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The Boy Scouts of America Merit Badge Program and Career Development

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by

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Dedication

This dissertation is dedicated to my wife, Jennifer, and our children, Olivia, Evan, Logan, Emma, Aiden, and Mason. There is no possible way I could have completed my Ph.D. journey without their love, continued support, and encouragement. I would also like to dedicate this dissertation to our nation's scouts and scouters.

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Abstract

The purpose of the study was to determine whether a youth's career development, as defined by the Career Maturity Inventory (CMI Form C), is associated with motivation, student grade level, and number of merit badges earned as a result of participation as Boy Scouts. For close to three decades there has been a call to improve career counseling for middle and high school youth. However, due to a shortage of school counselors in middle and high schools, counselors are inundated with heavy workloads of various responsibilities and do not always have the ability to focus on youth career development. Thus, the inadequate career exploration and development can lead to high school graduates experiencing issues with their college and career readiness. The Boy Scouts of America (Scouts BSA) merit badge program exposes youth to a variety of hobbies, sciences, and vocations and could be a model for future career development interventions using a digital badging program.

The Career Maturity Inventory (CMI Form C) was used to measure the dependent variable career development. The instrument measured three scales consisting of concern, confidence, and curiosity, signifying career adaptability and a fourth scale, consultation, indicating relational style in making career choices. A composite score, career choice readiness, was also assessed using the instrument. The Aspiration Index (AI) instrument was used to determine the independent variable motivation by assessing the priority scouts placed on intrinsic versus extrinsic goals. The CMI Form C and AI were distributed to a large sample of Boy Scout youth from the Greater Sunshine Bay Area Council and scouts attending a Scouts BSA summer camp.

The results showed scouts with greater numbers of merit badges had higher mean scores on the CMI career choice readiness composite and the individual scales of curiosity and confidence than those with lower numbers of merit badges. While there was a moderate degree of correlation between the number of merit badges earned by a scout and the CMI career choice readiness, confidence, and curiosity scale scores, no relationship was found with the CMI concern scale. Despite having no relationship with merit badges, overall, scouts scored higher on this scale than the others.

Moreover, there was no relationship between the CMI scale score of consultation and the number of merit badges earned. Further, grade level and motivation were not associated with a scout's level of career development. There was, however, a correlation between motivation and career consultation style. More research is needed to ascertain the reasons for these findings. Overall, the results from the study support the Scouts BSA merit badge program as a viable extracurricular option to aid in youth career development. To this end, similar badge programs can be created and modeled off the format of the Scouts BSA program for extracurricular use during and after school, thereby aiding school counselors with the task of youth career counseling and development.

Chapter 1: Introduction

To prepare for today's complex workforce, secondary education students require the support of school counselors to help them identify and plan for postsecondary education and careers (Martinez, Baker & Young, 2017; Niles & Harris-Bowlsbey, 2016; Preble, 2017). Discovering the talents, abilities, and education and training options that could lead a student to a rewarding career is no easy task that can be accomplished within one or two short meetings with a counselor (Niles & Harris-Bowlsbey, 2016). Instead, the process of career development should start long before high school begins; preferably in the middle school years when research has demonstrated students can benefit the most from career exploration programs and activities (Association of Career and Technical Education, 2017). Unfortunately, most school counselors are overburdened, underfunded, and have limited amounts of time to meet with students (Bidwell, 2013; Liebowitz, 2014; Lombardo, 2018).

As noted in related literature, counselors spend their days performing an assortment of duties. Some of the many responsibilities include individual student academic planning, career guidance, interpreting cognitive, aptitude, and achievement tests, providing counseling to students with discipline or mental health problems, and advocating for students in meetings (American School Counselor Association, n.d.; Cartan, 2017; Natividad, 2011). Additionally, some counselors are required to help with school administrative or clerical duties, and the average case load makes balancing the daily obligations more challenging (Bidwell, 2013). To this end, the American School Counselor Association recommends schools maintain a desired ratio of students to counselors at 250:1 but the national average remains at 415:1 (2020). Some

states hold ratios of well over 500:1, with Arizona reporting the highest average ratio of 716:1 (American School Counselor Association, 2020).

It is clear that under the current workload expectations in schools, school counselors have little time to assist students with actual career development (Morgan, Greenwaldt & Gosselin, 2014; McNulty, 2015). Thus, the inadequate career exploration and development leading to high school graduates experiencing issues with their college and career readiness, is not surprising, as reported in the literature (Ferguson & Lamback, 2014; Symonds, Schwartz & Ferguson, 2011; Education Commission of the States, 2018; Coalition for Career Development, 2019). To be sure, other interventions must be implemented to help youth develop career awareness. One possible extra-curricular strategy is the creation of a digital badging system designed to expose youth to various careers. A digital badge is an online recognition of an achievement, skill, or credential (Rees-Johnstone, 2018). Proponents of digital badging claim badges can encourage learning by generating interest in various topics and motivate learners to achieve new knowledge or skills (Finkelstein, Knight, & Manning, 2013). For example, digital badging can help meet the challenge of graduating career and college ready students by helping students discover deeper understanding of their career interests (Alliance for Excellent Education, 2013). As such, students who have an interest in robotics or other STEM-related careers could gain greater insight of the field through badging.

In this regard, the Boy Scouts of America (Scouts BSA) merit badge program shares features with the strategy of digital badging intended to help youth with career exploration and development. The program was designed to introduce scouts to a variety of sports, crafts, sciences, trades, business, and future careers and is intended for youth ages 11 to 17 (Boy Scouts of America, 2020). Scouts choose the merit badges they desire to earn under the premise that

earning the badge will elicit an increase in motivation for those youth who want formalized recognition (Abramovich, Schunn, & Higashi, 2013). Scouts can begin working on merit badges in sixth grade and are required to earn a minimum of 21 by their 18th birthday, which aligns with research suggesting that middle school is a time when students can benefit the most from career exploration activities (Association of Career and Technical Education, 2017). Further, youth who complete the Scouts BSA program and acquire the prestigious Eagle rank would theoretically have a greater level of career awareness and development than newer scouts who have earned fewer merit badges.

Albeit the promising premises of the Scouts BSA Merit Badge program, related research has typically focused on how merit badges increase the awareness of a specific area such as agriculture (Terry, 2013), science (Hintz, 2009; Hintz & Thompson, 2012; Vick & Garvey, 2010; 2016), engineering (Vick & Garvey, 2016), and technology (Heinrichs, 2003). Further, there have been relatively few studies on the value of the Scouts BSA merit badge program in the context of career exploration in secondary education. More research is needed to determine if the Scouts BSA merit badge program is a viable extra-curricular strategy that could supplement middle and high school career counseling by gauging related contribution to youth career exploration and development.

Purpose and Research Questions

The purpose of this study was to determine whether a youth's career development, as defined by the Career Maturity Inventory (CMI Form C), was associated with motivation, student grade level, and number of merit badges earned.

The research questions guiding the study were as follows:

1. Is there a relationship between motivation, student grade level, and the number of merit badges earned, on a youth's level of career development as measured by the Career Maturity Inventory (CMI Form C)?

2. Which combination of variables (motivation, student grade level, and number of merit badges earned) best correlate with a youth's level of career development as measured by the CMI Form C?

For the purpose of this study, the Career Maturity Inventory (CMI Form C) was used to measure the dependent variable career development. The CMI Form C (Crites & Savickas, 2011) consists of 24 survey items separated by four domain scales: concern, curiosity, confidence, and consultation. The independent variable motivation was measured using the Aspiration Index (Kasser & Ryan, 1996), a 30-question survey, which measures the intrinsic goals of meaningful relationships (affiliation), personal growth, and community involvement and the extrinsic goals of wealth, fame, and image.

Conceptual Framework

The study was informed by theoretical strands found in the Life-Span, Life-Space Theory (Super, 1990) and the Career Construction Theory (Savickas, 2013). Donald E. Super conceptualized career development by describing it as a progression of stages and substages throughout one's life. The framework to Super's theory has evolved over the years culminating into what is now commonly referred to as the Life-Span, Life-Space Theory (Niles & Harris-Bowlsbey, 2016). Super's Life-Career Rainbow depicts career maturity as the first dimension of career development that runs longitudinally across the life span and role salience as the second dimension in the latitudinal direction filling the life space (Super, 1990). Also depicted in the outer bands of the Life-Career Rainbow, are the major life stages in his theory.

Career maturity involves the degree of success one has in handling the demands of the earlier life stages and substages or developmental tasks of career development (Super, 1990). The first of these stages in Super's theory is Growth (ages 4-14). During this stage, children begin to develop a self-concept based on mental and physical abilities, roles within the family, and relationships with peers (Schreiner, 2012). Career development tasks in this stage include showing concern for the future, mastery and control over their environment, and acquiring the ability to make decisions (Niles & Harris-Bowlsbey, 2016). Substages include Interest (ages 11-12) and Capacity (ages 13-14). Youth begin to identify likes and dislikes as a basis for their career choices during the Interest substage and begin relating their own skills to specific job requirements in the Capacity substage (Pennsylvania Department of Education, n.d.). The second life stage is Exploration (ages 14-24). Teens and young adults begin to fully understand the requirements and responsibilities of various occupations and begin to envision themselves in different careers during the Exploration stage (Schreiner, 2012). Also included is a Tentative substage (ages 15-17) where tentative career choices are formed through coursework, part time employment, volunteer work, and/or job shadowing (Pennsylvania Department of Education, n.d.). There are also three career development tasks that occur during this stage: Crystallization; Specification; and Implementation. These developmental tasks begin with the crystallization of a career preference as youth develop and plan tentative vocational goals. Adolescents then specify career preferences, by converting generalized preferences into fixed vocational goals. Finally, adolescents implement their career preferences by completing appropriate training and securing positions in their chosen occupations (Niles & Harris-Bowlsbey, 2016).

Savickas (1997) suggested adaptation should replace maturity as the core concept in Super's Life-Span, Life-Space theory and conceptualized using developmental characteristics

similar to those that describe career maturity. These include characteristics such as exploring, planning, and deciding (Savickas, 1997). By using adaptability as the central theme for career development and to bridge the segments of the Life-Span, Life-Space theory, Savickas (2013) developed the Career Construction Theory (CCT), which was designed to explain the "interpretive and interpersonal processes through which individuals construct themselves, impose direction on their vocational behavior, and make meaning of their careers" (p. 147). CCT conceptualizes resourceful persons as becoming concerned about their future vocations, having increased personal control over their occupational future, displaying curiosity in exploring possible career roles and future scenarios, and having the confidence to pursue their aspirations (Savickas, 2013).

In this context, there is currently little research on how the Scouts BSA merit badge program aids in youth career exploration and development. Using Super's theory of career development and Savickas' Career Construction Theory, this study examined the factors behind youth earning merit badges, and whether the independent variables of motivation, student grade level, and total number of merit badges earned were associated with youths' level of career development. These theoretical strands aligned with the purpose of the study as it was anticipated that youth participating in the Scouts BSA merit badge program during the Growth stage and its substages gained exposure to a variety of hobbies, trades, and occupations and developed the curiosity to begin examining potential career choices and job responsibilities. Without this type of experience, students who lack career exploration resources and the support of a well-informed school counselor may not have the confidence to move beyond this first stage until later in life. In addition, scouts are often required to perform field-related tasks, research education and training requirements and potential careers within the field, and even meet with

professionals from the field for a given merit badge (Boy Scouts of America, 2020). These types of experiences could help youth demonstrate greater concern for and gain more control over their career development throughout the exploration stage. Further, merit badges are part of the Scouts BSA's advancement system, which is designed to provide recognition and awards for achievements.

Moreover, there could be several intrinsic and extrinsic motivating reasons for the act of pursuing and earning a badge and this awareness could help further develop a program of career exploration and development through badging. In this regard, Self Determination theory (SDT) is a comprehensive and extensively applied theory of motivation that has grown to include intrinsic and extrinsic motivations for life goals, relationships, and well-being, and more (Ryan & Deci, 2019). SDT provides a context for framing motivational studies and examines conditions supporting an individual's experience of autonomy, competence, and relatedness to further understand forms of motivation and engagement for activities (Center for Self-Determination Theory, 2019a). SDT research on aspirations, which describe people's long-term or life goals, has focused on intrinsic versus extrinsic aspirations (Center for Self-Determination Theory, 2019b). Intrinsic aspirations include personal growth, meaningful relationships, and community feelings, while extrinsic aspirations cover image, fame, and wealth (Center for Self-Determination Theory, 2019b). Identifying youths' aspirations for extrinsic versus extrinsic outcomes may demonstrate motivational reasoning behind the pursuit of merit badges and a youth's level of career development.

Significance/Importance of the Study

This study will add to the current body of knowledge regarding career adaptability and readiness and more specifically, the usage and significance of merit badges in career exploration,

and development (e.g., Heinrichs, 2003; Hintz, 2009; Hintz & Thompson, 2012; Terry, 2013; Vick & Garvey, 2010, 2016). The results from this study can also add to the current body of literature on how the factors of motivation and grade level relate to career development. In addition, the findings could help school/career counselors and advisors with the creation and implementation of a career exploration and development program using digital badging modeled after the current Scouts BSA merit badge program.

Definition of Terms

The following definitions are provided for the purpose of clarifying terms in this study:

Career adaptability refers to the readiness to manage the tasks of preparing for and participating in an occupational role (Savickas, 1997).

Career development refers to a lifetime process encompassing the growth and change process of childhood, the formal career education at school, and the maturational processes that continue throughout a person's working adulthood and into retirement (Flexer, Baer, Luft, & Simmons, 2008).

Career exploration is "a process of building self-awareness, learning about potential careers, and developing a plan for reaching future goals" (Association of Career and Technical Education, 2017).

Career maturity refers to the career decision-making readiness of children and adolescents (Niles & Harris-Bowlsbey, 2016).

Career readiness implies the skills and attributes that prepare adolescents for successful transition into the workforce (Muñiz & Eimerbrink, 2018).

Scouts are youth ages 11 to 17 who are part of the Boy Scouts of America (grades 6-12).

Delimitations of the Study

Only youth currently registered as members of the Greater Sunshine Bay Area Council for the Boy Scouts of America and scouts attending a north Florida Scouts BSA summer camp participated in this study. Additionally, although girls have now been allowed admittance into the Scout BSA, their numbers are significantly lower than the number of boys in the organization and may not be represented adequately in the study. Finally, socioeconomic status was not addressed in this study due to the potential inability of youth having to self-report family income and economic status.

Summary

For close to three decades there has been a call to improve career counseling for middle and high school youth (Association of Career and Technical Education, 2017; Advance CTE, 2018; Department of Labor, 1991). The lack of adequate career exploration and development in youth could lead to high school graduates becoming part of the "forgotten half" (U.S. Department of Labor, 1991; Ferguson & Lamback, 2014; Symonds, Schwartz & Ferguson, 2011). The Scouts BSA merit badge program exposes youth to a variety of hobbies, sciences, and vocations and could be a model for future career development interventions using a digital badging program. There is currently little research on the benefits of the Scouts BSA merit badge program with career exploration and development therefore, this study will add to the current body of literature. If an increase in career development is associated with earning merit badges, digital badging systems could be modeled off the Scouts BSA program and utilized in middle and high schools as a supplement to school counselors' daily tasks to help limit the strains faced by the shortage and workloads.

