Constructing construction careers: the case for the building trades

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Received 17 June 2019
Revised 3 December 2019
18 January 2020
Accepted 9 February 2020

Abstract

Purpose – This paper discusses the well-publicized labor shortages in the building trades, reviews the causes for the deficiencies, and presents prescriptions for how career counselors and schools can play a critical role in encouraging young adults to consider construction occupations.

Design/methodology/approach – Using data from government agencies, trade organizations, and scholarly publications, this paper describes the categories of the building trades as well as their employment trends and compensation prospects. It also reviews the personal and environmental factors that could lead to the "construction of a construction career."

Findings – This article documents the reasons for the labor shortages in the construction industry and then offers recommendation on how younger adults could be encouraged to consider the building trades as viable career alternatives.

Social implications – Labor shortages in the construction industry have a direct and indirect deleterious effect on the economic well-being of every country. This article provides suggestions on how to inspire young adults to consider the building trades as worthwhile career pursuits.

Originality/value – There is a limited amount of scholarly attention given to career decision making related to occupations that do not require a college degree, including the building trades. This paper attempts to fill this gap in the literature by focusing on the individual characteristics and environmental factors that might prompt consideration of a career in the building trades. It also describes the educational, governmental, and corporate initiatives that work to encourage individuals, working in conjunction with their career counselors, to consider careers in the construction industry.

Keywords Construction trades, Career counseling, Career decision making, Employability, Contemporary careers

Paper type Viewpoint

During its 2018 season, the popular public television show *This Old House* began a campaign entitled *Generation Next*. In partnership with the *Mike Rowe Works Foundation*, the goal of this initiative was to encourage and "inspire" a greater level of participation by young people in the construction trades. It has long been recognized that a severe shortage exists in the number of individuals who are seeking careers in the building professions, both in the United States and in other countries in the industrialized world (Bureau of Labor Statistics, 2018a; Detsimas *et al.*, 2016; Seresht and Fayek, 2015; Torpey, 2018a). Simultaneously, the ranks of people employed in these careers are being depleted as the retirements of baby boomers and other factors create a net outflow of workers. Indeed, an industry-wide survey of general contractors in the United States found that 80 percent reported difficulty in finding and hiring qualified craft workers (Association of General Contractors of America, 2018). This shortage of workers becomes manifest in a number of ways, including higher building costs, the deferral or cancellation of needed home repairs and upgrades, delays in planned infrastructure expansion, and a corresponding overall negative effect on economic performance.

Given the real and potential unfavorable outcomes of this shortage of workers in the building trades, the aim of this paper is first to offer a primer on the types of jobs and occupations that collectively represent construction careers and then review why there is the attendant critical shortage. The paper next discusses the individual characteristics and environmental factors that might lead one to consider, and possibly decide on, a career in the building trades. We then give a brief overview of educational, governmental, and corporate

Education + Training
Vol. 62 No. 3, 2020
pp. 201-213

0040-0912
DOI 10.1108/ET-06-2019-0117

initiatives that work to encourage individuals, working in conjunction with their employment counselors, to consider a career in the construction industry. The paper concludes with suggestions for future research. Throughout this article, we disproportionately focus on the shortage of construction-based labor in the US, but it should be noted that similar shortages and concerns clearly exist within other industrialized countries.

What are the construction trades and what are the occupational projections?

The United States Department of Labor provides thorough descriptions of all occupations, including those in the building and construction trades. As shown in Table I, there are roughly seventeen different categories of construction occupations as based on information from the Standard Occupational Classification and Occupational Safety and Health Administration (OSHA) databases. While there are certainly variations in the employment picture for each of the occupational categories, employment within the construction and extraction occupations is projected to grow 10 percent from 2018 to 2028, faster than the average for all occupations, and a gain of over 800 thousand new jobs (Bureau of Labor Statistics, 2018a). Overall growth in the economy and population will increase demand for new buildings, roads, and other structures, which will create new openings in construction occupations that will average over 900 thousand per year in the US alone during the period from 2018 to 2028 (Torpey, 2019). From a compensation standpoint, as of 2017 and as reflected in Table I, the median annual wage for all construction occupations in the US was roughly $45 thousand, which was higher than the median annual wage of about $38 thousand for all occupations (Bureau of Labor Statistics, 2019b). And when looking at occupations that typically do not require a formal post-high school education or credentialing, those in construction trades have some of the highest wages (Torpey, 2018c). Additionally, based simply on the laws of economics, as demand for workers to fill construction occupations rises over time, compensation for all individuals employed in the building trades will undoubtedly increase if labor supply does not increase in concert.

Why is there a shortage of people entering the building trades?

The shortage of workers in the building trades is the result of a confluence of factors. First, many teenagers and young adults who are considering initial career choices are inundated with the idea, from parents, counselors, and teachers, that the only way to be successful in life is to pursue a college degree (Belkin, 2018; Wyman, 2015). Career counselors often face pressures, created by parents, society, and the academic establishment, to put forth the standard of a "college degree for all." Counselors who recommend otherwise could face questions such as "are you saying my child is not college material?" It is not surprising that high school students are thus steered into the consideration of pursuing a college degree as the only logical life choice, and thereby do not take into account other career choices that do not specifically demand a college degree as a prerequisite for entry. Second, school districts have faced funding reductions resulting in a scaling back of course offerings for trade-school programs (Rich, 2011; Wyman, 2015). These courses are important educational and vocational tools since they not only serve to offer basic skills training in the building trades but also give students a realistic preview of the daily demands and work requirements of these occupations. In addition, governmental programs, policies, and monies are skewed in the direction of encouraging and inducing young people to pursue an undergraduate collegiate degree to the detriment of other viable vocational choices (Cass, 2018).

