.

2. Clarify the need for students to examine their attitudes about their futures and their career expectations.

3. Motivate students to continue their education and make choices that have positive consequences (IWEF, 2002).

There are three components of the Reality Store®:

1. Preparation. The day before the Reality Store®, teachers introduce the simulation and provide materials such as occupational information on monthly salaries, taxes, number of children, and marital status. Students choose their careers/jobs. Teachers randomly choose whether a student is single or married, has children, or has a working spouse.

2. The Reality Store® Event. Students visit 15 stations where they purchase supplies and services on the monthly salary (after subtracting taxes). Adult volunteers from the local community supervise the stations. Their role is to ensure that the student correctly fills in the transaction register. Each of the 15 stations offers students with choices based on their life circumstances. Before the end of the Store, students are faced with one of life's unexpected events, such as an accident or winning a lottery.

3. Evaluation and Discussion. The following day, students are asked to evaluate and discuss the program and describe what they learned from the simulation. Information gathered from the discussions during debriefing sessions are used to answer the research questions.

Procedures

Approval for the study was obtained from a university Institutional Review Board. Data were collected from the Reality Store® program conducted during 2018. Once the self-assessments were collected from the classrooms, responses were entered using an on-line Qualtrics survey to allow for ongoing data entry from multiple sites. The responses were summarized with descriptive statistics. Qualitative data were analyzed via open coding to identify themes.

Data Sources

All students participated in an open-ended survey/evaluation of the Reality Store®. Results to the question, "What did you learn today?" indicated that more than 90% of students were surprised at how much education they would need for their chosen careers and how little they knew of their potential salary from those careers. This lack of career awareness prompted a follow-up survey (see Figure 1) to determine middle school students' sources of career interests ($n = 81$).

Data Analysis

The study design was descriptive and used both quantitative and qualitative data measures. The use of self-assessment is a well-documented instructional practice to investigate whether learning objectives have been achieved, and the retrospective format is recommended to minimize bias in self-reporting (Marshall, Higginbotham, Harris, & Lee, 2007; Pratt, McGuigan, & Katzev, 2000; Rockwell & Kohn, 1989). The first self-assessment was completed the day after the Reality Store®, whereas the second survey was administered in four classes of electives. Items evaluated the extent to which participants had become more aware of the major careers presented in the curriculum and the importance of what they learned using fixed-response and open-ended questions. Demographic questions (e.g., participants' age and gender) were also included.

FINDINGS
Occupations Selected by Middle School Students

Before the Reality Store® simulation, students were given the opportunity to choose a career they would like to pursue upon graduation. Upon completing the simulation, approximately 30% of students suggested that they would want to change their jobs. As one student remarked, "I am not going to be in school that long. No way." The most surprising finding was the lack of knowledge about college and career readiness that is required for their choice of careers and jobs. A small minority of students (those in honors algebra, $n = 24$) did understand the number of years and coursework that was required. That is, 92.7% of students either responded that they did not know the number of years of education required for their job or they responded incorrectly. For example, a student who wanted to be a veterinarian thought two years after high school was sufficient. Follow-up questions suggested that students often selected a career/job yet meant a different field of study. Table 1 summarizes the occupations students chose ($n = 239$) from approximately 200 occupations found within the Department of Labor's Occupational Outlook website (https://www.bls.gov/ooh/).

Comparison of Selected Occupations with Local Job Statistics and Occupational Outlook

Based on the results of students' selections, the authors then examined regional occupation trends to compare if students' choices mirrored their community's current and future jobs outlook. From Table 1, five categories were statistically significant (Chi Square, [1, $N = 239$] = 45.3375, $p < .01$); with Bonferrini correction it was determined that five categories were significant at $p < .002$. They included Arts, Business, Manufacturing, Medical, Law, and Science/Technology. Students either chose careers that were not in demand in their particular part of the Midwestern state where this study took place or the municipality had fewer jobs (Arts, Medical, Law, and Science and Technology), whereas, business and manufacturing had more jobs in the area than students who wanted to pursue them.