Chapter 2: Review of the Literature

To recap, the purpose of the study was to determine whether a youth's career development, as defined by the Career Maturity Inventory (CMI Form C), is associated with motivation, student grade level, and number of merit badges earned as a result of participation as Boy Scouts. To further clarify the issues, developments of interest, and related research underlying the proposed study, a review of literature was conducted on the following topics: (a) Career counseling issues in middle and high school; (b) digital badging including research on the history, use, and impact of badges; (c) Boy Scouts of America and merit badging; (d) role of motivation and badging; and (e) badging impact on career counseling in middle/high school education. Further, the conceptual framework informing the study is reported at the end of this chapter.

Career Counseling Issues in Middle and High School

There is currently a shortage of school counselors in middle and high schools (Coalition for Career Development, 2019). As a result, counselors are inundated with heavy workloads of various responsibilities and do not have the ability to focus on youth career development. Thus, many students are left with limited guidance when deciding on postsecondary education and career options (Ferguson & Lamback, 2014). This problem is not new to the education system. In 1990, the United States Labor Secretary appointed a commission to determine skills the country's young people needed to succeed in the workforce. One of the commission's key findings was "more than half of young people left school without the knowledge or foundation required to find and hold a good job" (U.S. Department of Labor, 1991). Two decades later, the

Harvard University's Pathway to Prosperity report highlighted the continued concerns for the "forgotten half", or those who hold no more than a high school diploma and lack the skills and resources needed to find viable employment (Symonds, Schwartz, & Ferguson, 2011). Part of the forgotten half, low income and minority students often struggle in high school because of the "college for all" approach and in part due to weak or nonexistent career counseling (Symonds, Schwartz, & Ferguson, 2011). The Pathways to Prosperity report stressed the importance of eliminating the singular "college for all" approach in high school and replacing it with a new set of pathways designed to prepare students for careers and college including earning a postsecondary credential or a two- or four-year degree.

The follow up conference report, Creating Pathways to Prosperity (2014) suggested young people who graduated from high school but failed to move into postsecondary education or training continued to face challenges with employment opportunities. This was especially harder on males, minorities, and youth from low-income families (Ferguson & Lamback, 2014). In addition, it was reported at least half of American twelfth graders failed to receive the career counseling they needed for understanding post-secondary options and that high school counselors spent most of their time on course scheduling, academic guidance, social and emotional support, discipline, and helping academically stronger students apply to major universities (Ferguson & Lamback, 2014). Therefore, when the time came to identify potential careers and associated pathways, students, especially those who came from low-income backgrounds, tended to be on their own (p. 20).

More recent reports from Advance CTE (2017) and the Coalition for Career Development (2019) echoed some of the same concerns. School counselors who introduce youth to career and technical education (CTE) courses and career pathways find it an effective career

advising and development strategy, however, few of these counselors have the time to help students find value in career exploration in part due to balancing heavy workloads and other counseling duties (Advance CTE, 2017). According to the Advance CTE report, four of the biggest barriers faced in supporting effective school career advising and development at the state level were: other school counseling responsibilities receiving higher priority; a lack of ability to back and measure efforts at the local level; and career advising beginning too late in youths' education (Advance CTE, 2017). In addition to limited resources or time needed to deliver effective career guidance, an overall lack of school counselors severely impairs career exploration throughout the middle and high school years (Association of Career and Technical Education, 2017). Although the average national student-to-counselor ratio currently stands at 415 to 1, these averages can be misleading as schools with better funding often have larger counseling staff compared to less resourced schools (Coalition for Career Development, 2019).

Panel members from the Creating Pathways to Prosperity conference (2014) recommended reducing the student to counselor ratio as well as creating a local career counseling system comprised of teachers, parents, and employers to help supplement counselors' work (Ferguson & Lamback, 2014). The report also recommended making career counseling a higher priority for counselors in addition to them receiving training and informational resources concerning job markets and post-secondary options for their students (Ferguson & Lamback, 2014). Finally, it was suggested community-level supports should be developed to include career exploration events and materials that students can examine on their own or with others (Ferguson & Lamback, 2014).

In turn, in their report "Career Readiness for All", the Coalition for Career Development (2019) proposed a solutions framework that included five critical components for transforming

the current system of career development. The suggested areas include ensuring accountability, prioritizing career planning, providing professional career advising, emphasizing applied and work-based learning, and providing high-quality career development technology (Coalition for Career Development, 2019). These suggestions along with those from the Creating Pathways to Prosperity conference (2014) highlight the urgent career guidance issues in secondary education and the potential interventions needed to inform the career development of today's youth.

Digital Badging

According to the Coalition for Career Development (2019), providing high-quality career development technology is essential for transforming the current system of career guidance. One promising type of technology that could help alleviate the strains on school counselors is digital badging. For example, badging has been a longstanding tradition and part of the recognition and reward system in the Boy and Girl Scout organizations. In these programs, a physical badge signifying an accomplishment and the knowledge gained from a learning experience is awarded and displayed on a sash or vest (Mozilla, 2013). Similar to the badges earned in scouts, a digital badge is a representation of knowledge gained, a learned skill, or a new credential earned by the holder, and can be used to create a digital portfolio for college applications and for job seekers looking to gain an edge over their competition (Mozilla, 2013; Priest, 2016). College admissions personnel and human resource managers can view badge information and gain insight into the specific skillsets applicants have developed and how these skills were acquired (Priest, 2016).

The Coalition for Career Development has endorsed the concept that providing high-quality technology should be an essential component for comprehensive career development (2019). This includes ensuring equitable access to technology for students regardless of socioeconomic status, race, ethnicity, and location as well as encouraging cutting-edge

technology designed to complement the roles of career development professionals (Coalition for Career Development, 2019). To this end, the digital badging concept aligns with this initiative and could be further developed to include more topics on career awareness and exploration. Digital badging with an emphasis on career exploration and development can be used as a supplement to career counseling and help remove some of the challenges faced by school counselors.

History of Digital Badging

While physical badges have been in use for centuries as a means of recognition, the concept of digital badges is still being realized (Ostashewski & Ried, 2015). The need for digital badges arose from the notion that the way people learned was evolving and furthermore, learners were beginning to seek innovative approaches to master new skills and competencies outside of the traditional educational setting (Mozilla, 2012). Learning is no longer thought of as an isolated or individual concept, but rather it is seen as "inclusive, social, informal, participatory, creative and lifelong" (Mozilla, 2012, p. 3). Open badges, which are digital image files that contain metadata, emerged from this new culture of learning mainly attributed to the connected and worldwide use of digital systems (Grant, 2016). A complete digital badging system includes the badges themselves, an evaluation of learning, and an online format capable of grouping, issuing, and endorsing badges (Spaulding & Johnson, 2016). The first open badge concept began as a way to connect diverse learners with the ability to acquire a variety of skills and competencies through alternative learning channels and to translate that learning into an innovative means for employment, discovering learning networks, demonstrating skills, or seeking out further learning (Mozilla, 2012).

In 2012, the MacArthur and Mozilla foundations sponsored the Badges for Lifelong Learning Competition, which encouraged designers, entrepreneurs, technologists, and educators to collaborate with business and industry organizations to build digital badging systems and explore the ways badges could be used to help people learn, demonstrate skills and knowledge, and create employment, educational and civic opportunities (Simpson, 2012). A year later, Mozilla launched the Open Badges Project, a concept that originated from those working at the Mozilla and MacArthur foundations and related research (IMS Global, 2020). According to Knight (2013),

> The current Open Badges work looks to capitalize on the learning recognition and reputational aspects of the scouting badges but moving to a digital badge gives us the opportunity to make them information-based and transferrable. Also, the 'open' part is aimed at ensuring that there are many different pathways for learners, and they can get recognized for learning of all kinds (as cited by Ostashewski & Ried, 2015).

By mid-2013, Open Badges had over 7000 unique issuers with over 75,000 digital badges (Knight, 2013, as cited by Ostashewski & Ried, 2015) and by 2018, Open Badges had issued a total of 24.1 million digital badges (IMS Global, 2020). More recently, the concept of digital badging also known as micro-credentialing has gained popularity among K-12 and postsecondary educators as well as large tech companies and organizations such as IBM, Microsoft, the US Department of Veterans Affairs, NASA, and the 4-H Council (Waters, 2013; Priest, 2016).

Usage and Impact of Badging

Advocates view digital badging as a tool for "expanding opportunity, improving postsecondary and labor market outcomes, and solving some of the challenges faced by

employers in finding a qualified workforce" (Spaulding & Johnson, 2016). Digital badges are also useful for competency-based learning due to the reduction or elimination seat-time requirements and because badges offer the potential for the design of more flexible learning pathways (Grant, 2016). Ostashewski and Ried (2015) offer a thorough list of digital badge usage in education. Some of these include capturing the learning pathways with small representations of skills and achievements; recognizing mastery and certifications; signaling skills and achievements to relevant stakeholders such as employers, institutions, and social networks; discovering additional learning opportunities; and motivating continued or additional learning (p. 192).

In a report published by the Mozilla Foundation with the Alliance for Excellent Education, the authors suggested badges could help assess the wide-ranging sets of outcomes today's students need for their college and career readiness (Mozilla, 2013). In this regard, school districts are beginning to explore how badging can enhance student engagement and achievement both in school and as extracurricular activities based on their interests (Mozilla, 2013). For instance, the Aurora Public School System introduced their version of a digital badging system to move beyond the traditional metrics such as GPA and assessment testing and instead offer students micro-credentials in professional competencies that are essential for workplace and college success (Aurora Public Schools, 2020). Aurora public schools currently has 21 available badges in five major credentials including critical thinking, collaboration, information literacy, invention, and self-direction. Exposure to these badges begins in the early grade school years and culminate into career exploration activities and potential job shadowing and internships. The San Diego Unified School District began a similar program in 2016 offering students digital badges for academic accomplishments including mastery of career and

college readiness math and ELA skills, as well as badges for students who complete Career and Technical Education pathways (San Diego Unified School District, 2020).

Pereira (2018) also described how students in the CareerInSTEM Space Career Explorers program completed inquiry-based activities to earn space career-related digital badges. The badges, which are a demonstration of student knowledge, have the potential to transform traditional assessment, while adding STEM skills to student resumes at young ages (Pereira, 2018). Other organizations have created badges for future work such as the Career and Technical Education Consortium of States (CTECS), which launched its first digital badge, the CTECS Workplace Readiness Skills Assessment. Through the training, students learn 21 essential workplace skills including teamwork, diversity awareness, conflict resolution, critical thinking and problem solving, customer service, and information technology to name a few (Career and Technical Education Consortium of States, 2019). Students can also display this badge on social media or on a digital resume as validation for their mastery of workplace skills (Career and Technical Education Consortium of States, 2019). Other successful middle and high school badging programs have been reported in Maine, Massachusetts, Rhode Island, and Illinois (Priest, 2016).

Perhaps one of the more important benefits of digital badging is the potential for allowing greater access to learning skills and earning achievements though a variety of badge delivery methods such as short courses, online, in-person, and hybrid formats (Mcgovern, 2020). Again, this aligns with the Coalition for Career Development's endorsement of providing equitable access to high quality technology that can be used comprehensive career development (2019).

Badging in the Boy Scouts of America

The Boy Scouts of America (Scouts BSA), one of the largest youth organizations in the country, was founded in 1910 (Boy Scouts of America, 2020a). Today, the organization currently serves more than 2.2 million youth members along with over 800,000 adult volunteers (Boy Scouts of America, 2020a). Scout programs are typically divided by age and interests with Cub Scouting for youth in grades K-5, Scouts BSA for youths aged 11 to 17, and Venturing and Sea Scouting for young men and women ages 14 (or 13 and having completed the 8th grade) to 20 (Boy Scouts of America, 2020a). Scouting programs are operated by chartering local community organizations such as churches, clubs, civic organizations, or educational institutions to house and sponsor units. Units are led exclusively by adult volunteers appointed by the chartering organization and supported by local councils run by paid BSA employees and volunteers (Boy Scouts of America, 2020a). For example, the Greater Sunshine Bay Area Council (GSBAC) is a local council in the state of Florida chartered by the BSA. According to their website, the GSBAC comprises nine counties and serves more than 15,000 youth in 189 Cub Scout packs, 192 Scouts BSA Troops, 36 Venturing Crews and five Sea Scout Ships (Boy Scouts of America ,2020b). A single troop has an average of 24 to 35 youth members with some units hosting up to 100 (Boy Scout Trail, n.d.)

The aims of scouting include character development, leadership training, citizenship training, and mental and physical fitness (Boy Scouts of America, 2019a). A youth may join a Scouts BSA Troop in the sixth grade and have until the day of their eighteenth birthday to complete their Eagle rank. The ranks in order are Scout, Tenderfoot, Second Class, First Class, Star, Life, and finally Eagle. Advancement in Scouts BSA is achieved through experiential learning and designed to educate and expand youths' understanding of the world around them

(BSA, 2020c). There are a variety of requirements needed for rank advancement including

learning and demonstrating skills in citizenship, tools, first aid, nature, cooking, camping,

navigation and more. Older scouts have the opportunity to teach the younger scouts new

concepts and skills using the EDGE method, which stands for Explain, Demonstrate, Guide, and

Enable (Boy Scouts of America, 2009). Other requirements for rank advancement include

community service/volunteer hours to include service projects and earning a specific amount of

merit badges (Boy Scouts of America, 2009). The Scouts BSA merit badge program shares

features with the Creating Pathways to Prosperity conference (2014) proposed intervention of

community-level supports intended to help youth with career exploration and development.

There are currently 137 merit badges offered by Scouts BSA (Appendix A), and scouts

are required to earn a minimum of 21 merit badges comprised of twelve Eagle required badges

and nine electives for the Eagle rank (Boy Scouts of America, 2009). The badges enable youth

to learn about sports, hobbies, crafts, sciences, business, trades, and future careers (Boy Scouts of

America, 2020d). Scouts must first meet with a merit badge counselor before they can officially

begin working on a merit badge. The counselor is usually someone with knowledge or expertise

in the area or at a minimum, someone who can refer scouts to an expert for further discussion

and instruction (Boy Scouts of America, 2020d).

A hands-on component is often part of the merit badge that allows scouts to put into

practice some of the concepts learned followed by a career exploration component where scouts

must research potential jobs in a field as well as identify the education and training required for a

specific occupation. For example, the welding merit badge (Boy Scouts of America, 2019b)

requires scouts to learn about safety, tools and instrumentation, the welding process, and cutting

methods before actually applying their newfound knowledge by demonstrating multiple welding

techniques. The final steps to completion of the badge are to research three potential welding

industry career opportunities, highlight the education, training and experience required, discuss

with their counselor why the profession may bring interest to them, and to discuss the role of the

American Welding Society in the welding profession (Boy Scouts of America, 2019b). These

experiences while earning merit badges potentially expose scouts to a variety of occupations and

can aid in their career awareness, development, and future career choices.

