# Using School-Based Career Development to Support College and Career Readiness: An Integrative Review

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## Abstract

For current college and career readiness efforts to be effective, it is important to recognize the value and contribution of career development activities in schools and take a critical look at the most effective strategies, programs, and research in this area. This integrative review synthesizes research related to the impact of school-based career development on student achievement, retention, post-secondary transitions, and other career-related outcomes. Using an iterative key word search, in multiple scholarly databases including JSTOR, PsycInfo, and EBSCOhost Fulltext Finder, 157 studies published in years 1961-2017 were selected for this review. Findings are examined within the context of college and career readiness. Implications for school counseling research, evaluation, practice, and policy are discussed.

*Keywords:* career development, school, K-12, college and career readiness

## An Integrative Review

College and career readiness has become an important policy goal for education, in large part, due to an increasingly globalized economy where a college education is viewed as a gateway to economic security and social mobility. The emphasis on college and career readiness in the United States stems from concern that the majority of new jobs created in the United States by the year 2018 will require a college degree (Torpey & Watson, 2014), but the United States will not produce enough college graduates to fill these openings. Compounding this concern is that approximately 20% of high school students in the U.S. do not graduate from high school (National Center for Education Statistics [NCES], 2017) and that those students who do graduate may not be adequately prepared for college or the work force (Casner-Lotto & Barrington, 2006). High school graduates in the U.S. must gain a solid foundation of core content knowledge in academic areas as well as other skills such as critical thinking, goal setting, and decision-making in order to successfully complete high school and make a post-secondary transition to college or the world of work (Conley, 2012; Conley & McGaughy, 2012; Mattern, et al., 2014).

Young people's career development begins during the time spent in K-12 settings. School counselors have the opportunity to build a strong foundation within this domain and are trained to do this work. Specifically, the American School Counselor Association (ASCA) National Model for School Counseling Programs (ASCA, 2012) framework describes how school counselors facilitate student development in three broad and interconnected domains, including academic, personal/social, and career development. The career development domain encompasses a variety of student learning competencies, composed of "mindsets and behaviors" (ASCA, 2014) which specifically address college and career readiness within comprehensive developmental guidance programs.

In the United States, school counselors create and implement career development activities in schools to provide students with skills to support their educational and career decision-making for the rest of their lives. Career development helps students address fundamental questions such as, "What are some options for me when I grow up?" and "How do the things I am doing now (e.g., school work, friendships, summer activities) impact my future?" and "Where do I see myself in 5 or 10 years?" For school counselors and other educators actively facilitating career development in schools, helping students explore these questions is important for supporting them as they matriculate through K-12 and successfully complete a post-secondary transition (Grimes, Bright, & Whitley, 2017). For current college and career readiness efforts to be effective, it is important to recognize the value and contribution of career development activities in schools and take a critical look at the most effective strategies, programs, and research in this area.

### Purpose of the Review

Because school counselors are well-positioned within K-12 settings to provide career development activities that support college and career readiness for students, there is a need to review the extant research in order to address the following question:

In what ways do career development activities in schools support college and career readiness?

First, it is important to note, there are few published studies examining the impact of school-based career development interventions specifically intended to target college and career readiness outcomes. One reason for this is that the success of many college and career readiness initiatives depends greatly on whether or not all K-12 students are receiving effective career counseling

services along with a dearth of quality college and career readiness assessments (Lapan, Poynton, Marcotte, Marland, & Milam, 2017). Considering the distinction between "preparedness" and "readiness" (Conley, 2012), we focus on reviewing studies that specifically address college and career readiness indicators more prominent in the literature (e.g., academic achievement) but also include research related to other indicators (e.g., retention and post-secondary planning skills) that are necessary for students to be college and career ready. We assert that these features of college and career readiness represent evidence-supported malleable factors that can promote successful post-secondary transition (Poynton & Lapan, 2017).

Therefore, this review synthesizes research findings related to the impact of school-based career development activities on student achievement, retention, post-secondary transitions, and other career-related outcomes. The purpose is to identify, summarize, and evaluate the types of career development activities that are particularly effective for supporting college and career readiness for school-aged individuals. In doing so, we also hope to connect related areas of work, to provide school counselors, educators, researchers, policy makers, and other stakeholders with an important resource for making informed decisions, and to ensure that K-12 students have access to school-based career development activities that truly prepare them for college and the world of work.