In addition to the above mentioned disconnect between student interest and regional current job demographics, an examination of student interest

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Please check: Male_____   Female_____

1.   What occupation/job do you want to have when you start working?_____

2.   How much education do you think you need for this job?_____

3.   Why did you choose that job/occupation?_____

4.   Were you influenced by your parents?_____

5.   Why did you choose this job/occupation? _____

6.   Were you influenced by your parents or grandparents' jobs?_____

Figure 1. Sources of Career Interest.

and the regional job outlook for these career clusters may also indicate students' lack of career awareness. For example, while examining the regional occupation outlook for manufacturing and agriculture/food/natural resources in this area, a declining trend was indicated. Yet, students indicated they wanted to pursue these areas. The Bureau of Labor Statistics (https://www.bls.gov/) compares an occupation's projected employment change, usually over 10 years, to the average projected change in employment for all occupations over the same period. They describe a career's projected job outlook by saying it will:

- grow much faster than average (an increase of 14% or more)

- grow faster than average (an increase of between 9% and 13%)

- grow about as fast as average (an increase of between 5% to 8%)

- grow more slowly than average (an increase of between 2% and 4%)

- have little or no change (a decrease or increase of 1% or less)

- decline (a decrease of at least 2%)

When analyzing students' interest, 39% of students chose a career with an increase less than 4% indicating slower than average growth to a decline. Again, there is a disconnect between students' understanding of their interests with career job outlook.

Table 1. Career choices of middle school students.

Career Clusters	Percentage of Careers Chosen by Students ($n = 243$) & Percentages of Occupations Within Municipality in Parenthesis	Expected Job Growth (2014 - 2024)
Agriculture, Food, and Natural Resources	5.03% (2.3%)	-10.5%
Architecture and Construction	5.8% (7.3%)	6.9%
Arts, Audio/Video Technology, and Communication	12.9% (1%)	1.5%
Business, Management, and Administration	1% (7.6%)	7.1%
Education and Training	2.9% (4.7%)	4.3%
Finance	.2% (2.86%)	7.1%
Government and Public Administration	4.9% (2.8%)	3.5%
Health Science	30% (7.8%)	15.1%
Hospitality and Tourism	6.1% (5.7%)	5.6%
Human Services	4.1% (4.6%)	8.1%
Information Technology	2% (2.9%)	11.4%
Law, Public Safety, Corrections, and Security	8.3% (3.9%)	3.5%
Manufacturing	3.7% (21.3%)	-4.6%
Marketing, Sales, and Service	1.2% (19.5%)	3.9%
Science, Technology, Engineering, and Mathematics	9.8% (2.9%)	11.4%
Transportation & Distribution	1.2% (3.1%)	4.7%

Awareness of Occupational Requirements

Although students' preferences may change, initially, it appears that students need to know that the occupations in this region increasingly require education beyond high school. This led researchers to ask students what they knew about the educational requirements of their career choices.

Less than 20% of students correctly knew the amount of education their career choice required. This result concurs with previous research. According to Johnson (2000), most middle school students had: (a) only a shallow understanding of how school relates to work, (b) limited awareness of the knowledge and skills needed for work and little sense of how to develop them, (c) little or no awareness of the type of work involved in their career aspiration, and (d) believed that schoolwork needs to be career specific to be relevant. Thus, for middle school students, career education is needed to lay the groundwork for future career development by helping students achieve through knowledge of personal characteristics, interests, aptitudes, and skills (ACTE & Career Cruising, 2018; Kerka, 2000). Additional results from the sample of students (n = 81) that provided more detailed answers can be found in Table 2.

Student's Motivation for Career Choice

Students' reasons for their choices demonstrated the idealism that is often found in middle school students' choices of careers, and thus the need for career information and education. Responses students gave to the question: "Why did you choose the job that you did?" revealed interesting motivations and offered much insight. The majority of students (n = 48) were motivated by personal interests, such as love for animals, music, writing, sports, and languages. Twelve students declared that altruism is their reason for occupation selection. "I love children and want to be a nurse." Other responses indicated that they felt their job was easy, a dream job, or they "watched the Office on TV."