Research on Boy Scouts of America Badging

The concepts and skills youth learn while in scouting could help them with various

aspects of their adult lives and with implications for career development. Males who were scouts

five or more years as boys are more likely than males with no scouting experience to: graduate

from high school (91% versus 87%); graduate from college (35% versus 19%); and earn higher

annual household incomes ($80,000 versus $61,000) (Boy Scouts of America, 2007). Further,

Jang, Johnson, and Kim (2012) conducted a study to determine if participation in scouting and

ultimately reaching the rank of Eagle is associated with positive social behaviors and youth

development that carry over into adulthood. Their findings suggested when compared to scouts

who had not reached the rank of Eagle before their eighteenth birthday and those who never

participated in scouts, Eagle Scouts exhibited significantly higher levels of health and recreation,

service and leadership, connectedness to community, environmental stewardship, goal

orientation, planning and preparedness, and character (Jang, Johnson, & Kim, 2012). In terms of

career development, Eagle scouts were more likely to be committed to setting and realizing

professional and financial goals (Jang, Johnson, & Kim, 2012).

In general, there have been a few studies measuring the efficacy of merit badges (Hintz,

2009; Hintz & Thompson, 2012; Terry, 2013; Vick & Garvey, 2010; 2016). In her dissertation,

Hintz (2009) reported youth who participated in the scouting program and related activities including merit badges performed better in school, had a better awareness of the science field, and those who eventually obtained work in the field credited their scouting experience with helping them gain interest in their careers. Hintz and Thompson (2012) studied if participating in the Scouts BSA Geology merit badge program created and enhanced scout geoscience knowledge. They concluded scouts who completed the Geology merit badge gained and maintained higher amounts of geoscience knowledge than scouts who did not earn the merit badge. Additionally, scouts who earned the merit badge were more likely to participate in more involved geoscience experiences and activities (Hintz & Thompson, 2012). It is quite possible these experiences could spark interest among youth in a career within the geoscience field.

Terry (2013) examined the evolution and popularity of Scouts BSA merit badges that focused on agricultural subjects. Based on the findings, the author recommended school-based agriculture teachers, extension professionals, and other agriculture educators serve as merit badge counselors, in part due to the career exploration focus of the badges. Interested youth participating in these merit badges would develop a greater sense of agriculture literacy and understanding of job requirements and training. These recommendations have already been followed by other industries. Wilkinson (2015) wrote of several mining companies volunteering to help scouts earn the Mining in Society merit badge. The premise was to expose youth to the benefits and necessity of quarrying and to provide a basic understanding of opportunities in the industry. This is especially important in the mining industry as a qualified workforce shortage is currently being experienced (Wilkinson, 2015). Finally, Vick and Garvey (2016) concluded environmental science and engineering related merit badges were designed in a way to expose youth to several of the scientific and engineering practices that scientists and engineers use in

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their careers. Youth completing these merit badges will gain real-world knowledge of the skills needed to hold jobs in these fields.

These studies demonstrate how Scouts BSA merit badges can aid in career awareness and exploration, however, more research is needed to determine if the Scouts BSA merit badge program is a viable extra-curricular strategy that could supplement middle and high school career guidance and can aid with youth career development.

The Role of Motivation on Badging

When examining a youth's level of career development, it is also important to study the motivating factors behind the pursuit of career pathways. In this regard, Self Determination theory (SDT) is a theory of motivation that examines the connections between intrinsic and extrinsic motivations for life goals, relationships, and well-being (Ryan & Deci, 2000). In SDT, intrinsic and extrinsic motivation are characterized based on the different reasons or goals that generates an action (Ryan & Deci, 2000). Intrinsic motivation is driven by a willingness to pursue something because it is innately interesting or enjoyable and reflects the natural tendency to learn and conform, while doing something because it leads to a distinct outcome can be classified as extrinsic motivation (Ryan & Deci, 2000). Examples of intrinsic goals include affiliation- having satisfying relationships with family and friends, community feeling-the desire to improve the world through activism, and self-acceptance- to feel competent and autonomous (Kasser, 2019). In turn, examples of extrinsic goals include financial success- the desire to be wealthy, image- to look attractive through one's body or clothing, and popularity- the desire to be famous, well-known, and admired (Kasser, 2019).

While it is understood digital badges can engage learners (Shields & Chugh, 2016), the motivating factors behind the desire to earn badges is up for debate (Ostashewski & Ried, 2015).

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Abramovich, Schunn, and Higashi (2013) indicated the desire to receive digital badges could be determined by learner motives and that badging programs can have a beneficial impact on student motivation. These motivations may arise from the desire to receive recognition for learning or accomplishments in a manner that traditional assessments could not provide (Abramovich & Wardrip, 2016 as cited by Abramovich, 2017).

Intrinsic motivations such as the satisfaction of learning a new skill or accomplishing a goal could be cause for youth to earn badges. Badges can provide intrinsic feedback "throughout a course or learning experience to encourage continued engagement and retention" (Mozilla, 2012). With intrinsic motivation, as learners become aware of new skills or topics, they become encouraged to examine new pathways or to spend more time trying to develop newly developed skills (Mozilla, 2012). According to Ostashewski and Ried (2015) badges can also assign real-world value to students' interests and learning accomplishments and demonstrate that these skills are important regardless of how they were acquired. On the other hand, extrinsic motivations such as receiving awards or gaining popularity may be a reason for earning badges. However, skeptics of digital badges worry that if acquiring the badge becomes the primary goal, then students may lose interest in learning for self-improvement (Ostashewski & Ried, 2015).

More research is needed to determine underlying motivations behind the pursuit of badges. Results from this type of research can help with the design and promotion of digital badge programs.

Research on Badging and Impact in Middle and High School

Research into digital badging or micro-credentialing is somewhat new and is based on small sample sizes, however positive results have been highlighted (Priest, 2016). Further, while studies of the implementation and effects of digital badging in postsecondary settings have

occurred in the United States, Europe, and Australia, the evidence of the use of digital badges in K-12 is limited in the current literature (Ostashewski & Ried, 2015). In a 2012 study of its digital badging system, Global Kids Inc. concluded after a summer-long badge program, students were better able to articulate their learning and the value associated with the experience, thus forming an effective means of alternate assessment (Global Kids Inc., 2012). In another study, researchers examined a school-based badging system and suggested students were more engaged in their learning and felt a sense of autonomy in being able to choose badges that suited their own interests (Wardrip, Abramovich, Bathgate, & Kim, 2015). Finally, Abramovich (2017) concluded digital badging systems could provide motivation for some students regarding their interest or long-term goals, constructive feedback on learning, and value as a credentialing tool outside of school.

Overall, badges have the potential to provide students with opportunities outside of the classroom to further examine interests and connect what they have learned to academic achievement and possible career success (Mozilla, 2013). Moreover, while there is limited research on digital badges used in K-12, there is promising potential for its usage as a means of career exploration and development, which could relieve some of the burden school counselors are currently facing.

Conceptual Framework

Donald E. Super conceptualized career development by describing it as a progression of stages and substages throughout one's life (Super, 1980). The framework to Super's theory has evolved over the years culminating into what is now commonly referred to as the Life-Span, Life-Space Theory. Super himself believed his work did not result in a comprehensive theory but rather resulted in what he called a "segmental theory" comprised of a variety of

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developmental, differential, trait and factor, social, personality, self-concept, and learning

theories (Super, 1990). When Super first began postulating his original theory in the 1950's, he

sought to move beyond theorizing about the elements of vocational choice and instead focus on

the process of career development (Super, 1953). He started by analyzing career development

elements and conceptualizing them into ten propositions as the basis of a new theory (Super,

1953). Over the next few decades Super revised the number of propositions to fourteen and

reformulated his theoretical framework to include three key aspects related to career

development; (a) life-span; (b) life-space; and (c) self-concept (Niles & Harris-Bowlsbey, 2016).

Each key aspect will be further examined.

The life-span aspect involves the stages and substages important to Super's theory. Super

(1990) believed career preferences and competencies and the conditions in which people live and

work, change with time and experience. The process of change occurs during a series of

developmental stages characterized as growth (ages 4-13), exploratory (ages 14-24),

establishment (ages 25-44), maintenance (ages 45-64), and decline (ages 65 and up) (Niles &

Harris-Bowlsbey, 2016). It is important to note the stages tend to overlap and are not clearly

defined by the age limits (Super, 1990). Furthermore, a person can and most likely will recycle

through these stages during her or his lifetime (Super, 1990). An example of this would be

someone in their early forties entering an entirely new profession or career pathway. Finally,

career maturity, the first dimension of career development occupying the life-span, can be

evaluated by how well an individual handles the developmental tasks one endures during the

stages and substages (Super, 1990).

The first phase of the career development process involves the growth stage, which is

where through curiosity, exploration, and play, children begin to create a sense of self as well as

develop a rudimentary understanding of the world-of-work (Niles & Harris-Bowlsbey, 2016).

During the growth stage, children progress through substages of fantasy, interest, and capacity by means of occupational pretend-play and exploration of their environment, which includes the home, school, and parental and peer relationships (Niles & Harris-Bowlsbey, 2016). Children then begin to develop a sense of mastery and control over their environment as they acquire information about work and recognize their own interests and capacities (Niles & Harris-Bowlsbey, 2016). Other key expertise gained during the growth stage include recognizing the ability to make decisions, realizing the importance of planning for the future, and using what has been learned about work and self to explore the possibility of several educational and occupational opportunities (Niles & Harris-Bowlsbey, 2016).

Adolescents begin planning for the future when armed with a better sense of self, a basic understanding of occupational information, and the realization that present behaviors influence the future (Niles & Harris-Bowlsbey, 2016). Once these are realized, adolescents and young adults enter the exploration stage. During this stage people progress through substages of tentative, transition, and trial, which involve addressing the tasks of crystallizing, specifying occupational preference, and implementing a career choice, respectively (Niles & Harris-Bowlsbey, 2016). Crystallization occurs when one clarifies the type of work one would enjoy doing (Niles & Harris-Bowlsbey, 2016). The process builds upon the occupational and self-understanding acquired from the growth stage as people focus on obtaining more in-depth occupational information to better explore the occupations that align with self-concepts (Niles & Harris-Bowlsbey, 2016). It is at this point in the career development process where it is essential for one to recognize her or his abilities and interests relating to occupational preferences. An individual is then able to specify an occupational preference though a decision-making process

based on the occupations being considered (Niles & Harris-Bowlsbey, 2016). Finally, the occupational choice is implemented leading to further training or even direct entry to a chosen field (Niles & Harris-Bowlsbey, 2016).

The other three stages in Super's theory include establishment, maintenance, and disengagement or decline (Niles & Harris-Bowlsbey, 2016). During the establishment stage, an individual has acquired a position in a chosen field of work and focuses on further training and ways to advance. The maintenance stage involves holding a position by means of updating competencies and innovation. Finally, in the disengagement stage, an individual begins to lose interest in work and instead focuses on retirement planning (Niles & Harris-Bowlsbey, 2016).

The life-space aspect to Super's theory consists of the roles people play throughout their career development. Role salience, which is the second dimension in Super's career development theory, involves the collection of positions occupied and roles played by a person (Super, 1990). These roles and the theaters in which they occur can affect the meaning and purpose of one's work. The nine major roles used to describe the life space people occupy throughout their lifetime include: 1) child; 2) student; 3) a person engaged in the pursuit of leisurely activities; 4) citizen; 5) worker; 6) spouse; 7) homemaker; 8) parent; and 9) pensioner (Super, 1980). The four theaters where these roles typically take place are the home, school, community, and workplace (Super, 1980). A person who holds a position in one of these theaters would assume one or more of the roles. Super (1980) suggested the nonoccupational positions held before the adult career begins, influence the adult positions which may later be occupied and that the amount and type of schooling is one determinant of the future occupation entered. Thus, the extracurricular activities such as scouting, digital badging, and educational

opportunities youth participate in while assuming the roles of child and student are critical to their career development and readiness as well as future roles.

Vocational self-concept, which is shaped and set as individuals gain experiences throughout the life-span stages, is an important construct of the foundation of career development (Kosine & Lewis, 2008). Super described self-concept as the translation of a person's idea of herself or himself into occupational terms and then seeking to prepare for and pursue an occupation (1990). This would involve a person realizing both objective and subjective self-understandings (Niles & Harris-Bowlsbey, 2016). For example, a teenager may objectively realize he is mechanically inclined but terrible with challenging math problems. Subjectively, one develops self-understanding through constructing meaning from life experiences (Niles & Harris-Bowlsbey, 2016). In this regard, Super (1990) suggested the qualities of self-concepts including self-esteem, self-efficacy, and occupational interpretations of self-perceived traits were all important aspects of a person that should be assessed during career development counseling (p. 249). Furthermore, these traits lead to career maturity, a key construct in the foundation of career development.

Super defined career maturity as one's readiness to manage the developmental tasks one is confronted with because of her or his biological and social development and because of society's expectations of those who have reached that stage of development (Super, 1990, p. 213). Career maturity occurs when an individual is prepared to make age-appropriate career decisions and manage the developmental tasks found in each stage (Savickas, 1984, as cited in Creed & Patton, 2004).

Strengths of the Life-Span, Life-Space theory include the emphasis on empirical findings and the ability to address the full complexity of careers in diverse groups across different settings

(Savickas, 1997). A noted weakness in Super's theory recognized even by himself, was the fragmented structure and lack of parsimony between the theoretical strands (Brown, 1990 as cited by Savickas, 1997). Moreover, the life-span segment of the theory was often used to only research adolescents in the exploration stage while life-space research emphasized the establishment and maintenance stages of adults causing a lack of integration between the two segments (Swanson, 1992 as cited by Savickas, 1997). Finally, Super's theory portrayed the conventional career as a pattern of recognizable stages with vocational tasks moving through a predictable linear progression, which does not fit with the concept of nonlinear and protean careers in the 21st-century (Savickas, 2013).

While the life-span portion of Super's theory centers on the stages of career development it does not account for context regarding personal development. Savickas (1997) asserted researchers need not look past the Life-Span, Life-Space theory despite its weaknesses. To help integrate the segments he proposed a shift in focus from maturity to adaptability as the key construct in career development and readiness. The concept of adaptation bridges the career perspectives of individual differences, developmental, self, and contextual segments in the Life-Span, Life-Space theory (Savickas, 1997). These perspectives help distinguish aspects of career adaptation and shift the emphasis onto the individual and their career development process. The individual differences perspective focuses on one's adaptive skills and ways in which one fits into situations (Savickas, 1997). The developmental perspective focuses on the purposes and processes of adaptation across the life span while the perspective of self focuses on the personal goals of adaptation that one develops by creating a personal life narrative and endeavoring to become more engaged with the world (Savickas, 1997). Lastly, the contextual perspective focuses on the social and historic situation of an individual, along with its barriers and

advantages, within which the person must adapt and grow (Savickas, 1997). Savickas (1997) contended the shift from career maturity to career adaptability simplifies the Life-Space, Life-Span theory by use of a single concept to explain career development in children, adolescents, and adults in addition to tightening the incorporation of the life-span, life-space, and self-concept segments.