## Method

Integrative review is a methodology often utilized in medical and social science research to pull together and evaluate the extant body of evidence related to a particular topic. It has many benefits to scholars including, but not limited to, identifying central issues in an area, identifying gaps in current research, building a bridge between related areas of work, exploring which practices have been used successfully, and generating new research questions. According to Russell (2005) high quality, rigorous reviews can provide a significant contribution to a particular body of knowledge and, consequently, to policy, practice, and research. For this review, we followed the guidelines for conducting an integrative review (Beyea & Nicoll, 1998; Russell, 2005) with the goal of synthesizing research related to the impact of career development activities in K-12 settings on students' college and career readiness. The following section describes the process we used for searching, identifying, and selecting articles for our review.

Using JSTOR, PsycInfo, EBSCOhost Fulltext Finder, and Google Scholar we conducted an iterative keyword search (Boggs, 2008) to locate articles for this review. JSTOR, PsycInfo, and EBSCOhost Fulltext Finder databases were utilized because of their ability to locate full-text academic journal publications in multi-

disciplinary social science records. Google Scholar was also utilized because of its ability to search multiple scholarly databases and to locate gray literature including technical reports, white papers, and other documents that are not published in academic journals but may be important sources of information. An iterative keyword search is optimal for maximizing search effectiveness of large data sets (including document and data base searches) by yielding a focused and accurate data set for review (Eames, Kesseler, & D'Ambra, 2010). This technique is considered an effective way to conduct a search that is comprehensive and precise, which is recommended for an integrative review (Beyea & Nicoll, 1998). Search terms included the following keywords or keyword combinations: school counselor/school counseling, intervention, K-12, career development, college and career readiness, achievement, post-secondary transition, and career outcomes. We employed the keyword search in each database until several duplicate records were identified. No publication date limits were imposed, and only studies conducted in the U.S. were included because the nature of career development activities in schools can vary by depending on country In total, 157 publications from 1961-2017 were selected for this review. See Table 1 for a description of the inclusion and exclusion criteria. Although some critique is provided at part of our synthesis, evaluation of methodological rigor and use of data meta-analytic techniques were beyond the scope of this review (Beyea & Nicoll, 1998; Russell, 2005).

### What is School-Based Career Development?

In order to address the driving question for this review, it is necessary to clarify what is meant by school-based career development. Career development can describe a range of activities and programming in schools. Specifically, the National Career Development Association (NCDA, 2011) issued a formal policy statement that helps define career development in schools as a lifelong process of managing learning and work. The results of this process have profound implications for the nature and quality of individuals' lives (Dawis, 2000; Gottfredson, 1996; Savickas, 2002). As children and adolescents actualize aspects of their identity through the process of identifying and choosing an occupation, they develop a sense of purpose and set a course for the contribution they will make to the communities and societies in which they will live (Damon, Menon, & Cotton Bronk, 2003; Dik, Steger, Gibson, & Peisner, 2011). This perspective suggests that young people seek to understand not only how their post-secondary aspirations are integrated with important identity tasks, but also how their work (current and future) will allow them to make a contribution to the communities and society in which they live. Therefore, we have taken a broad view of what it means to be college and career

ready.

School-based career development activities support students in order to accomplish a range of outcomes. For K-12 students, this includes such things as increasing knowledge of educational and occupational options available, increasing self-awareness (e.g., attitudes, values, beliefs, etc.) related to aspirations and abilities, and developing the capacity to use information to support goal-setting and career decision making (Bryan, Holcomb-McCoy, Moore-Thomas, & Day-Vines, 2009; Ireh, 1999; Maddy-Bernstein & Dare, 1997). School counselors also facilitate career development for students so they gain skills to manage educational and career decision-making for the rest of their lives.

Career development can serve as a pathway for motivating students during their time in school as they develop a sense of purpose for achieving short- and long-term life goals (Dik et al., 2011). It stands to reason that the philosophy and intent of college and career readiness is to improve K-12 schooling by developing young people's preparedness for post-secondary education and careers and, ultimately, into productive members of society (U.S. Department of Education, 2010). However, too narrow a focus on academic achievement in schools across the U.S. may not help students truly become college and career ready. Other developmental factors are essential (e.g., attitude, motivation and aspirations), and these are the areas that many school-based career development activities should target (ASCA, 2014). Therefore, school counseling policy and practice that targets a range of experiences in school, relationships, motivation, and goal setting with students in K-12 schools is germane (Lapan et al., 2017).