Parental Influence on Student Career Choice

In examining who influenced the middle school students' career decisions, results of this study were rather surprising. Only 18% (n = 17) of students were influenced by their parents and grandparents. Of these students, only two were girls, whereas 14 boys were influenced by their parents. The results of this study were in stark contrast to the National Center of Education Statistics (Oymak, 2018) research of who most influenced students' career decisions. According to the NCES results, family members and myself were the most commonly reported sources of influence.

A possible attribution of why so few students' responses in this study are so different than the NCES results may be that the current study's population is considered low in terms of socio-economics (SES). Generally, higher SES students more often than lower SES students reported f*amily members or myself* as their main influence, whereas lower SES students more often than higher SES students reported a *teacher* or a *counselor* as their main influence (Oymak, 2018).

Table 2. Student responses to how much education they needed for selected occupations (n = 81)

Student Responses	Percentage of Student Responses
"A lot"	33% (n = 27)
Incorrect Answers (For example, for a writer, a student answered, "Technically none, but a little education may help" or for Interior Design, "not too much")	22% (n = 18)
Correct Answers (For example, for a doctor, "Pre-Med, Medical School, and Internship")	19% (n = 16)
"I Don't Know (IDK)"	17% (n = 14)
"None" (All of these students want to work in fast food)	5% (n = 4)
"Math" or "Science" students listed courses that are required.	2% (n = 2)

CONCLUSIONS AND RECOMMENDATIONS

During the debriefing session held after the students participated in the Reality Store®, some students suggested that they would want to change jobs; an indication that they were somewhat unfamiliar with the professions they had selected at the beginning of the simulation. Overall, many students lacked knowledge about college and career readiness required for their chosen careers. Among the four career clusters of most interest to the students were Health Sciences; Law, Public Safety, Correction and Security; Science, Technology, Engineering, and Math; and the Arts. All the selected career clusters are expected to have a positive job outlook for the years 2014 to 2020. However, the students also expressed interest in jobs within career clusters which are expected to have no or negative growth.

Based on the number of students who were unfamiliar about their selected occupations, there is clearly a lack of career awareness among this age group of students. This finding is supported by other research studies and meta-analysis (Auger, Blackhurst, & Wahl, 2005; Turner & Lapan, 2013; Watson & McMahon, 2005), and hence, this study makes the following recommendations:

1. There is need for career exploration activities in school, preferably during middle school. The current research concurs with an interview study with sixth and ninth graders by Johnson (2000) showing that (a) most students had only a superficial understanding of the schoolwork connection, and (b) had little awareness of the content knowledge needed for employment and little sense of how to develop them. Furthermore, the ninth grade students had little or no awareness of the type of work involved in their career aspiration, and believed that schoolwork needs to be career specific to be relevant. According to the Developmental Career Programs (1998), "At this level, students should continue the self- and career awareness ideally begun in elementary school and begin orientation and exploration activities regarding careers. They should make tentative choices related to their interests and investigate them thoroughly in preparation for high school courses that will direct them on a career path."

2. Mentoring from adults in career awareness is encouraged to complement the efforts by the school and add meaning to the concept of employment. Although at this age, more students expressed that they were influenced by personality and personal motivation, while other studies suggest that students gain career education from parents and mentors (Oymak, 2018). Thus, when utilizing simulations such as the Reality Store®, it is helpful to have community members to supervise stations. For example, a local car dealership employee was stationed where students could ask questions and purchase a car. Many of the students in the Reality Store® simulation said that they "learned so much about buying a car." Real-life mentors are essential, as is the role of parents.

3. Schools can use resources and integrate career awareness into existing classes such as free VISA's *Practical Money Skills* (https://www.practicalmoneyskills.com/), University of Arizona's, *Take Charge* (https://takechargetoday.arizona.edu/); and Jump Start (http://www.jumpstart.com/). For example, students in math classes can calculate their annual salary before and after taxes. Projects and other activities should foster soft skills for employment, as students research the skills and knowledge needed for a career, work with others, and problem solving issues that occur. Students also learn proper employment behavior when classroom rules and culture resemble a related work environment. In addition, students can learn to be conscious about career decision-making—another skill with lifelong value—when counselors and educators help them think critically about their interests, abilities, and goals (ACTE & Career Cruising, 2018). For a comprehensive list of career exploration resources and tools, visit: https://www.livecareer.com/career/advice/jobs/career-exploration.

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