In turn, Career Construction Theory (CCT) explains the explanatory and interpersonal processes through which individuals construct themselves, impose direction on their vocational behaviors, and make meaning of their career choices (Savickas, 2013). CCT is practical for use in a multicultural society participating in a global economy as the framework provides a modern-day explanation of the world of work and informs a model for career counseling (Savickas, 2013). Central to the theory, self-construction involves three perspectives that form the foundation: self as actor; self as agent; and self as author (Savickas, 2013). Individuals through their interactions within their families, compose a social role as an actor, then adapt this role as an agent for use in the school and community, and eventually author a personal story that explains their life of occupational experiences (Savickas, 2013). Like in the substages of Super's theory, CCT identifies major developmental tasks that require young people to view work as a salient role, crystalize preferences for career fields and levels, specify occupational preferences, enter a job that matches their personal traits, and progress in that job until moving to the next (Savickas, 2013). CCT views adapting to these tasks and transitions as fostered primarily by five sets of behaviors similar to Super's career development stages and named for their adaptive functions: orientation, exploration, establishment, maintenance, and disengagement (Savickas, 2013).

Career adaptability signifies one's psychosocial resources for managing current and anticipated career tasks, occupational transitions, and work traumas, unwanted or unexpected transitions, that change their social assimilation (Savickas, 1997). CCT defines four dimensions of career adaptability that characterize general adaptability strategies and resources people use to manage the critical tasks, transitions, and traumas as they construct their careers (Savickas, 2013). These include concern, curiosity, control, and confidence. There are also specific attitudes, beliefs, and competencies (the ABCs of career construction) aligned with each of the four dimensions that help shape the adapting behaviors used to gain control of the developmental tasks and transitions (Savickas, 2013). The attitudes are feelings that direct behaviors while beliefs are leanings that direct behavior and together, they encourage individuals to act in particular patterns (Savickas, 2013). The attitudes and beliefs shape the development and use of competencies such as comprehension and problem-solving abilities that aid in making and implementing career choices (Savickas, 2013). The competencies in turn, form the adapting or coping behaviors that actually produce career development and construction (Savickas, 2013). Lastly, these coping behaviors compose the adaptive functions of orientation, exploration, establishment, maintenance, and disengagement (Savickas, 2013).

Super's Life-span, Life-space theory and Savickas' Career Construction Theory helped guide this study relating to youths' levels of career development, which was examined as the dependent variable. Further, to account for the role of motivation earning digital badges, Self-Determination Theory was also used to help measure the independent variable of motivation.

Summary

There is a current shortage of middle and high school counselors in the country, which leads to a lack of adequate career development opportunities for today's youth (Coalition for

Career Development, 2019; Ferguson & Lamback, 2014). Digital badging is a new and

emerging technology that could be used to supplement youth career development (Priest, 2016).

Career exploration is an aspect of the Scouts BSA Merit Badge program, but little research has

been done to examine if earning merit badges aids in youth career development. If an increase in

career development is associated with earning merit badges, digital badging systems could be

modeled off the Scouts BSA program and utilized in middle and high schools by school

counselors.

Chapter 3: Research Methods

To review, the purpose of the study was to determine whether a youth's career development, as defined by the Career Maturity Inventory (CMI Form C), is associated with motivation, student grade level, and number of merit badges earned. In this chapter, a description of the research design, organizational context and sample selection, target data/participants, instrumentation, data collection, data analysis, assumptions, and limitations are discussed.

The research questions guiding this study were as followed:

1. Is there a relationship between motivation, student grade level, and the number of merit badges earned, on a youth's level of career development as measured by the Career Maturity Inventory (CMI Form C)?

2. Which combination of variables (motivation, student grade level, and number of merit badges earned) best correlate with a youth's level of career development as measured by the CMI Form C?

Research Design

The research design for this study was correlational, to explore the potential relationships between youth career development, motivation, student grade level, and the number of merit badges earned. Correlational research designs are useful when analyzing relationships among many variables as they can also provide information concerning the degree of the relationship between the variables (Gall, Gall, & Borg, 2003). Additionally, the correlational research method is useful with studies where little or no research has been previously conducted (Cohen,

Manion, & Morrison, 2000; Gall, Gall, & Borg, 2003). While career exploration is an aspect of

the Boy Scouts of America (Scouts BSA) Merit Badge program, little research has been done to

examine if earning merit badges aids in youth career development, therefore this research design

was appropriate to garner new insight into the topic. No variables were manipulated for this

study and a one-time collection of data occurred.

Organizational Context and Sample Selection

The target organizational context for this study was comprised of scouts from units

known as Troops from the Boy Scouts of America (Scouts BSA) Greater Sunshine Bay Area

Council (GSBAC) in addition to scouts who attended a Scouts BSA summer camp in the

northern part of the state. Councils within the Scouts BSA are comprised of a voluntary group of

citizens, including representatives from chartered organizations, who help promote the scouting

program within a geographic area (Boy Scouts of America, 2013). Located in a state within the

Southeast geographic region of the country, the GSBAC consists of approximately 192 Troops

dispersed across nine counties. The GSBAC was formed in 2016 by the merger of two smaller

councils that had been in operation since 1917. Their mission is to "improve the experience of

all youth and adult members by ensuring that volunteer and staff positions at all levels of the

organization are filled by the most qualified people, who are then trained and given opportunities

to succeed in their position" (Greater Tampa Bay Area Council, 2019). Program services

delivered by the council include youth protection, leader, and merit badge counselor training for

adults, camping and outdoor program events, merit badge academies, character building

exercises, community service projects, and physical fitness training (Greater Tampa Bay Area

Council, 2019).

Given the large territory occupied by the GSBAC, representation of youth from both urban and rural areas of the state was inclusive. Youth in grades 6 thru 12 who currently held active memberships in GSBAC Troops were part of the target population for the study. An email requesting volunteer youth participants was sent to Scouts BSA troops from the GSBAC leadership, and a voluntary sampling technique was used to gain representation from registered youth within the council. A sampling error of 5% with a confidence interval of 95% was sought. The desired sample size for the linear regression was calculated by using Green's (1991) rule of thumb for a medium effect. Interested units contacted the researcher who then sent a link with the parental consent, youth participant assent, and survey.

Scouts BSA summer camps are weeklong events filled with a myriad of activities and merit badge classes and are typically held on properties owned and operated by area councils. Troops from surrounding councils and states attend the camp with upwards of three hundred scouts and volunteers in attendance. Participants for this study were also sought during one of these weeks in a Scouts BSA camp in the northern region of the state. A convenience sample was obtained using paper surveys delivered to interested units within the camp. Camp leadership emailed consent information to parents and leaders of youth attending the camp before the survey was administered.

Target Data

The variables of interest were identified for their alignment with the conceptual framework informing the study. In terms of the dependent variable, career development refers to refers to a lifetime process encompassing the growth and change process of childhood, the formal career education at school, and the maturational processes that continue throughout a person's working adulthood and into retirement (Flexer, Baer, Luft, & Simmons, 2008). Career

development was measured using the Career Maturity Inventory Form-C (Crites & Savickas, 2011). Individual scales (concern, confidence, curiosity, and consultation) indicating career adaptability and a composite scale signifying career choice readiness were also measured using the CMI Form C.

In turn, independent variables of motivation, student grade level, and the total amount of merit badges earned were identified based on related research and their relevance to the conceptual framework. When examining a youth's level of career development, it is helpful to study the motivating factors behind the pursuit of career pathways. Thus, identifying youths' aspirations for intrinsic versus extrinsic outcomes may demonstrate motivational reasoning behind the pursuit of merit badges and a youth's level of career maturation and development. Research on aspirations that describe people's long-term or life goals, has focused on intrinsic versus extrinsic motivation (Center for Self-Determination Theory, 2019b). The context of motivation for this study was the extent to which a youth is comparatively focused on intrinsic or extrinsic goals (Kasser, 2019), and was measured using the Aspiration Index Survey (Kasser & Ryan, 1993). Researchers studying these aspirations using the Aspiration Index (AI) survey instrument have concluded those who were focused on intrinsic goals had higher levels of well-being while those who primarily pursued extrinsic goals had greater psychological problems including higher levels of anxiety (Kasser & Ryan, 1993; Schmuck, Kasser, & Ryan, 2000).

Further the National Career Development Association recommended middle school students develop awareness of their occupational interests, aptitudes, and career values, gain an understanding of the value and concept of work, and make preliminary occupational choices that are open to change (Association of Career and Technical Education, 2017). High schoolers should also be engaged in career readiness activities to help prepare themselves for college and

career (Smith, Lee, Carr, Weatherill, & Lancashire, 2020). Moreover, in Super's theory, youth in middle and high school are cycling through the growth and exploration stages of career development and therefore, scouts in the sixth through the twelfth grades were targeted for this study. According to Savickas and Super (1993), "career-relevant concepts develop in childhood, strengthen in adolescence, and function as determinants of adolescent career maturity" (as cited by Kosine & Lewis, 2008, p.230).

Scouts may advance through the ranks at their own pace but must reach Eagle before the day of their eighteenth birthday. Before advancing to the Star rank, scouts are required to earn a minimum of six merit badges. They must earn five additional badges for the Life rank and a minimum of 21 before acquiring the Eagle rank (Boy Scouts of America, 2009). Scouts are not required to begin earning merit badges until the Star rank, however according to the Scouts BSA, scouts can begin working on merit badges at any rank (Boy Scouts of America, 2009). Many of the merit badges offered by the Scouts BSA have a career exploration component where scouts are required to research education and training options for various occupations and career fields, therefore, the number of merit badges a scout has earned was also examined in this study.

Instrumentation

The instruments used to collect target data were the Career Maturity Inventory by Crites & Savickas (2011) and the Aspiration Index by Kasser and Ryan (1993).

Career Maturity Inventory Counseling Form C (CMI Form C)

The survey instrument, the Career Maturity Inventory, Counseling Form C (CMI Form C), created by Crites & Savickas (2011), was used to assess career development for this study. One of the more extensively used instruments for measuring the construct of career maturity was the revised 1978 75-item Career Maturity Inventory or CMI Form B-1 (Crites & Savickas,

1995). Revised again in 1995, the two-part CMI consisted of an attitude scale (25 question) and

a competence test (25 questions) each generating a score that measured the degree of career

maturity for each section (Crites & Savickas, 1995). An overall career maturity score was also

established from the combination of the attitude and competency scales. Savickas and Porfeli

(2011) noted the instrument was originally modified to be used in adult career counseling and

despite this, school counselors used the form for middle and high school students. The

researchers also concluded one of the earlier revised versions of the CMI would have been better

suited for youth (Savickas & Porfeli, 2011). Yet another revised version, CMI Form C, was

created over a decade later, with the intent to restore its usefulness as a concise, reliable, and

valid instrument to measure career development, with useful and theoretically relevant content

scales for counseling use in school populations through the twelfth grade (Savickas & Porfeli,

2011). The CMI Form C was designed by applying Career Construction Theory to the 75 items

in the CMI Form B-1 (Savickas & Porfeli, 2011). The CMI Form C is shorter than the previously

revised CMI forms with 24 items instead of 50 or 75 and has been used on studies with youth in

high school.

Convergent Validity for the CMI Form C was established by examining the degree to

which associations obtained between the CMI Form C career adaptability scales were

comparable to associations obtained for similar scales in the 1978 CMI Form B-1 (Savickas &

Porfeli, 2011). Concern correlated most highly with orientation (.51) and involvement (.51),

while curiosity correlated most highly with decisiveness (.65) and compromise (.55). Confidence

correlated with decisiveness (.83) and consultation correlated (.53) with independence. External

validity was demonstrated by associations in the expected direction with similar scales in an

instrument called the Vocational Identity Scale (VIS; Savickas & Porfeli, 2011). The VIS, with

a coefficient alpha of .87, correlated .84 with the 18 items in the CMI Form C. The initial validity study suggested the scores from these scales appeared to be interpretable, reliable, and valid (Savickas & Porfeli, 2011).

The CMI Form C is free to use and was ideal for this study due to the time constraints of the survey needing to be completed by youth within forty-five minutes during a Boy Scout Troop meeting or lunch break during summer camp. The instrument consisted of 24 survey items scored using a response format of *Agree* (A) and *Disagree* (D). The instrument measured three scales consisting of concern, curiosity, and confidence, signifying career adaptability and a fourth scale, consultation, indicating relational style in making career choices. A composite score, career choice readiness, was also assessed using the instrument with all scales measured as simple sums (Savickas & Porfeli, 2011). Career concern, the most important dimension of career adaptability measured by the CMI Form C, involves concern about one's own vocational future (Savickas, 2013). With a higher level of career concern, individuals would exhibit strong attitudes of planning and optimism that result in a greater preparedness for career developmental tasks and job-related transitions (Savickas, 2013). Career control, the second most important dimension of career adaptability, involves intrapersonal discipline and the processes of being diligent, thoughtful, prepared, and decisive in performing the vocational developmental tasks and occupational transitions (Savickas, 2013). The third dimension, career curiosity, refers to interest in and investigation of the fit between a person and the world of work (Savickas, 2013). The last dimension measured, career confidence, refers to feelings of self-efficacy concerning one's ability to implement a plan needed to create and carry out educational and career choices (Savickas, 2013). There were also two additional demographic questions pertaining to student grade level and the total number of merit badges earned.

The survey items were grouped according to the four subscales that make up the CMI Form C instrument. The following items are samples from each subscale:

1) Concern: I'm not going to worry about choosing an occupation until I am out of school.

2) Curiosity: I keep wondering how I can reconcile the kind of person I am with the kind of person I want to be in my occupation.

3) Confidence: Everyone seems to tell me something different; as a result, I don't know what kind of work to choose.

4) Consultation: In making career choices, one should pay attention to the thoughts and feelings of family members.

Aspiration Index (AI)

The Aspiration Index (AI) instrument created by Kasser and Ryan (1993) was used to determine the independent variable motivation by assessing the relative priority one places on intrinsic versus extrinsic goals. The AI was developed as a survey instrument to assess life goals or aspirations (Kasser & Ryan, 1993,1996). The life goals are divided into extrinsic and intrinsic domains and include: the extrinsic aspirations of image, fame, and wealth; and the intrinsic aspirations of meaningful relationships (affiliation), community involvement, and personal growth (Kasser & Ryan, 1996). Researchers have added domains as seen fit for their studies throughout the years with some versions of the AI having a total of 11 domains (Kasser, 2019). Participants were to rate up to three dimensions: 1) the importance of each aspiration to themselves, 2) their beliefs about the likelihood of attaining each aspiration, and 3) the degree to which they have already attained each. A strength of the AI is its flexibility as it can be modified to fit the needs of the researcher depending on practical limitations that could impede the study

(Kasser, 2019). Only the first dimension of "importance" was measured for the purpose of this study.

Stoen-Utvaer, Hammervold, and Haugan, (2014) researched the reliability and construct validity of the AI and determined reliability had been established with Cronbach alpha in studies by Kasser and Ryan (1993, 1996). The first three studies (Kasser & Ryan, 1993) included the extrinsic goal of wealth and the intrinsic goals of personal growth (self-acceptance), affiliation, and community involvement (feeling) and yielded alpha scores of .58-.82, .59-.87, and .72-.89, respectively for the four domains. The extrinsic goals of fame (popularity) and image were added to the AI in two later studies (Kasser & Ryan, 1996) and yielded alpha scores of .59-.87 and .72-.89 for the six domains. Construct validity for the AI was found by means of higher order confirmatory factor analysis (Stoen-Utvaer, Hammervold, & Haugan, 2014).