School counselors provide school-based career development activities in a variety of forms. Many of these activities are included as part of comprehensive programming or as targeted interventions. Examples include developing classroom guidance lessons aligned with the eight components of college and career readiness proposed by the College Board (National Office for School Counselor Advocacy, 2011). Additionally, school counselors may invite guest speakers working in STEM related careers, coordinate classroom visits from public service officials working in local communities (e.g., firemen, civil engineers, military personnel) or job shadowing at local medical facilities, provide service learning opportunities, conduct career assessments, host career fairs, and coordinate career/technical education courses (see Dykeman et al., 2001, for a taxonomy of school-based career development interventions). Hughes and Karp (2004) published a review of school-based career development that is helpful for understanding the types of career development activities that are prevalent in K-12 settings. Table 2 summarizes these activities, including updates related to advances in technology and computer-assisted career guidance.

Career development in schools emerged from vocational guidance and is closely related to vocational education (Herr & Cramer, 1972). Vocational education is now commonly referred to as career and technical education (CTE); however, it is important to note that career development is not limited to any particular educational pathway (Rojewski, 2002) and can be integrated into a variety of classroom activities and curricula. Indeed, an essential aspect of career development in schools is how it can readily link with the core academic curriculum. A broad conceptualization of career development in schools is what undergirds comprehensive school counseling (guidance) programs (Gysbers & Henderson, 2014). While there are multiple frameworks for career development in schools (Brand, 2009; Lynch, 2000), there is evidence supporting the integration of career development activities into the academic curriculum (Brown & Ryan-Crane, 2000; Hughes & Karp, 2004) and within a comprehensive framework such as the model proposed by the ASCA (2012). In this model all responsive services, including career development activities, are provided through the guidance curriculum, individual student planning, and system support depending on the needs of students at any given school. Generally, comprehensive programming should be preventative, proactive, developmentally appropriate, and coordinated, as appropriate, by school counselors or other educators (ASCA, 2012). Furthermore, ASCA (2013) advocates that school counselors should work closely with teachers to create an academic environment that fosters college and career readiness.

While career development is ostensibly focused on helping individuals successfully transition into the world of work, many school counselors are focused on a broader conception of student development and view the academic, personal/social, and career domains as being closely interconnected (ASCA, 2012). The NCDA (2011) policy statement on career development through the lifespan describes a strong connection between work and learning for school-aged individuals and suggests that "youth be exposed to the concept that a strong relationship exists between education and occupational success" (p. 2). Seminal scholarship includes Super (1980) and Watts (1999) describing career development as a lifelong process in learning and in work. When viewing career development as the negotiation of a pathway from education to work and other aspects of life, it makes sense that many schools and school counselors would strive to support a range of important student outcomes in concert with supporting post-secondary and career transitions. Following is a synthesis of the research related to the impact of career development activities in school on student achievement, retention, post-secondary transitions, and other career-related outcomes.

## Academic Achievement

Academic achievement is an important indicator of college and career readiness, particularly because of its association with post-secondary success and economic stability later in life (Carnevale, Rose, & Cheah, 2013; Daly & Bengali, 2014; Leonhardt, 2014). Students who are academically successful are more likely to be stable in their employment, have health insurance (and be healthy), and become more civically engaged (Bradley & Greene, 2013; Hogan, Chamorro-Premuzic, & Kaiser, 2013; Lin, 2015). Educational research seems to highlight that academic achievement can be improved through a number of factors within the school environment (Fan & Chen, 2001; Rivkin, Hanushek, & Kain, 2005).

Moreover, there is a substantial body of research demonstrating the positive impact of career development activities in schools on students' academic achievement (Bowers, Lemberger, Jones, & Rogers, 2015; Brigman & Campbell, 2003; Dahir & Stone, 2003; Gysbers & Lapan, 2001; Legum & Hoare, 2004; Poynton, Carlson, Hopper, & Carey, 2006). Evans and Burck's (1992) seminal meta-analysis, provides a good starting point to review the literature on career development and academic achievement. They examined 67 studies and were able to demonstrate a small positive effect (the overall effect size reported was .16 using $G\mu$) of career education interventions on student achievement, for students in grades 1-12, especially for particular subjects including math and English and for students of average abilities. Additionally, the findings suggested the career development activities were more effective if students received consecutive years of programming (Evans & Burck, 1992).

Other important studies have been conducted in Missouri (Lapan, Gysbers, & Petroski, 2001; Lapan, Gysbers, & Sun, 1997), Utah (Carey, Harrington, Martin, & Stevenson, 2012; Nelson, Fox, Haslam, & Gardner, 2007; Nelson, Gardner, & Fox, 1998), and Washington state (Sink, Akos, Turnbull, & Mvududu, 2008; Sink & Stroh, 2003). These studies provide evidence that comprehensive school counseling programs with career development interventions are associated with student achievement. Findings from the Washington state studies also found that schools with a long standing (five years or longer) comprehensive counseling program were able to show significantly higher academic achievement outcomes than schools that did not have a program. Drawing conclusions on the impact of comprehensive school counseling programs on student outcomes is difficult as Brown and Trusty (2005) noted; however, Sink (2005) argued that tentative causal inferences can still be made and that the only way to improve the conclusiveness of the evidence for career development in schools is to amass a range of varied studies. In that vein,

some studies have examined interventions designed specifically to support student achievement such as Student Success Skills program (Brigman & Campbell, 2003) and Career Targets (Legum & Hoare, 2004). Such studies provide evidence that targeted career development activities improve student achievement.

Furthermore, findings from several studies suggest that career development can impact student achievement indirectly through improvements in student engagement (Kenny, Blustein, Haase, Jackson, & Perry, 2006; Orthner et al., 2010; Orthner, Jones-Sanpei, Akos, & Rose, 2013), self-efficacy (Lent, Brown, & Larkin, 1986; Multon, Brown, & Lent, 1991), and decision-making skills (Gushue, Scanlan, Pantzer, & Clarke, 2006). In other words, career development activities that target "non-cognitive" factors such as student attitudes and dispositions may be particularly effective at improving outcomes in these areas as well as supporting student academic achievement.

The studies highlighted in this section provide evidence of the ways in which school-based career development activities in schools support academic achievement. Supporting student achievement is crucial for successful post-secondary outcomes. If students do not achieve academically, they may not graduate with the content knowledge or academic skills required for college and the world of work.

## Retention

Related to academic achievement is student retention to ensure completion of school. Retention of students has always been a concern for educators and families because of the increased risk of negative outcomes associated with dropping out of school. One reason for student dropout is an inability for students to envision an identity for themselves in the world of work (Bridgeland, Dilulio, & Morison; 2006; Stearns & Glennie, 2006). This point suggests that career development activities may play an important role in keeping students engaged in their education and retaining them in school. The Pathways to Prosperity report published by the Harvard Graduate School of Education (Symonds, Schwartz, & Ferguson, 2011) echoed this notion stating a major reason students drop out of high school is that they cannot see a "clear, transparent connection between their program of study and tangible opportunities in the labor market" (pp. 10-11). Kenny et al. (2006) reported greater engagement with career planning was positively correlated with school engagement for a sample of ninth grade students, and others have reported similar findings for students from other demographic groups (Fallon, 1997; Martinez, 1997; Patrick, Furlow, & Donovan, 1988).

Career development activities can anchor school-wide efforts to encourage retention and support academic achievement. Howard and Solberg (2006) argued that

school counselors are able to address the psychosocial variables that may accompany students' academic challenges and decisions to drop out. Evaluations of the Achieving Success Identity Pathways (ASIP) program (Solberg, Carlstrom, & Kowalchuk, 2001), which targets student achievement by focusing on vocational education and vocational self-efficacy, provide evidence that the program had a positive impact on academic performance and attendance, particularly for low income students from diverse backgrounds. Plank, DeLuca, and Estacion (2008) also reported a link between career development and school retention. Using longitudinal data from the Educational Longitudinal Survey of 2002 (ELS: 2002; Ingles, Pratt, Rogers, Siegel, & Stutts, 2004), they demonstrated how combining CTE and core academic courses reduced the likelihood of dropping out of school for students aged 15 and older (Plank et al., 2008). Educational expectations, as supported by career development activities, have also been shown to improve student motivation and reduce the risk of dropout (Fan & Wolters, 2014).

Some have argued that online and computer-assisted career development activities provide a learner-centered approach that enables students to make the connection between their attendance at school with a long-term career goal (Gore, Bobek, Robbins, & Shayne, 2006). Technology assisted career development activities provide a degree of flexibility for students that may allow them to envision a career-oriented identity and stay more engaged in school (Offer, 2004; Wonacott, 2002). Some of the more common computer-assisted programs available and widely used include Naviance (Naviance, 2016) and, in elementary school, Paws in Jobland (Xap Corporation, 2017). A recent exploratory study has shown Naviance to be effective at supporting college application rates (Christian, Lawrence, & Dapman, 2017).

Technology also offers, in some instances, a cost-effective and efficient way to assess students and identify those who may be experiencing career-indecision (Gore et al., 2006; Offer, 2004). Identifying such students may allow for counselors and others to provide additional supports to help students stay engaged and prevent them from dropping out. Some of the best evidence to support this assertion is reported by Bleier (2006), who found that computer-assisted career interventions utilized in the study had a significant impact on retention for a sample of at-risk high school students. Other findings suggest that computer-assisted career development activities can be utilized within broader school engagement interventions. For example, Osborn and Reardon (2006) studied a group of at-risk middle school students who participated in a computer-assisted career counseling course and found that students improved on measures of interests, knowledge of occupations, post-secondary opportunities, and decision-making style. Career

development activities that utilize technology have also been shown to positively impact student achievement (Bleier, 2006; Dimmitt, 2007).