The AI is neither copy-righted nor distributed through for-profit institutions, therefore no permission from the author was needed (Kasser, 2019). The instrument consisted of 30 survey items and a nine-point Likert scale was used to help create meaningful variability in the responses (Kasser, 2019). Included were six domains covering the intrinsic goals of community feeling (CF), affiliation (AF), and self-acceptance (SA) and the extrinsic goals of financial success (FS), popularity (PO), and image (IM). Respondents were asked to rate the significance of five items relating to each domain. A raw score was determined for the domains by calculating the average of the relevant items. A single Relative Intrinsic vs. Extrinsic Value Orientation (RIEVO) score was then obtained by summing the raw scores of the three primary intrinsic domains (CF, AF, & SA) and then subtracting the raw scores of the three primary extrinsic domains (FS, PO, & IM). Positive RIEVO scores indicated being driven by intrinsic goals relatively more than extrinsic goals (Kasser, 2019). Negative RIEVO scores indicated the

opposite, while a zero reflects caring about intrinsic and extrinsic goals at approximately similar levels (Kasser, 2019).

The following items are samples from each life goal domain:

How important is this goal to you?

1) Life-goal: To have good friends that I can count on (AF).

2) Life-goal: To have an image that others find appealing (IM).

3) Life-goal: To work to make the world a better place (CF).

4) Life-goal: To have enough money to buy everything I want (FS).

5) Life-goal: To grow and learn new things (SA).

6) Life-goal: To be admired by many people (PO).

Data Collection Procedures

Council leadership for the Scouts BSA GSBAC was contacted prior to the start of the study to obtain permission to solicit participants from troops in the council and to send an email survey to those interested. The Scouts BSA summer camp leadership was also contacted to gain permission to solicit participants and administer a paper copy of the survey during a week of scout camp. University Institutional Review Board (IRB) guidelines were followed and maintained throughout the study. There was minimal risk to the participants and the research information sought was anonymous without links to personal identifiers.

A volunteer sampling technique was used, which ensured representation from youth registered as scouts in the GSBAC. A convenience sampling technique was also used for scouts participating in the Scouts BSA summer camp located in the northern region of the state. A consent form and assent for children to participate in research was provided to the participants

and their parents or guardians to read and acknowledge prior to the administration of the survey instruments.

GSBAC leadership sent an email soliciting interested troops for participation in the study. Troop leaders then contacted the researcher who in turn sent an email with a Google Forms link containing the parental consent, assent, and CMI Form C and AI surveys. Reminder emails were sent to the leaders after one, two, and three months. Leadership at the Scouts BSA summer camp sent an email to all participants to gain consent for participation in the study prior to the start of camp. Paper copies of the survey instruments and assent forms were distributed randomly to troops at various campsites within the camp property on the second day of camp. Completed forms were then collected by the researcher during the last day of camp.

Data Analysis

Descriptive statistics (mean, standard deviation) were used for both questions to summarize the data for interpretation purposes. Additionally, for both questions, data from the returned CMI Form C and AI surveys was analyzed via the designed scoring and by using multiple linear regression (MLR) in the IBM statistical analysis program SPSS. MLR was used to model the linear relationship between multiple independent variables and one dependent variable (Dattalo, 2013). The independent variables in this study included motivation, student grade level, and the number of merit badges earned. The dependent variable is the CMI career readiness composite score of the participant, which represents a component of career development. The individual scales of concern, curiosity, confidence, and consultation were also assessed against the independent variables. For question one, the effect of each individual independent variable on the composite scores of the CMI was measured. For question two, combinations of the independent variables and their effect on the composite score of the CMI

were analyzed to determine which model best predicts higher levels of youth career development.

The independent variables were scaled and coded as follows: Motivation was assessed through the RIEVO score from the AI was treated as a continuous variable; grade levels were coded in order from 6-12 and then recoded into the categories of middle school and high school; and the total number of merit badges earned was treated as a continuous variable. The dependent variable CMI score was scored by adding the results of the three subscales of concern, curiosity, and confidence, with higher scores indicating a greater level of career readiness for the participants. A reliability analysis was carried out on the CMI Form C and AI instruments using Cronbach's Coefficient Alpha.

This study had one continuous dependent variable and two or more continuous or categorical variables, which meets the first two assumptions when performing MLR. Other basic assumptions of MLR include independence of observations, assumptions of linearity and homoscedasticity, non-multicollinearity, approximately normally distributed residuals, and no high leverage points, significant outliers, or highly influential points (Laerd Statistics, 2015). These assumptions were tested through appropriate means and regression diagnostics. Missing data was handled through deletion, which involved excluding participants with missing data from the statistical calculations (Dattalo, 2013).

Assumptions of the Study

It was anticipated that youth in this study provided a true representation of their current level of career adaptability, readiness, and awareness. Additionally, a large sample was assumed, which will be more suitable for a quantitative approach in this study to compare and contrast the career readiness of scouts with differing motivations, grade levels, and total number

of merit badges earned. Finally, it was assumed the scouts provided unbiased and truthful responses.

Limitations of the Study

Limitations of this study included the potential problem of missing observations in the regression analysis. A non-probability sampling technique was used making it difficult to generalize the findings beyond the target population of scouts (Cohen, Manion, & Morrison, 2000). Further, demographic information such as race and socioeconomic status was not included in this study. Finally, there is the potential for bias in this study as the researcher is currently participating as a scoutmaster in the Scouts BSA organization.

Summary

The purpose of this study was to examine how the Scouts BSA merit badge program aids in youth career development. The Career Maturity Inventory and Aspiration Index were distributed to a large sample of Boy Scout youth from the Greater Sunshine Bay Area Council and scouts attending a Scouts BSA summer camp. Multiple linear regression statistical analysis was conducted to examine the relationship between career development and motivation, student grade level, and the total amount of merit badges earned by a scout.

Chapter 4: Results

The purpose of this study was to examine whether the number of earned merit badges, student grade level, and motivation influence the career development of youth participating in Boy Scouts. The Career Maturity Inventory (CMI Form C) and Aspiration Index (AI) were distributed to a sample of Boy Scout youth from the Greater Sunshine Bay Area Council and at a scout summer camp in north Florida. Multiple linear regression was used to analyze the data and determine the relationship between the dependent and independent variables. The independent predictor variables for this study included the total number of merit badges earned by a scout, student grade level, and motivation as measured by the AI score. The dependent outcome variable for this study was the composite score of career choice readiness as measured by the CMI Form C. Individual CMI scale scores in the categories of concern, curiosity, confidence, and consultation were also measured. In this chapter, a summary of survey participation is provided, followed by a report of results addressing each of the research questions.

Survey Participation and Reliability

Green's procedure was used to calculate the appropriate sample size for linear regression, (Green, 1991). The sample size for a medium effect to test the entire model was estimated to be 76 participants (n = 50 + 8 * predictors) to gain the power of .802, the probability to reject an incorrect null hypothesis. Upon agreement to participate in the study, the council leadership sent an email on behalf of the researcher soliciting participants for the study to all Scouts BSA Troop leaders in the Greater Sunshine Bay Area Council. Interested troops were asked to contact the researcher for a link to the consent and survey. Only five troops responded and a total of 26

surveys were submitted by scouts online. Four online surveys were discarded due to incomplete responses. Permission was also given to the researcher to solicit participants for the study at a Scouts BSA summer camp in north Florida. The camp included eleven campsites each occupied by one or two troops. Six campsites were randomly selected, and paper surveys were delivered to the leaders of nine troops. Eighty-six surveys were returned, but eight were discarded due to duplicate or incomplete responses leaving a total of 78. In total, 100 completed surveys were collected between online and in-person participation. Based on the total responses, the sample consisted of 24 more than the 76 participants targeted for the sample.

A reliability analysis was carried out on the CMI Form C instrument. The Cronbach's Coefficient Alpha for the career choice readiness scale including 18 items from the concern, confidence, and curiosity categories was $\alpha = 0.79$, which showed acceptable reliability. Most items were worthy of retention, resulting in a decrease of alpha if removed. The one exception was question nine, which would increase the alpha to $\alpha = 0.80$ if deleted. Given the minimal change, the item was retained for this study, but removal might be considered in future studies. The concern category with six items yielded an alpha of $\alpha = 0.51$. Again, the deletion of question nine would increase the alpha to $\alpha = 0.56$. The six-item curiosity category yielded an alpha of $\alpha = 0.66$ with all items worthy of retention. The confidence category with six items yielded an alpha of $\alpha = 0.75$, also with all items worthy of retention. Finally, the consultation category consisting of six items returned an alpha of $\alpha = 0.70$ with all items worthy of retention.

The same analysis was conducted on the AI instrument. The Cronbach's Coefficient Alpha for the entire instrument including 30 items was $\alpha = 0.85$, which suggested acceptable reliability. Most items were worthy of retention, although four items (i.e., questions four, thirteen, sixteen, and twenty-seven) would have increased the alpha to $\alpha = 0.86$ if each had been

individually deleted. However, considering the minimal change, all items were retained. In turn, the community feeling category with five items yielded an alpha of $\alpha = 0.85$, with all items worthy of retention. The affiliation category with five items yielded an alpha of $\alpha = 0.77$. The deletion of question four would increase the alpha to $\alpha = 0.82$, but it was retained for the analysis. Similarly, the self-acceptance category with five items, which were all retained, yielded an alpha of $\alpha = 0.60$, although the deletion of question sixteen increased the alpha for this category to $\alpha = 0.63$. The financial success category with five items yielded an alpha of $\alpha = 0.85$, with all items worthy of retention. Likewise, the popularity category with five items yielded an alpha of $\alpha = 0.89$, also with all items worthy of retention. Lastly, the image category with five items yielded an alpha of $\alpha = 0.81$, with all items worthy of retention.

The survey instruments used for this study were completed by a total of 100 scouts in middle and high school. The participants in middle school were comprised of 16 sixth graders, 16 seventh graders, and 15 eighth graders. Participants in high school were comprised of 22 ninth graders, eight tenth graders, 16 eleventh graders, and seven scouts in twelfth grade. Regarding participation, Field (2009) suggested a minimum of 20 percent of the overall sample in each of the levels of categorical variables. Since the breakdown of participation by grade level did not meet this criterion, the levels within the categorical variable were combined to form two levels: middle school and high school. This increased the sample size within each category above the 20 percent threshold suggested by Field. Based on the adjusted categories for grade level, participation was closer to equivalent. Table 1 shows the change made for the analysis. As reported in Table 1, the sample ($N = 100$) was comprised of 47 scouts in middle school and 53 scouts in high school (47% and 53% respectively).

Table 1. Grade Level

	N	%
Middle School	47	47.0%
High School	53	53.0%

The breakdown of total merit badges earned by scouts in each grade is reported in Table 2. Scouts in sixth grade reported the least number of merit badges earned. This is not surprising given most youth begin their scouting career between fifth and sixth grade and have not begun to earn merit badges. In turn, eleventh graders reported the most merit badges earned. Again, this is typical as scouts who are closer to earning their Eagle rank and completing high school have had more years in scouting to earn badges. There were only seven twelfth grade respondents compared to 16 eleventh graders, which may indicate why there was an 11 percent difference between the last two grades.

Table 2. Merit Badges by Grade

Grade	Frequency	Cumulative Frequency	Percentage	Cumulative Percentage
6	27	27	1.81	1.81
7	163	190	10.92	12.73
8	170	360	11.39	24.12
Total for Middle School		360	24.12	
9	131	491	20.96	45.08
10	177	668	11.86	56.94
11	404	1072	27.06	84
12	239	1311	16	100
Total for High School		951	75.88	

Overall, at the high school level, participants earned over three times more merit badges compared to those in middle school (951 to 360 respectively). As reported in Table 2, sixth graders earned 27 merit badges (1.81 percent), seventh graders earned 163 merit badges (10.92 percent), and eighth graders earned 170 merit badges (11.39 percent). For the high school

participants, scouts in ninth grade earned 131 merit badges (20.96 percent), while tenth graders

earned 177 merit badges (11.86 percent). Eleventh graders earned 404 merit badges (27.06) and

twelfth graders earned 239 merit badges (16 percent).

In turn, means and standard deviations for the dependent variables, the career choice

readiness composite score, and scales of concern, curiosity, confidence, and consultation, and

two independent variables (merit badges and motivation score) are shown in Table 3. Mean

comparisons for middle and high school participants are reported separately in Tables 4 and 5.

Table 3. Descriptive Statistics of Dependent and Independent Variables

	N	Minimum	Maximum	Mean	Std. Deviation
Career Choice Readiness	100	2.00	18.00	10.56	3.74
Concern	100	.00	6.00	4.34	1.35
Curiosity	100	.00	6.00	3.29	1.67
Confidence	100	.00	6.00	2.93	1.88
Consultation	100	2.75	5.14	4.06	.51
Merit Badges	100	.00	60.00	14.73	12.59
Motivation Score	100	-42.00	107.00	45.76	26.99
Valid *N* (listwise)	100				

As shown in Table 3, for *career choice readiness*, as measured by the CMI Form C score,

the participants had a mean of 10.56 (Range = 2 to 18, *SD* = 3.74). The overall results suggested

scouts, as a group, exhibit moderate levels of career choice readiness. Middle school participants

had a mean of 9.85 (Range = 4 to 18, *SD* = 3.56) while participants in high school had a mean of

11.19 (Range = 2 to 17, *SD* = 3.82) (see Tables 4, 5).

The higher average career choice readiness score may reflect scouts in high school

having more time to progress through the career development stages. Additionally, scouts in

high school earned a greater overall number of merit badges, which exposed them to more career

awareness and exploration activities. Moreover, for the individual CMI scale, *concern*, the participants had a mean score of 4.34 (Range = 0 to 6, *SD* = 1.35), which indicates a moderately high level of career concern. Middle school participants had a mean of 4.11 (Range = 0 to 6, *SD* = 1.49) while participants in high school had a mean of 4.55 (Range = 2 to 6, *SD* = 1.16). The higher average concern score for scouts in high school may indicate a greater readiness to be involved in the career decision making process (see Tables 3, 4, 5).

Table 4. Descriptive Statistics of Dependent and Independent Variables for Middle School

	N	Minimum	Maximum	Mean	Std. Deviation
Career Choice Readiness	47	4.00	18.00	9.85	3.56
Concern	47	.00	6.00	4.11	1.49
Curiosity	47	.00	6.00	2.89	1.66
Confidence	47	.00	6.00	2.47	1.79
Consultation	47	1.00	6.00	4.26	1.39
Merit Badges	47	.00	24.00	7.66	7.38
Motivation Score	47	-9.00	92.00	44.55	26.20
Valid *N* (listwise)	47				

Regarding the scale score of *curiosity*, the participants had a mean score of 3.29 (Range = 0 to 6, *SD* = 1.67), indicating a moderate level of career curiosity. Middle school participants had a mean of 2.89 (Range = 0 to 6, *SD* = 1.66) while participants in high school had a mean of 3.64 (Range = 0 to 6, *SD* = 1.62). In general, given the standard deviations for the results, it appeared curiosity based on grade level was relatively similar.

For the scale score of *confidence*, the participants had a mean score of 2.93 (Range = 0 to 6, *SD* = 1.88), which indicates a moderate level of career confidence. Middle school participants had a mean of 2.47 (Range = 0 to 6, *SD* = 1.79) while participants in high school had a mean of

3.34 (Range = 0 to 6, *SD* = 1.87). The difference in scores between grade levels may signal

greater faith to make realistic career choices for those in high school.

Table 5. Descriptive Statistics of Dependent and Independent Variables for High School

	N	Minimum	Maximum	Mean	Std. Deviation
Career Choice Readiness	53	2.00	17.00	11.19	3.82
Concern	53	2.00	6.00	4.55	1.16
Curiosity	53	.00	6.00	3.64	1.62
Confidence	53	.00	6.00	3.34	1.87
Consultation	53	.00	6.00	3.89	1.89
Merit Badges	53	1.00	60.00	21.00	12.98
Motivation Score	53	-42.00	107.00	46.83	27.89
Valid *N* (listwise)	53				

Further, for the scale score *consultation*, the participants had a mean score of 4.06 (Range

= 2.75 to 5.14, *SD* =.51), indicating a moderately high level of career control. Middle school

participants had a mean of 4.26 (Range = 1 to 6, *SD* = 1.39) while participants in high school had

a mean of 3.89 (Range = 0 to 6, *SD* = 1.89). Higher scores for this scale indicate a greater

interdependence when making career decisions, while lower scores suggest more independence.

The higher mean for scouts in middle school signifies more dependence on family and friends to

help with career choices.

Similarly, for *merit badges*, the mean number of total badges earned by a scout was 14.73

(Range = 0 to 60, *SD* = 12.59). Scouts in middle school had a mean of 7.66 (Range = 0 to 24,

SD = 7.38) while scouts in high school had a mean of 21 (Range = 1 to 60, *SD* = 12.98). Scouts

in high school had more years participating in Scouts BSA and therefore have had the ability to

earn more merit badges.

In terms of *motivation*, as measured by the AI, participants had a mean score of 45.76

(Range = -42 to 107, *SD* = 26.99). Participants in middle school had a mean of 44.55 (Range = -9 to 92, *SD* = 26.2) while high school participants had a mean of 46.83 (Range = -42 to 107, *SD* = 27.89). A Relative Intrinsic vs. Extrinsic Value Orientation (RIEVO) score of 45.76 is an indication of a scout having moderately intrinsic motivation. Given the standard deviations for the results, it appeared motivation based on grade level was relatively similar.

High leverage points, significant outliers, and highly influential points were checked for during the analysis. A Casewise diagnostic was run to highlight any cases that had a standardized residual with greater or less than three standard deviations. No Casewise diagnostic table was generated for the analysis, which meant the standardized residuals were within an acceptable range. Studentized deleted residuals were also generated to assess whether there were any residuals greater or less than three standard deviations. There were none, meaning no outliers were detected in the data. Likewise, Leverage values were also generated but there were no leverage points above 0.2. Finally, potential influential points were evaluated using Cook's Distance and no values were above 1 signifying no influential cases.

Determining Influence on Career Development

The first research question driving the study was set to explore the relationship between student grade level, motivation, number of merit badges earned, and career development. The CMI Form C instrument contained 24 items with six questions in each of the four elements of career concern, curiosity, confidence, and consultation. Respondents chose a response of either *Agree* or *Disagree* for each question. The CMI was scored using the answer key and one point was awarded for each correct response resulting in a simple sum for career choice readiness (concern, curiosity, and confidence) and all four individual scales. The 30-item AI instrument

used a 9-point Likert scale and was scored using a single RIEVO score obtained by summing the

raw scores of the three primary intrinsic domains (community feeling, affiliation, & self-

acceptance) and then subtracting the raw scores of the three primary extrinsic domains

(popularity, financial success, & image). The independent variables were coded as follows:

motivation was assessed through the RIEVO scores from the AI and treated as a continuous

variable; grade levels were coded into the two levels of middle school and high school and given

a value of zero and one respectively for the categorical variable; and the total number of merit

badges earned were treated as a continuous variable.

A standard multiple regression analysis was performed in SPSS using the enter method

giving each independent variable equal importance in the model. The enter method is preferred

when trying to determine the size of the relationship between the dependent and independent

variables as well as determining how each independent variable uniquely contributed to the

relationship (SUNY Oswego, n.d.). Using this method, the independent variables of motivation,

student grade level, and number of merit badges earned were entered into the model

simultaneously. All five dependent variables, career choice readiness, career concern, career

curiosity, career confidence, and consultation, were relatively normally distributed with

skewness and kurtosis absolute values less than 0.72 and 1.03, respectively.

The assumption of linearity seeks to determine that a linear relationship exists between

the dependent variable and each of the independent variables as well as between the dependent

variable and independent variables as a group (Laerd Statistics, 2015). A visual inspection of the

scatter plot of studentized residual by unstandardized predicted value showed the likelihood of

the relationship between the dependent and independent variables to be linear. A visual

inspection of partial regression plots for the independent variables demonstrated somewhat linear

relationships for all three variables. Further, there was homoscedasticity of residuals for this study, meaning the residuals were equal for all values of the predicted dependent variable. This was assessed by a visual inspection of a plot of studentized residuals versus unstandardized predicted values as well as by running a Breusch-Pagan test and White's test, which both showed statistically insignificant F-tests.

As shown in Table 6, the multiple regression model statistically significantly predicted scout career choice readiness, $F (3, 96) = 6.063$, $p < .001$, adjusted $R^2 = .13$. Participants' predicted career choice readiness is equal to $8.182 + .094$ (merit badges) $+ .012$ (motivation) $+ .832$ (grade level), where grade level is coded as $0 =$ Middle School, $1 =$ High School. This formula can be interpreted as participants' career choice readiness score increased .094 for each merit badge earned, .012 for scoring one point higher on the motivation score, and scouts in high school scored an average .832 points higher on their career choice readiness score than those in middle school.

Regarding the individual influences of the contributing variables, only the *number of merit badges* ($p = <.01$) was observed as having a statistically significant relationship with the dependent variable, *career choice readiness*. In turn, the variables *grade level* ($p = .317$) and *motivation* ($p = .354$) were not found to be statistically significant predictors of career motivation. Regression coefficients and standard errors can be found in Table 6.

Further, Pearson's correlation coefficient was used to determine the effect size of the independent variables on the career choice readiness composite score. As reported in Table 7, the resulting Pearson correlation coefficients showed a statistically significant, moderate positive correlation between career choice readiness and number of merit badges earned, $r (98) = .38$, $p < .001$, with the total number of merit badges earned explaining 14% of the variation in the career

choice readiness score. This could signify the more merit badges earned, the higher the career

development of a scout.

Table 6. Multiple regression results for Scout Career Readiness

CMI	B	95.0% CI for B		SE B	β	R^2	ΔR^2
		LL	UL				
Model						.159	.133
Constant	8.812***	6.560	9.804	.817			
Merit Badges	.094**	.028	.159	.033	.316**		
Motivation Score	.012	-.014	.038	.013	.088		
Grade Level	.832	-.809	2.473	.827	.112		

Note. Model = "Enter" method in SPSS Statistics; *B*= unstandardized regression coefficient; CI = confidence interval; *LL* = lower limit; *UL* = upper limit; *SE B* = standard error of the coefficient; β = standardized coefficient; R^2 = coefficient of determination; ΔR^2 = adjusted R^2. *p < .05. **p < .01. ***p < .001.

Likewise, there was a statistically significant, large positive correlation between grade

level and number of merit badges earned, r (98) = .53, p < .001, with the participant grade level

explaining 28% of the variation in the number of merit badges earned. There was also a

statistically significant, small positive correlation between grade level and career choice

readiness, r (98) = .28, p < .01, with the participant grade level explaining 8% of the variation in

the career choice readiness score (see Table 7).

There was no statistically significant correlation between motivation and total number of

merit badges earned, r (98) = .05, p = .304, with motivation only explaining .25% of the

variation in the number of merit badges earned. There was also no statistically significant

correlation between motivation and career choice readiness, r (98) = .10, p =.161, with

motivation only explaining 1% of the variation in the career choice readiness score. Lastly, there

was no statistically significant correlation between grade level and motivation, r (98) = -.04, p =

.364, with grade level only explaining .16% of the variation in motivation (see Table 7).

Next, the assumption of multicollinearity was tested to verify that independent variables were not highly correlated with each other. Multicollinearity was assessed by two methods. The first was through an inspection of the correlation coefficients to ensure there were no correlations larger than 0.7. The results are reported in Table 7 and showing the largest correlation in the data was .53. The second method was to check for multicollinearity by examining the tolerance and variance inflation factor (VIF). The results are reported in Table 8 showing these values are within acceptable limits (tolerance value greater than 0.1 or VIF less than 10).

Table 7. Correlations Among Study Variables

	Career Readiness	Merit Badges	Motivation	Grade Level
Career Readiness	___			
Merit Badges	.38***	___		
Motivation	.10	.05	___	
Grade Level	.28**	.53***	-.04	___

*$p < .05$. ** $p < .01$. ***$p < .001$

There was no statistically significant correlation between motivation and total number of merit badges earned, $r(98) = .05$, $p = .304$, with motivation only explaining .25% of the variation in the number of merit badges earned. There was also no statistically significant correlation between motivation and career choice readiness, $r(98) = .10$, $p = .161$, with motivation only explaining 1% of the variation in the career choice readiness score. Lastly, there was no statistically significant correlation between grade level and motivation, $r(98) = -.04$, $p = .364$, with grade level only explaining .16% of the variation in motivation (see Table 7).

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ensure there were no correlations larger than 0.7. The results are reported in Table 7 and showing the largest correlation in the data was .53. The second method was to check for multicollinearity by examining the tolerance and variance inflation factor (VIF). The results are reported in Table 8 showing these values are within acceptable limits (tolerance value greater than 0.1 or VIF less than 10).

Table 8. Collinearity Statistics

	Tolerance	VIF
Merit Badges	.717	1.395
Motivation	.997	1.003
Grade Level	.717	1.394

Beta weights were used to evaluate the individual impact of each independent variables (see Table 9). With *career choice readiness* as the outcome variable, the beta weight for total number of merit badges earned as the predictor variable was 0.32. This indicated there was an increase of 0.32 standard deviation of the career choice readiness score for each standard deviation increase of one in the number of merit badges earned. Next, when examining *curiosity* as the outcome variable, the beta weight for the total number of merit badges was 0.30. This indicated there was an increase of 0.30 standard deviation of the curiosity scale score for each standard deviation increase of one in the number of merit badges earned. In turn, when *confidence* was examined as the outcome variable, the beta weight for total merit badges was 0.28, meaning there was an increase of 0.28 standard deviation in the confidence scale score for every standard deviation increase in the number of merit badges earned. Likewise, with *consultation* examined as the outcome variable, the beta weight for motivation was 0.21, indicating there was an increase of 0.21 in the consultation scale score for each standard deviation increase in motivation. The results support the idea that the more intrinsically

motivated scouts are, the more interdependent they are when making career choices. There were

no significant beta weights when *concern* was examined as an outcome variable. Reasons for

this warrant additional research, however, despite not demonstrating a statistically significant

relationship with merit badges, scouts scored higher on this scale compared to the others. This

higher level of career concern could be a result from participating in Scouts BSA.

Table 9. Beta Weights of Significant Variables

Dependent Variable	Independent Variable	Beta Weights	$p < 0.05$
Career Readiness	Merit Badges	0.32	0.005
Curiosity	Merit Badges	0.30	0.01
Confidence	Merit Badges	0.28	0.02
Consultation	Motivation	0.21	0.04

Based on t-tests with the level of significance set at 0.05, the *p-values* for number of

merit badges were less than 0.05, which indicated sufficient evidence for predicting career

choice readiness and higher scores on the subscales of curiosity and confidence. The only

exceptions were with the individual scales of concern and consultation resulting in no evidence

of number of merit badges predicting career development. For motivation, the only scale found

significant was for predicting career consultation preferences in scouts (*p-value* of 0.035). The

independent variable, student grade level, did not show any statistically significant impact on

predicting career choice readiness and the subscales.

Subsequently, the regression coefficient was examined to determine the contribution of

each independent variable toward explaining the dependent variable (Schneider, Hommel, &

Blettner, 2010). Career choice readiness increased about 0.1 for every one unit increase in

number of merit badges that the participant earned. A 95% confidence interval for number of

merit badges was 0.03 and 0.16. The results also showed the career curiosity scale score

increased between 0.01 and 0.07, while the career confidence scale score increased between 0.01 to 0.08 for every one unit increase in total merit badges. In regard to motivation, the career consultation scale score increased 0.01 for every one unit increase on the REIVO score. With the confidence level set at 95%, the consultation score increased between 0.001 and 0.03 for every additional one point scored on the AI instrument measuring motivation.

Overall, these results showed statistically significant relationships between three of the five CMI Form C scores (career choice readiness, curiosity, and confidence) and the total number of merit badges earned. An increase in merit badges increased the career development and adaptability of scouts regardless of grade level or motivation. Interestingly, the results showed a statistically significant relationship between the CMI Form C scale score of consultation and motivation. That is, scouts who were more intrinsically motivated scored higher on this scale indicating a more interdependent career decision making style opposed to a more independent style of choosing careers. However, more research is needed to determine the potential reasons for this.

Best Model Fit to Career Development

The second research question underlying the study was to determine the best model of independent variables (student grade level, motivation, number of merit badges earned) contributing to the variance of career choice readiness and the subscales of concern, confidence, curiosity, and consultation as measured by the Career Maturity Inventory Form C. In this regard, the results of the *F test* indicated the model was statistically significant for predicting career choice readiness based on the group of independent variables. In this model, $R^2 = .159$, which indicates that almost 16 percent of the variance in career choice readiness is explained by the number of merit badges, motivation, and student grade level. The *F test* equaled 6.06 with a *p-*

value of < 0.001 (see Table 10). The model that predicted career curiosity had an *F test* of 4.31

and *p-value* of 0.007 indicating it was statistically significant for predicting curiosity for careers

based on the independent variables. The *F-test* value of 4.45 and the *p-value* of 0.006 indicated

the results were statistically significant in predicting career confidence

based on the independent variables.

Table 10. Career Development as a Function of Independent Variables

Dependent Variable	Source	Sum of Squares	df	Mean Square	F	Sig.	R-Square
Career Readiness	Model	220.87	3	73.62	6.06	<.001	.16
	Residual	1165.77	96	12.14			
Concern	Model	7.52	3	2.51	1.39	.25	.04
	Residual	172.92	96	1.80			
Curiosity	Model	32.82	3	10.94	4.31	.007	.12
	Residual	243.77	96	2.54			
Confidence	Model	45.51	3	14.17	4.45	.006	.12
	Residual	306.00	96	3.19			
Consultation	Model	21.64	3	7.21	2.67	.052	.08
	Residual	259.27	96	2.70			

Further, the *F-test* value of 1.39 and the *p-value* of 0.25 indicated the results were not

statistically significant for predicting concern for career based on the set of independent variables

(see Table 10). Similarly, the model predicting career consultation style from the independent

variables had an *F test* of 2.67 and *p-value* of 0.052, and the results were not significant for the

alpha of 0.05. The value of the *R-square* for the results was 0.08, which means that only 8% of

the variation of the career consultation score was explained by the independent variables. The

adjusted *R-square* was 0.048.