Findings from studies reviewed in the preceding sections indicate that career development activities in schools appear to be most effective when well-integrated into comprehensive programming. Exposure to career development early in schooling and for consecutive years also seems particularly important for supporting academic achievement and student retention. Additionally, computer-assisted career counseling, or career development activities that incorporate technology, appear to support retention and academic achievement.

**Post-secondary Transitions**

College and career readiness is inherently related to post-secondary transition, with a strong emphasis on students' ability to successfully make important life decisions once they graduate from high school (Currry & Milsom, 2014). The school to work transition is generally considered to occur during mid- to late-adolescence (anywhere from 15-24 years of age) and defined as a period when young people develop and build skills related to employment (Phillips, Blustein, Jobin-Davis, & White, 2002). However, transition from school to work or post-secondary education involves more than economics. In many ways, post-secondary transitions signal the emergence of adulthood and a period in life in which students form new relationships while assuming greater autonomy and independence (Ng & Feldman, 2007). Therefore, the time in life when young people are entering the world of work has the potential to be challenging as they negotiate new roles and identities. Additionally, young people are particularly vulnerable during times of economic volatility (Tanveer Choudhry, Marelli, & Signorelli, 2012). There are a number of factors that influence the ability of students to make successful post-secondary transitions including the broad economic, political, and social context which is beyond the control of schools or students. Where schools can exert influence is within the connection between education and work (Arum & Shavit, 1995; Hodkinson, Hodkinson, & Sparkes, 2013). School counselors, in particular, strive to help students make connections between school and future occupations.

Career development activities that allow students to explore the world of work and consider the real-world applications of academic subject matter can engage students in their school work and motivate them to accomplish both near- and long-term goals (Flores, Ojeda, Huang, Gee, & Lee, 2006; Solberg, Howard, Blustein, & Close, 2002). There is also some evidence, that students who receive support in the form of career guidance from counselors in schools report experiencing more "adaptive" transitions and greater job satisfaction

later in life (Blustein, Phillips, Jobin-Davis, Finkelberg, & Roarke, 1997). This is especially impactful for low income students and when the work with these counselors was during an early part of their time in high school (Bryan, Moore-Thomas, Day-Vines, & Holcomb-McCoy, 2011). Further, a meta-analysis by Baker and Taylor (1998) provided evidence of the impact of career development on students' transition. They reported modest effect sizes for the career education interventions reviewed in their study and concluded that, given the relative scarcity of well-designed experimental research in this area, the findings were encouraging. A longitudinal study by Lapan, Aoyagi, and Kayson (2007) also found that career development activities in school supported successful post-secondary transition as measured by a variety of indicators. Participants in this study were more likely to have achieved higher levels of education after high school and reported being very satisfied with their lives and vision for their futures (Lapan et al., 2007). Additionally, career development in school has also been found to increase the likelihood of college enrollment and college graduation (Maxwell & Rubin, 2001), and studies have highlighted the important role that school counselors play in helping students prepare, search, apply, and plan for college (Bryan, et al., 2011; Lapan & Harrington, 2010; Ogle, 2001).

There is a considerable body of research that has focused on the role of career and technical education (CTE) in supporting post-secondary transition. Bragg and Ruud (2007) reported that high school students who participated in CTE transition programs in their study felt more prepared for the transition to college and confident about their choices for college and career. Dare (2006) provided an excellent overview of different types of CTE programs and their effectiveness at promoting students' transitions into post-secondary education, especially when coupled with more rigorous academic preparation. Other programs that incorporate CTE with the academic curriculum, such as the College and Career Transitions Initiative (CCTI) and Project Lead the Way (PLTW), span academic disciplines to develop vocational students' academic skills and have demonstrated success at improving student achievement and educational attainment beyond high school (Dare, 2006).

Work-based learning is also a form of career development, and a few studies have examined the ways in which work-based learning supports school to work transitions. Findings from a qualitative study published by Phillips et al. (2002) revealed work-based learning as having a considerable positive impact on participants' "readiness" for transition, including work-related skills and plans. Ryan (2001) argued that work-based learning also supported employment stability for transition-aged youth. Gemici and Rojewski (2010) analyzed data from the Educational Longitudinal Survey (ELS: 2002) and concluded that work-based learning interventions,

particularly cooperative education, support the post-secondary transition process and occupational engagement, especially for at-risk youth.