Stepwise multiple regression was then conducted to determine the best combination of independent variables to predict career development. For this analysis, predictor variables were entered into the regression equation one at a time with the independent variable that contributed most to the prediction equation in terms of increasing the multiple correlation, R, entered first (SUNY Oswego, n.d.). This process was continued until no other variables added anything statistically meaningful to the equation (SUNY Oswego, n.d.). As reported in Table 11, for career readiness, the best and only predictor was the total number of merit badges ($p = <.001$). The significant predictor for both career curiosity and confidence was also the total number of merit badges ($p <.001$ for both). Regarding consultation, the only significant predictor was motivation ($p = .04$). There were no predictor variables statistically related to the concern scale.

Table 11. Individual Predictors for Career Choice Readiness, Curiosity, Confidence, and Consultation

Variable	Career Choice Readiness *p value*	Curiosity *p value*	Confidence *p value*	Consultation *p value*
Merit Badges	<.001	<.001	<.001	.05
Motivation	.39	.69	.38	.04
Grade Level	.39	.58	.48	.28

p < .05

In all, the best variable to explain attitudes toward career development was the total number of merit badges. As would be expected, as the overall number of merit badges increased, the career choice readiness score and scales of curiosity and confidence increased. There was also a correlation between motivation and career consultation style. That is, the more intrinsically motivated a scout, the higher the consultation scale score, signifying a more interdependent relational style when considering careers. However, the explanation for this result warrants further research.

Further, motivation was not a significant factor in the total number of merit badges earned by scouts. The motivation score mean and standard deviation for scouts with 15 or more merit badges were 44.80 and 28.18 respectively with a range of -42 to 107 (n = 40). For scouts with less than 15 total merit badges, the mean was 46.40, standard deviation 26.40, and range of -15 to 93 (n = 60). The similarity in scores indicated a scout's motivational style, intrinsic versus extrinsic, did not affect the total number of merit badges pursued and earned, and thus does not correlate with career development. To this end, it was interesting grade level was not a predictor in career choice readiness or any of the scales. Regardless of grade level, the mean career choice readiness score for scouts with fewer than ten merit badges was 8.44, $SD = 3.16$ (n = 39), while the mean for scouts with ten or more merit badges was 11.92, $SD = 3.46$ (n = 61). Scouts in middle school who had ten or more merit badges scored an average of 3.48 points higher on the career choice readiness scale than scouts in high school with less than ten merit badges.

Summary

This chapter provided an overview of the study and evaluation of the data analysis procedure. A multiple regression was run to determine the relationship between a scout's career development including career choice readiness and subscales of concern, confidence, curiosity, and consultation, as measured by the Career Maturity Inventory (CMI Form C), and the number of merit badges earned, motivation, and student grade level. Regression diagnostics were conducted to examine the underlying assumptions of multiple regression. There was linearity as assessed by partial regression plots and a plot of studentized residuals against the predicted values. There was independence of residuals, as assessed by a Durbin-Watson statistic of 1.947 for the standard regression model. There was homoscedasticity, as assessed by a visual inspection of plots of studentized residuals versus unstandardized predicted values in addition to

running a Breusch-Pagan test and White's test. There was no evidence of multicollinearity, as assessed by tolerance values greater than 0.1. There were no studentized deleted residuals greater than ±3 standard deviations, no leverage values greater than 0.2, and values for Cook's Distance above 1. The assumption for normality was met, as assessed by a histogram and Q-Q plot. The multiple regression model statistically significantly predicted scout career readiness, $F(3, 96) = 6.063$, $p < .001$, adjusted $R^2 = .133$. The variable *number of merit badges* ($p < .001$) predicted career readiness. The variables *grade level* ($p = .317$) and *motivation* ($p = .354$) did not predict career readiness in scouts.

A stepwise multiple regression was conducted to evaluate whether student grade level, motivation, and number of merit badges were necessary to predict career development. At the first step of the analysis, merit badges entered into the regression equation and were significantly related to career readiness $F(1, 98) = 16.48$, $p < .001$. The multiple correlation coefficient was .14, indicating approximately 13.5% of the variance of career readiness could be accounted for by the total number of merit badges earned. Motivation (t = .859, $p = .392$) and student grade level (t = .941, $p = .349$) did not enter into the equation at the second step of the analysis.

Chapter 5: Summary, Conclusions, and Recommendations

Summary of Results

There is a current shortage of middle and high school counselors in the country, which leads to a lack of adequate career exploration and development opportunities for today's youth (Coalition for Career Development, 2019; Ferguson & Lamback, 2014). Digital badging is a new and emerging technology that could be used to supplement youth career development (Priest, 2016). Career exploration is an aspect of the Boy Scouts of America (Scouts BSA) Merit Badge program, but little research has been done to examine if earning merit badges aids in youth career development. If an increase in career development is associated with earning merit badges, digital badging systems could be modeled off the Scouts BSA program and utilized in middle and high schools by school counselors. The purpose of this study was to determine whether a youth's career development, as defined by the Career Maturity Inventory (CMI Form C), was associated with motivation, student grade level, and number of merit badges earned. Higher scores on the CMI reflect more advanced career development.

Overall, scouts with greater numbers of merit badges had higher mean scores on the CMI career choice readiness composite and the individual scales of curiosity and confidence than those with lower numbers of merit badges. The career choice readiness composite score consisting of the CMI concern, confidence, and curiosity scales, measured scouts' degree of adaptability in career decision making and readiness to make occupational choices (Savickas & Porfeli, 2011). The curiosity scale measured the extent to which scouts were exploring the world of work and pursuing information about jobs and their requirements, while the confidence scale

measured the degree to which scouts had faith in their capacity to make wise career decisions and realistic occupational choices (Savickas & Porfeli, 2011). To this end, the research results confirmed scouts' participation in the Scouts BSA merit badge program was associated with career development.

While there was a moderate degree of correlation between the number of merit badges earned by a scout and the CMI career choice readiness, confidence, and curiosity composite and scale scores, no relationship was found with the CMI concern scale. Concern measured the degree to which a scout was oriented to and engaged in the career decision process (Savickas & Porfeli, 2011). Additional research needs to be done to determine why there was no relationship between the number of merit badges earned and the career concern. Despite having no relationship with merit badges, overall, scouts scored higher on this scale than the others. When compared between grade levels, scouts in high school scored higher than those in middle school. The higher average score for scouts in high school may indicate a greater readiness to be concerned with making career decisions as they approach graduation.

Moreover, there was no relationship between the CMI scale score of consultation and the number of merit badges earned. Consultation measured the extent to which scouts sought support in career decision making by requesting advice or information from family and friends (Savickas & Porfeli, 2011). Higher scores for this scale indicated a greater interdependence when making career decisions, while lower scores suggested more independence in the career decision making process. In this regard, there was a higher mean for scouts in middle school, which signified more dependence on family and friends to help with career choices.

Furthermore, student grade level was not associated with a scout's career development. An increase in merit badges increased the career development and adaptability of scouts regardless

of grade level. Further, motivation was also not associated with a scout's level of career

development. There was, however, a correlation between motivation and career consultation

style. Kasser and Ryan (1996) reported individuals pursuing intrinsic aspirations or goals

(personal growth, community affiliation, self-acceptance) related positively to various indicators

of well-being, including positive affect, vitality, and self-actualization. Using the Aspiration

Index (AI) to measure motivation, it was determined that the majority of scouts in this study

placed a greater priority on intrinsic goals instead of extrinsic goals with only six respondents

focused on the latter. Interestingly, the more intrinsically motivated a scout, the higher the CMI

consultation scale score, signifying a more interdependent relational style when choosing

careers. Further research is needed to provide clarification for this result.

Discussion

A brief discussion of results is presented below to put the relevance of the key findings in

the context of previous research. Further, the results are also discussed using the premises of

Super's Life-Span, Life-Space theory and Career Construction Theory (CCT) as a frame of

reference.

Relevance to Previous Research

Researchers have demonstrated a link between career awareness and merit badges (Hintz,

2009; Hintz & Thompson, 2012; Terry, 2013; Vick & Garvey, 2010; 2016). Hintz (2009)

reported youth who participated in the scouting program and related activities including merit

badges performed better in school, had a better awareness of the science field, and those who

eventually obtained work in the field credited their scouting experience with helping them gain

interest in their careers. Hintz and Thompson (2012) concluded scouts who earned *Geology*

merit badge were more likely to participate in more concentrated geoscience experiences and

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activities. These experiences could lead to the pursuit of a career in the field. Terry (2013) recommended school-based agriculture teachers, extension professionals, and other agriculture educators serve as merit badge counselors, in part due to the career exploration focus of the badges offered in related fields. Finally, Vick and Garvey (2016) concluded environmental science and engineering related merit badges were designed in a way to expose youth to several of the scientific and engineering practices that scientists and engineers use in their careers. What are the attributes of the Scouts BSA merit badge program that could lead to similar results?

Over half of the 139 merit badges offered by the Scouts BSA have a career exploration component incorporated into the requirements. For instance, the *Personal Management* merit badge, which all scouts must obtain to earn the prestigious Eagle rank, requires scouts to choose a career they are interested in pursuing after high school or college and research the needed requirements, education, skills, and experience. They must also explain the associated costs that may be needed to pursue the career, such as tuition, school or training supplies, and room and board. Furthermore, additional merit badges all scouts are required to earn including *Communication*, *Personal Fitness*, *Cooking*, and *Environmental Science* have career exploration components. For each of these, scouts must research three careers in the given field and describe the necessary education, training, and experience. They must then choose one that would interest them in the future and explain why. Many merit badges go beyond researching careers, with some requiring scouts to visit jobsites such as the *Pulp and Paper* and *Fire Safety*. Several badges also require scouts to interview people working in the respective fields including *Engineering* and *Entrepreneurship*, while others require actual hands-on practice such as the *Welding*, *Plumbing*, and *Electricity* merit badges. The result is a variety of engaging experiences

that allow scouts to gain awareness of potential careers that are suited to their individual

aptitudes and interests, which together lead to stronger career development.

Results from previous research indicate an increase in career exploration and awareness

after participating in the Scouts BSA merit badge program. This study adds to this knowledge

by demonstrating relationships between additional facets of career adaptability and development

(i.e., career confidence, curiosity, and readiness) and merit badges.

Self-Determination Theory

Self Determination theory (SDT) is a comprehensive and extensively applied theory of

motivation that involves examining intrinsic and extrinsic motivations for life goals,

relationships, well-being, and more (Ryan & Deci, 2019). SDT builds upon other relevant

theories seeking to explain phenomena related to research on motivation and one of these

theories, Cognitive Evaluation Theory (CET), involves the social perspectives on intrinsic

motivation (Center for Self-Determination Theory, 2019a). Scouts in this study who were more

intrinsically motivated scored higher on the CMI career consultation scale, signifying a greater

reliance on friends and family support when making career decisions. In the context of the CET

framework, Ryan and Deci (2000) found links between intrinsic motivation and satisfaction of

the need for relatedness. It is possible scouts with greater parental involvement and support

develop a stronger sense of intrinsic motivation and therefore place a greater emphasis on

including their support structure in the career-decision making process. More research should be

conducted in this area using the framework of CET to better understand these results.

Life-Span, Life-Space theory and Career Construction Theory

Scouts participating in this study were cycling through the life stages of growth and

exploration. The initial stage of growth is where career development begins in youth and

typically spans between birth to age13 (Hartung, 2013). Youth during this stage begin their career aspirations by developing an initial and realistic career self-concept defined by personal strengths, weaknesses, interests, values, abilities, and talents (Hartung, 2013). Hartung (2013), asserted society expects that experiences and opportunities at home, school, and during play will help youth develop this self-concept and envision a future of themselves in the workforce and in other social roles. However, with the current shortage of school counselors in middle and high schools (Coalition for Career Development, 2019; Ferguson & Lamback, 2014), are adequate career exploration experiences taking place frequently enough in schools? Beyond the classroom, the Scouts BSA merit badge program provides participating youth with an assortment of opportunities to explore and gain awareness of careers in many fields. The results of the study broadly confirm the overarching merit of badging as a strategy to promote career awareness, exploration, and readiness.

Savickas and Super (1993 as cited by Hartung, 2013) defined the growth stage developmental tasks as developing concern about the future, control over career decision making, confidence to achieve, and competence in work habits and attitudes. A significant aspect in the process of accomplishing these tasks involves imagining oneself in work and other roles and comprehending the importance of these roles in one's life (Hartung, 2013). Again, the Scouts BSA merit badge program affords youth the ability to accomplish these developmental tasks through the exposure and discovery of occupations. The number of badges earned in middle and high school, as reported in this study, provide outcome evidence of related engagement resulting from occupational exposure.

The exploration stage of career development includes adolescent youth and young adults ages 14 to 24 (Hartung, 2013). Successful navigation through the exploration stage results in a

greater capacity to make plans for the future, curiosity to explore work roles, and knowledge about the career decision-making process and the world of work (Hartung, 2013). Developmental tasks in this stage include crystalizing, specifying, and implementing. Crystallization occurs as one develops a strong vocational self-concept that reflects one's occupational preferences and abilities (Hartung, 2013). Scouts can work on developing a vocational self-concept as they meet the requirements of the merit badges including hands-on activities, researching careers within a given field, and then choosing work that interests them the most to examine further. Specification of educational and occupational choices aligned with the vocational self-concept results after broadly exploring preferred occupations (Hartung, 2013). Since there is an abundance of merit badge offerings, scouts are not limited to the exposure of a narrow range of career fields, instead they are able to delve into occupations they may have never otherwise considered. The final developmental task in this stage involves realizing an occupational preference by preparing for and obtaining a job (Hartung, 2013). During the exploration stage, one should gather information about self and careers through curricular and extracurricular activities and other experiences (Hartung, 2013). Scouts have the opportunity to work on merit badges throughout the year outside of school, therefore, these developmental tasks are easily met.

The results from this study aligned with Super's stages of career development as demonstrated by a moderately high level of career concern and moderate levels of career curiosity and confidence for the participants. Concern and confidence typically develop during the growth stage while an increase in curiosity occurs during the exploration stage.

In the context of CCT, confidence signifies feelings of self-efficacy concerning an individual's ability to effectively implement a plan needed to make and realize appropriate

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educational and career choices (Savickas, 2013). Savickas (2013) asserted broader exploratory experiences reinforce the confidence to try more things. To this end, including merit badges, Scouts BSA offers youth a broad program consisting of 48 themed modules with a mix of topics including outdoors, sports, health and safety, citizenship and personal development, STEM, and arts and hobbies (Boy Scouts of America, 2021). This aspect of CCT was supported by study results suggesting that scouts who earned a greater number of merit badges scored higher on the CMI confidence scale, may have a greater sense of self-efficacy, and therefore would effectively perform the behaviors needed to handle challenges in deciding and implementing career goals. According to Savickas (2013), a lack of career confidence can result in career inhibition that impedes realizing roles and achieving occupational goals. In this regard, scouts in the study with a smaller number of merit badges scored lower on the confidence scale, which may be due to a lack of career exploration experiences.

Finally, career curiosity in CCT refers to inquisitiveness about and discovery of the fit between oneself and the world of work, and when acted upon, it produces knowledge with which to make choices that fit self to situation (Savickas, 2013). In alignment with this CCT aspect, scouts with more merit badges scored higher on the CMI curiosity scale, which may reflect knowledge gained from an assortment of career exploration experiences. In contrast, scouts with less merit badges and subsequently lower curiosity scores, may develop an unrealism about the work world and inaccurate images of oneself (Savickas, 2013).

The results from this study align with the major concepts and assumptions of CCT. Scouts with a greater number of merit badges scored higher in the career adaptability domains of confidence, curiosity, and career readiness, which demonstrates the importance of career awareness and exploration activities.

Conclusions

In CCT, the career development process can be summed as follows beginning with the four elements of career adaptability consisting of concern, curiosity, control, and confidence. These four dimensions represent the adaptability strategies and resources individuals use to manage critical tasks, transitions, and work traumas as they develop their careers (Savickas, 2013). Aligned with each dimension are specific attitudes, beliefs, and competencies (the ABCs of career construction) that help shape the adapting behaviors used to master career development tasks and transitions (Savickas, 2013). Moreover, the attitudes and beliefs shape the development and use of competencies such as comprehension and problem-solving abilities that aid in making and implementing career choices (Savickas, 2013). The competencies in turn, form the adapting or coping behaviors that actually produce career construction and development (Savickas, 2013). Lastly, these coping behaviors compose the adaptive functions of the career development stages of orientation, exploration, establishment, maintenance, and disengagement (Savickas, 2013). The dimensions of concern, confidence, and curiosity were each measured using the CMI Form C for this study.

The attitude and belief associated with *concern* is planfulness, which if strong enough, helps one develop a sense of personal command over their careers (Savickas, 2013). Planfulness leads to competency in planning for one's future, which then aids in forming the coping and adapting behaviors of awareness, involvement, and preparation (Savickas, 2013). For the individual CMI scale *concern*, the participants in this study had a mean score that indicated a moderately high level of career concern. Although no relationship was found between the number of merit badges and career concern, this was the highest mean compared to the other individual CMI scale scores. Could this be a result of the scouting program's emphasis on a

broad spectrum of lessons and activities and stressing the importance of adequate preparation for all life pursuits? More research is needed to ascertain the potential explanations for these results.

In regard to *curiosity*, the related attitude and belief is inquisitiveness, which involves initiative to seek out information regarding occupations and the world of work (Savickas, 2013). Those who are highly inquisitive are more competent exploring careers and exhibit the coping behaviors of experimentation, inquiry, and risk-taking (Savickas, 2013). Scouts in this study had a moderate level of career curiosity as measured by the CMI *curiosity* scale score. There was also a statistically significant relationship between curiosity and the total number of merit badges earned. Youth participating in the Scouts BSA merit badge program are required to investigate multiple careers and then select and research those that may interest them in the future. These types of activities lead to a greater level of inquisitiveness, which will strengthen career development.

Efficaciousness is the attitude and belief linked to *confidence* and reflects the anticipation of success in solving complex problems involved in the process of deciding on careers (Savickas, 2013). Those who are more effective at producing desired results are more competent in problem-solving and are able to cope with changes through diligence and persistence (Savickas, 2013). Participants in this study showed a moderate level of career confidence as measured by the CMI *confidence* scale score and there was a statistically significant relationship between confidence and the number of merit badges earned. Many of the merit badges scouts earn have tasks they must complete to be awarded the badge. As scouts earn more merit badges, they become more effective problem-solvers and thus gain more confidence to actively pursue careers.

Results from this study also demonstrated a statistically significant relationship between the CMI composite score *career choice readiness* and the total number of merit badges earned. This suggests scouts with more merit badges will have a higher degree of adaptability when making career decisions and show an increased readiness to make realistic career choices. Imperatore and Hyslop (2018) suggested strategies to help students gain career knowledge and participate in career decision-making and development should include career counseling and assessments, curricula to help students learn about and explore careers, and information about job searching and workforce trends. To this end, the results from the study support the Scouts BSA merit badge program as a viable extracurricular option to aid in youth career development as it incorporates many of these strategies. It is fitting the Scouts BSA motto is *Be Prepared* as it appears the merit badge program contributes to scouts' career readiness.

Implications for School Career Counseling

Due to the current shortage of middle and high school counselors, those working in the field are overwhelmed with heavy workloads of various responsibilities and do not have the capacity or time to focus on youth career development. Thus, many students are left with limited guidance when deciding on postsecondary education and career options (Coalition for Career Development, 2019; Ferguson & Lamback, 2014). A report from the Creating Pathways to Prosperity conference (2014) highlighted the urgent career counseling issues in secondary education and the potential interventions needed to inform the career development of today's youth. One suggested intervention involved community-level supports that could be developed to include career exploration events and materials that students can examine on their own or with others (Ferguson & Lamback, 2014). The Scouts BSA merit badge program aligns with the suggested strategy but not all youth have access to nor are interested in the program. Therefore,

similar badge programs can be created and modeled off the format of the Scouts BSA program for extracurricular use during and after school.

The Coalition for Career Development (2019) also offered solutions to the problem by proposing a framework that included five critical components for transforming the current system of career development. The suggested areas include ensuring accountability, prioritizing career planning, providing professional career advising, emphasizing applied and work-based learning, and providing high-quality career development technology (Coalition for Career Development, 2019). Two of these components, prioritizing career planning and providing high-quality career development technology, should be examined by school counselors and middle and high school leaders using the Scouts BSA merit badge program as a reference. Priority can be placed on creating extracurricular programs that use the career exploration features youth are exposed to with merit badges such as researching and learning about fields, interviewing people in these jobs, or even performing hands-on activities or observing them at a worksite.

Further, to meet the Coalition for Career Development critical component of providing high quality career development technology, digital badges could be created and promoted. Similar to the badges earned in scouts, a digital badge would represent knowledge gained, a learned skill, or a new credential earned by the holder (Mozilla, 2013; Priest, 2016). Perhaps one of the more important benefits of digital badging is the potential for allowing greater access to learning skills and earning achievements though a variety of badge delivery methods such as short courses, online, in-person, and hybrid formats, all of which could help alleviate the strains on school counselors (Mcgovern, 2020). Many Scouts BSA councils are now offering digital merit badges and online merit badge academies to help with the constraints of the pandemic.

This model allows youth to safely access merit badge learning modules from home but still gain the important career exploration activities offered by the face-to-face delivery.

To be sure, digital badging programs are already in use by schools across the nation. For example, the Aurora Public School System introduced a digital badging program offering students micro-credentials in professional competencies that are essential for workplace and college success (Aurora Public Schools, 2020). Exposure to these badges begin in the early grade school years and culminate into career exploration activities and potential job shadowing and internships. The San Diego Unified School District started a similar program in 2016 offering students digital badges for academic accomplishments including mastery of career and college readiness math and ELA skills, as well as badges for students who complete Career and Technical Education pathways (San Diego Unified School District, 2020). In 2014, the Career and Technical Education Consortium of States (CTECS) launched its first digital badge, the CTECS Workplace Readiness Skills Assessment. Through this training, students learn 21 essential workplace skills including teamwork, diversity awareness, conflict resolution, critical thinking and problem solving, customer service, and information technology to name a few (Career and Technical Education Consortium of States, 2019). Other successful middle and high school badging programs have also been reported in Maine, Massachusetts, Rhode Island, and Illinois (Priest, 2016). School counselors can use programs such as these as a career development supplement to their daily tasks, which can help alleviate some of the strains caused by their workloads.

Digital badge programs for middle and high school should expose youth to the 16 career clusters from the National Career Clusters Framework, which encompasses over 79 education and career pathways. For instance, students in middle school can start with the creation of

individualized learning plans with the aid of career development technology that can be flexibly designed to meet local, state, and regional workforce needs (Association of Career and Technical Education, 2017). The learning plans are a promising career development approach for middle school students as they incorporate a web-based career information system with an e-portfolio and include opportunities for self and career exploration, work-based learning, and the development of employability skills (National Collaborative on Workforce and Disability for Youth, 2013 as cited by Association of Career and Technical Education, 2017). In this regard, digital badges can be used with the learning plans to represent learning about a specific career cluster or pathway.

In an article written for the U.S. Bureau of Labor Statistics, Torpey (2015), suggested students in high school begin career planning by developing a career self-concept, identifying possible careers based on interests, experiences, and abilities, and then performing research on the selected occupations. As shown in this study, the Scouts BSA merit badge program follows these practices to help youth become engaged in career planning for their futures. A high school digital badging program could also utilize this approach using a trusted framework such as the National Career Development Guidelines (NCDG) to help ensure all pertinent career development areas are covered. The NCDG framework is comprised of three domains including personal social development, career management, and educational achievement and lifelong learning (National Career Development Association, 2022). Divided amongst the domains are eleven goals that identify extensive areas of career development competencies. Further, included under each goal in the framework are indicators of mastery that highlight the knowledge and skills needed to achieve the goal (National Career Development Association, 2022). By combining the career exploration features of the BSA merit badge program with a career

development framework, a digital badging system can be created and put in place for students to participate in both during and after school. The uniquely designed badges can signify completion of knowledge acquisition, application of learned skills, and reflection relating to career development.

Moreover, a career development digital badge program should include opportunities for youth to gain experience in the workforce through job shadowing, internships, and apprenticeships. Middle schoolers should be afforded short-term contact with employers, such as guest speakers, site visits and job shadowing, which can introduce them to a variety of careers and highlight the demands of the workplace (Association of Career and Technical Education, 2017). These low-stakes interactions can set the stage for more demanding activities like internships and apprenticeships for when students get to high school (Association of Career and Technical Education, 2017). Once in high school, these opportunities may teach youth valuable job skills, such as the importance of arriving on time and other soft skills (Torpey, 2015). Participation from local businesses and industry partnerships are crucial for this facet of a career development program to work effectively. In this context, digital badges can be awarded after completing a job-shadowing activity, apprenticeship, or internship.

Lastly, based on the results of this study, the CMI Form C is a viable assessment tool school counselors can use for career advisement and counseling. The summary of the five scores including the individual scale scores of career concern, confidence, curiosity, and consultation, and the composite score of career readiness provides a good view of an individual's approaches toward the career decision-making process and readiness to make career choices (Savickas & Porfeli, 2011). Based on the scores, school counselors may create interventions that fit the specific needs of different students (Savickas & Porfeli, 2011).

Implications for Further Research

Various implications for further research were identified drawing from the administration of the survey and nature of the results. For example, the sampling of participants for the study was conducted using a voluntary sampling technique to gain representation from registered youth within the council and a convenience sampling technique was used for scouts participating in the Scouts BSA summer camp. Both of these methods are considered non-probability sampling, which does not represent the wider population and therefore, generalizations cannot be made (Cohen, Manion, & Morrison, 2000).

Future studies could include a nationwide sample of youth participating in scouts to obtain a more accurate representation of scouts as opposed to a single region of the country, which was the case in this study. A study could also be conducted comparing the CMI results between scouts and sixth to twelfth graders not in scouts. Researchers could conduct a probability sampling technique to gain respondents more representative of the general population. Further research could also be conducted on adults who participated in scouts regarding postsecondary outcomes to determine the impact of merit badges beyond high school.

Another sampling issue was the participants of this study were all male respondents. It is possible to try to gain a sample of female scouts in proportion to male scouts, by surveying a greater number of Scouts BSA councils or regions. Moreover, this study can be replicated using participants in the Girl Scouts program as a comparison to males in Scouts BSA. Further, demographic information including race, ethnicity, and socioeconomic status of the respondents was not pursued in this study. Thus, future studies could include these and others to add more to the current body of research.

In regard to the survey instruments, open ended questions can be added to gain additional insight. Results from questions designed to ascertain the specific badges scouts earned can be categorized into hobbies, citizenship, science, and occupations. The CMI Form C could also be used in a study of youth who have previously participated or are currently in a career exploration digital badge program to examine their levels of career development. This study could also be duplicated using alternative surveys designed to measure career development and motivation.

In terms of the analysis of this study, the decision was made to treat student grade level as a binary variable instead of a continuous variable due to the uneven distribution amongst the grade levels. Consequently, the conclusions about the total number of merit badges and the relationship with grade level and the dependent variables could be sensitive to this choice. Future research treating grade level as a continuous variable to investigate the results due to age, grade, and number of merit badges could be helpful.

Moreover, it was determined the more intrinsically motivated a scout as measured by the Aspiration Index, the higher the CMI career consultation scale score, signifying a more interdependent relational style when choosing careers. The explanation for this result warrants further research. Savickas and Porfeli (2011) recommend assessment of this scale using a model where counselors consider a youth's cultural identity, cultural understanding of career decisions, cultural background, and cultural dynamics in the counseling relationship. To do so would require open-ended questions and possibly interviews to establish a cultural context to why youth are interdependent versus independent when making career choices. Lastly, the role of parental involvement in Scouts BSA and the impact on motivation and engagement on the completion of merit badges could be studied.

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2019 Scouts BSA Merit Badge Offerings

Table A1. 2019 Scouts BSA Merit Badges

American Business	Disabilities Awareness	Landscape Architecture	Rowing
American Cultures	Dog Care	Law	Safety
American Heritage	Drafting	Leatherwork	Salesmanship
American Labor	Electricity	Lifesaving	Scholarship
Animal Science	Electronics	Mammal Study	Scouting Heritage
Animation	Emergency Preparedness	Medicine	Scuba Diving
Archaeology	Energy	Metalwork	Sculpture
Archery	Engineering	Mining in Society	Search and Rescue
Architecture	Entrepreneurship	Model Design and Building	Shotgun Shooting
Art	Environmental Science	Motor boating	Signs, Signals, and Codes
Astronomy	Exploration	Moviemaking	Skating
Athletics	Family Life	Music	Small-Boat Sailing
Automotive Maintenance	Farm Mechanics	Nature	Snow Sports
Aviation	Fingerprinting	Nuclear Science	Soil and Water Conservation
Backpacking	Fire Safety	Oceanography	Space Exploration
Basketry	First Aid	Orienteering	Sports
Bird Study	Fish and Wildlife Management	Painting	Stamp Collecting
Bugling	Fishing	Personal Fitness	Surveying
Camping	Fly-Fishing	Personal Management	Sustainability
Canoeing	Forestry	Pets	Swimming
Chemistry	Game Design	Photography	Textile
Chess	Gardening	Pioneering	Theater
Citizenship in the Community	Genealogy	Plant Science	Traffic Safety
Citizenship in the Nation	Geocaching	Plumbing	Truck Transportation
Citizenship in the World	Geology	Pottery	Veterinary Medicine
Climbing	Golf	Programming	Water Sports
Coin Collecting	Graphic Arts	Public Health	Weather
Collections	Hiking	Public Speaking	Welding
Communication	Home Repairs	Pulp and Paper	Whitewater

Table A1. (Continued)

Composite Materials	Horsemanship	Radio	Wilderness Survival
Cooking	Indian Lore	Railroading	Wood Carving
Crime Prevention	Insect Study	Reading	Woodwork
Cycling	Inventing	Reptile and Amphibian Study	
Dentistry	Journalism	Rifle Shooting	
Digital Technology	Kayaking	Robotics	