Similar to achievement, career development activities in schools have been shown to have an impact on students' ability to successfully transition from school, to post-secondary education, and to the world of work. Post-secondary transition is influenced by a wide range of factors, but evidence suggests that career development in school can have a positive effect on students' readiness, skills, plans, and employment stability after graduating high school.

**Other Career-related Outcomes**

Last, it is worth exploring the impact of career development activities in schools on other career-related outcomes such as life satisfaction, happiness, and societal contribution. We argue that in keeping with a broad conception of what college and career readiness means, additional indicators and outcomes are essential to consider. They represent aspects of development described by Super (1980, 1990) as being necessary for occupational success and healthy adjustment over the lifespan. These aspects of career development seem to be the most difficult to identify empirical evidence for because they are highly subjective and challenging to quantify. In other words, can something that occurs during school have a lasting, measureable impact on one's future career and quality of life?

In attempting to address this question, a few researchers have measured aspects of psychological adjustment incorporating aspects of work and career. For example, Neugarten, Havinghust, and Tobin (1961, 1996) developed the Life Satisfaction Rating scale (LSR) and Greenhaus, Parasuraman, and Wormley (1990) developed the Career Satisfaction Scale to measure outcomes associated with career adjustment and overall satisfaction. Others have developed measures to assess individuals' quality of life (Gill & Feinstein, 1994) or happiness (Linley, Maltby, Wood, Osborne, & Hurling, 2009). However, while life satisfaction and happiness are arguably indicators of career "success," so is a more objective measure such as educational attainment or income. In the literature, career success is generally operationalized as career or job satisfaction (Judge, Higgins, Thoreson, & Barrick, 1999). Yet, determining which combination of factors that adequately assess career success has proven methodologically challenging.

Researchers who have investigated the relationship between education, career development, and career (or life) success have suggested that career success is comprised of a combination of academic achievement, certainty of choice, and college readiness (Association for Career and Technical Education [ACTE], 2010). Others have stressed that career success is a mix of external factors such as income and career advancement

and internal factors such as job and career satisfaction (Heslin, 2005; Ng, Eby, Sorensen, & Feldman, 2005). Several studies have investigated factors that predict career success such as education (Nabi, 1999), gender (Melamed, 1995; Orser & Leck, 2010), and race (James, 2000; Judge, Cable, Boudreau, & Bretz, 1995). Some studies have focused on the ways individual attributes such as intelligence or personality have a role in predicting career success (Seibert & Kraimer, 2001; Judge et al., 1999). Others have argued that career success is dependent on one's ability to build social capital (Seibert, Kraimer, & Liden, 2001).

There is evidence that career development in schools, especially activities with a strong focus on vocational education, can have a lasting positive impact on students' lives. In a report to congress, Silverberg et al. (2004) found that participation in career development and vocational education had a positive impact on students' short- and medium-term income. Gore, Kadish, and Aseltine (2003) found that a vocational focus in school had a positive impact on job quality, employment match, and career outlook. Career counseling interventions in high school has also been shown to increase students' educational aspirations and attainment (Corwin, Venegas, Oliverez, & Colyar, 2004; Kenny et al., 2006), improve career awareness (Fouad, 1995) and social-cognitive outcomes such as decision-making self-efficacy (Falco & Summers, 2017; Kraus & Hughey, 1999; McWhirter, Crothers, & Rasheed, 2000).

Additionally, career development activities in school support students' future civic engagement. In particular, service-learning programs and participation in extracurricular activities have been shown to improve students' civic engagement, knowledge of the world of work, as well as their self-awareness and commitment to career choice (Flanagan & Levine, 2010; Simons & Cleary, 2006). Some research demonstrates that prior to entering the workforce, students who report that they are working toward creating a sense of meaning in their future work report higher levels of personal meaning, career decision self-efficacy, and intrinsic work motivation (Duffy & Raque-Bogdan, 2010). Research also points to a link between engaging in service-learning activities and career well-being outcomes for children in elementary school (Steen, O'Keefe, Griffin, & Routzahn, 2012). This study presented a classroom guidance program that engaged students in conducting service-activities throughout the school year and within the school local and broader community. However, the findings are descriptive, and there are no long-term data to confirm that these positive outcomes reported by the elementary students were sustained.

Arguably, career development activities in school can support both workforce development and civic engagement by helping students make connections between work and citizenship, but assessing career success and other outcomes is difficult. Defining and measuring the discrete impact of career development activities and related educational interventions across the course of an individual's life-span poses significant methodological challenges; although, there is clearly value in exploring and understanding these outcomes because they have profound implications for the importance of career development on individuals' economic and psychological well-being. Extant findings do suggest that career development activities in school have a positive impact on individuals' career satisfaction, educational attainment, future earnings, and societal contribution.

## Implications for Research, Evaluation, Practice, and Policy

There is a need to generate, compile, and understand the empirical evidence of the impact of career development activities on outcomes to evaluate the ways in which they support students' college and career readiness. Doing so provides school counselors, researchers, policy-makers, and other stakeholders with the information necessary to make the case for sustaining, and even enhancing, resources allocated to these activities (Maguire, 2004). This paper presents an overview of the literature and synthesizes the evidence in support of school-based career development activities, examined within the context of the college and career readiness agenda. Findings suggest that career development activities in schools do have a positive impact on students' readiness for college and career. Findings also highlight the role that career development activities and school counselors have in meeting schools' mandates to foster college and career readiness.

### Research and Evaluation

There is a solid body of evidence which demonstrates that school-based career development activities support academic achievement, student retention, post-secondary transition, and other career-related outcomes. Well-organized career development activities, especially within the context of comprehensive programming, have the potential to positively impact each of these factors. In particular, findings suggest that the most robust impacts are seen when career development is implemented early in schooling and when students have access to successive years of career development activities. Results also suggest that online and computer-assisted career development is an important tool in the delivery of school-based career development activities. By orienting students toward their futures and encouraging them to consider how their decisions may impact their life trajectory, career development attends to students' near- and long-term life goals. Students who believe that their academic work is being done in service of a long-term goal are more likely

to persist and develop a strong sense of purpose that supports a positive mental image of their future (Hoyt, 2005; Yeager & Bundick, 2009).

While there is a substantial body of evidence around career development in schools, additional research would considerably strengthen the evidential foundation for evaluating current practice and policy related to career development in K-12 settings. Maguire (2004) described the ways to best go about measuring outcomes of career guidance. He observed several difficulties that hinder the undertaking of definitive studies, some of which are alluded to in this paper, including definitional inconsistencies. Another major issue to contend with is the ability- or lack thereof - of many studies to parse out or differentiate the effects of particular interventions from that of a whole series of other contributing factors. Herr (2002) argued that the difficulty in establishing a direct relationship between specific interventions and outcomes is also compounded by the use of crude, or imprecise, outcome measures and an inability to isolate and precisely describe the intervention. There is, hence, a need for further research using control groups along with valid and reliable measures to evaluate career development outcomes more thoroughly (Hughes & Karp, 2004; McGannon, Carey, & Dimmitt, 2005). This point is reinforced by calls for the development of national metrics, or a database, through which impact could be assessed (Solberg, Wills, & Niles, 2009). Lapan et al. (2017) recently developed the "College and Career Readiness Support Scales" which shows promise as an assessment tool, but it still does not tap the facets of college and career readiness in a way that is consistent with Conley's (2012) definition.

There are specific areas of research needed to expand the evidence base used to evaluate career development in schools. First, there is a need for outcome studies designed to specifically assess college and career-readiness outcomes associated with career development interventions in K-12 settings. There is also a need for research which is longitudinal and, therefore, capable of pinpointing longer-term and deep-seated effects (those that go beyond skills and behaviors), including identity shifts and attitudinal changes associated with career development activities (Maguire, 2004). To this point, assessments of particular interventions should include measures of attitudes, learning, and motivation as outcomes. These data are crucial for understanding the impact of career development activities, beyond such indicators as academic achievement alone. Moreover, there is a need for studies that used randomized control or comparison group methodologies to improve the robustness of data striving to demonstrate causal linkages between specific interventions and outcomes (Hughes & Karp, 2004). Investigations that seek to explore the societal benefits of career guidance interventions should strive to use large samples and high quality, sensitive instruments (Killeen, Watts, & Kidd, 1998). Although, Watts (1999) argued that developing strong methodologies and outcome measures which further our understanding of the *process* of career development, versus seeking to justify the impact of interventions solely in outcome terms, may ultimately do more to advance career development initiatives.

## Practice and Policy

In addition to pulling together studies on school-based career development activities and examining the ways in which school-based career development supports students' college and career readiness, this paper seeks to inform policy and practice in this area. There are three important practice implications from this body of literature. First, it is hoped that this review of evidence persuades readers to consider college and career readiness in broader terms. Too narrow a focus on academic achievement is unlikely to support the college and career readiness agenda (Conley & McGaughy, 2012; Hooker & Brand, 2010; Lombardi, Seburn, & Conley, 2011).

To truly be college and career ready, students must acquire a range of knowledge, skills and attitudes that support their ability to set and achieve their goals beyond high school. They must achieve academically, stay in school, plan for their post-secondary transition, and prepare to become active and engaged members of society. Second, school counselors can support these efforts by focusing on incorporating career development activities into comprehensive programming early in K-12 schooling. Utilizing technology, helping students make connections between current academic goals and future occupational aspirations, and fostering students' identity development as it relates to learning and work are concrete strategies that counselors can use to support career development outcomes. It is essential that all students have access to quality career counseling services throughout their K-12 schooling.

Finally, when school counselors emphasize college and career readiness with the existing body of knowledge around career development then better synergy between researchers, practitioners, and policy makers may advance our understanding the impact of career development (Maguire, 2004). School counselors should begin engaging students in K-12 schools as soon as possible to increase the likelihood of them benefitting throughout their lifetime. While there is always a need for research to advance practice and policy, findings presented here do much to demonstrate the strength of the extant evidence.

## Conclusion

Choosing a career is a fundamentally important decision that has long term implications not only for individuals' engagement in the workforce but also for

their psychological health and well-being. Career choice was once viewed as a singular event, but many contemporary theories of career development describe occupational choice as series of decisions that build incrementally over the lifetime (Gottfredson, 1996, 2005; Lent, Brown, & Hackett, 1994; Super, 1980, 1990). Most career development scholars would agree that individuals' knowledge of themselves and the world of work is formed during the years spent in K-12 settings (Hughes & Karp, 2004; Solberg et al., 2002; Super, 1980). The choices that young people make in school inevitably facilitate or constrain career options later in life. This perspective highlights the importance of career decisions made in school. Perhaps, in order for students to genuinely be college and career "ready," they must stay in school, be academically prepared, be able to identify short- and long-term post-secondary goals, and be able to successfully make transitions and direct a course of action for their future. Because career development also leads to other important outcomes, such as self-efficacy, happiness/life satisfaction, and civic engagement (Blustein, Devenis, & Kidney, 1989; Blustein & Noumair, 1996; Brown, 2002; Hirschi, 2009), it is not unreasonable to conclude that students will, or should, also acquire such qualities as indicators of college and career readiness. This review demonstrates that school counselors and support personnel can use creative and intentional, far-reaching career development in schools to support the college and career readiness agenda.

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Table 1

*Study Inclusion and Exclusion Criteria for Review*

| Publication Types | Populations | Outcomes | Study Frequency |
|---|---|---|---|
| Primary research (quantitative or qualitative) examining school counselor-led career development activities or career development activities integrated into comprehensive school counseling programs, including reports and dissertations | K-12 school-aged individuals in the U.S. | • Achievement<br>• Retention<br>• Post-secondary transitions<br>• Happiness/life satisfaction<br>• Civic engagement<br>• Self-efficacy<br>• Decision-making<br>• Identity | 92 |
| Meta-analyses and literature reviews specific to career development in K-12 settings | | | 8 |
| Theoretical articles focused on career development for K-12 school-aged individuals | | | 6 |
| Practice articles focused on career development for K-12 school-aged individuals | | | 19 |
| Guidelines/policies for school-based career development | | | 32 |
| Exclusion criteria: career development activities in settings other than K-12, interventions conducted by someone other than a school counselor or not embedded in a comprehensive school counseling program | Exclusion criteria: college-aged or adult populations, studies conducted with students outside of the U.S | Exclusion criteria: outcomes not consistent with accepted definitions of college and career-readiness such as self-esteem, resilience, or interpersonal skills. | *na* |
| | | | *N* = 157 |

Table 2

*Career Development Activities Prevalent in K-12 Settings*

| Experiential Activities (work-based interventions) | Individual Activities (individual assessment and/or advising) | Classroom Activities (guidance lessons or group activities) | Curriculum Activities (curriculum-based interventions) |
|---|---|---|---|
| Service-Learning/ Volunteer Programs | Academic and/or 4-Year Planning | Career Day/Career Fair | Career Courses |
| Job Shadow | Career Assessments (RIASEC, SDS, Career Maturity, Career Clusters, etc.) | Career or College Field Trips | Career Academy/Career Magnet School |
| Internship | | Community Member Presentations in Classroom | Career Information or Exploration infused into Core Academic Curriculum |
| Work Study | College Admissions Testing | Career Guidance Lessons | |
| Vocational Education (CTE) Programs | Portfolio/Education Career Action Plan | Technology/Computer Assisted Guidance | Dual Enrollment |
| Mentoring Programs | | | Informational Interviewing |
| | | | Resume Writing |