Thus, many students who otherwise might be well-suited to a career in construction occupations are encouraged to complete college degrees that might ultimately generate little personal and financial fulfillment or leave them overeducated in relation the jobs that they do

Carpentry work: Construct, erect, install, or repair structures and fixtures made of wood and comparable materials, such as concrete forms; building frameworks, including partitions, joists, studding, and rafters; wood stairways, window and door frames, and hardwood floors; cabinets. Annual Median Pay (2018): $46.6 thousand

Concrete work: Smooth and finish surfaces of poured concrete, such as floors, walks, sidewalks, roads, or curbs using a variety of hand and power tools. Align forms for sidewalks, curbs, or gutters; patch voids; and use saws to cut expansion joints. Annual Median Pay (20187): 44.8 thousand

Electrical work: Install, maintain, and repair electrical wiring, equipment, and fixtures. Ensure that work is in accordance with relevant codes. Could also install or service street lights, intercom systems, or electrical control systems. Annual Median Pay (2018): $55.2 thousand

Excavation work: Operate or tend machinery, equipped with scoops, shovels, or buckets, to excavate and load loose materials. Annual Median Pay (2018): $47.0 thousand

Floor laying and other floor work: Lay and install carpet from rolls or blocks on floors. Install padding and trim flooring materials. Apply blocks, strips, or sheets of shock-absorbing, sound-deadening, or decorative coverings to floors. Annual Median Pay (2018): $40.8 thousand

Glass and glazing work: Install glass in windows, skylights, store fronts, and display cases, or on surfaces, such as building fronts, interior walls, ceilings, and tabletops. Annual Median Pay (2018): $43.6 thousand

Heavy construction, including highways, streets, bridges, tunnels and pipelines: Operate equipment used for applying concrete, asphalt, or other materials to road beds, parking lots, or airport runways and taxiways or for tamping gravel, dirt, or other materials. Includes concrete and asphalt paving machine operators, form tampers, tamping machine operators, and stone spreader operators. Annual Median Pay (2018): $47.0 thousand

Installation or erection of building equipment: Install or erect building equipment, such as elevators, pneumatic tube systems, and dust collecting equipment. Can include installation or dismantling of machinery or other industrial equipment. Annual Median Pay (2018): $79.8 thousand

Masonry and stone work: Lay and bind building materials, such as brick, concrete block and stone, with mortar and other substances. Annual Median Pay (2018): $44.8 thousand

Painting and paper hanging: Paint walls, equipment, buildings, bridges, and other structural surfaces, using brushes, rollers, and spray guns. Cover interior walls or ceilings of rooms with decorative wallpaper or fabric, or attach advertising posters on surfaces such as walls and billboards. Annual Median Pay (2018): $38.9 thousand

Plastering, drywall, acoustical and insulation work: Apply plasterboard or other wallboard to ceilings or interior walls of buildings. Apply or mount acoustical tiles or blocks, strips, or sheets of shock-absorbing materials to ceilings and walls of buildings to reduce or reflect sound. Annual Median Pay (2018): $45.2 thousand

Plumbing, heating, and air-conditioning: Assemble, install, alter, and repair pipelines or pipe systems that carry water, steam, air, or other liquids or gases. Could install heating and cooling equipment and mechanical control systems. Fabricate, assemble, install, and repair sheet metal products and equipment, such as ducts, control boxes, drainpipes, and furnace casings. Annual Median Pay (2018): $53.9 thousand

Roofing, siding and other sheet metal work: Cover roofs of structures with shingles, slate, asphalt, aluminum, wood, or related materials. Annual Median Pay (2018): $40.0 thousand

Structural steel erection: Raise, place, and unite iron or steel girders, columns, and other structural members to form completed structures or structural frameworks. May erect metal storage tanks and assemble prefabricated metal buildings. Annual Median Pay (2018): $52.8 thousand

Terrazzo, tile, marble and mosaic work: Apply a mixture of cement, sand, pigment, or marble chips to floors, stairways, and cabinet fixtures to fashion durable and decorative surfaces. Annual Median Pay (2018): $45.2 thousand

Water well drilling: Operate a variety of drills such as rotary, churn, and pneumatic to tap subsurface water and other deposits. Annual Median Pay (2018): $47.0 thousand

Wrecking and demolition work: Demolish buildings and other structures, including the dismantling, razing, or destroying or wrecking of any building or structure or any part thereof. Break concrete for streets and highways-contractors. Annual Median Pay (2018): $47.0 thousand

Source(s): *Adapted from the Occupational Health and Safety Administration of the US Department of Labor, Descriptions of Major Group 17: Construction Special Trade Contractors and Major Group 16: Heavy Construction. Descriptions and median pay statistics also adapted from the US Bureau of Labor Statistics (2019) Standard Occupational Classification System, Occupational Outlook Handbook, and the Office of Occupational Statistics and Employment Projections. See the websites:
https://www.osha.gov/pls/imis/sic_manual.display?id=12&tab=group
https://www.osha.gov/pls/imis/sic_manual.display?id=11&tab=group
https://www.bls.gov/soc/2018/major_groups.htm#47-0000
https://www.bls.gov/ooh/construction-and-extraction/home.htm

Table I.
Categories of construction occupations*

hold (Moore and Rosenbloom, 2016). Indeed, these students could very well land in jobs and careers that, in hindsight, did not require a college degree or end up being personally unfulfilling (Hannon, 2018). Simultaneously, not only would they lack appropriate preparation for a meaningful job in the construction industry, but also could face the potential of being saddled with debt associated with the pursuit of the college degree. Career counselors can play a crucial role in dispelling the belief that the only (or primary) way to achieve success and happiness in life is through the attainment of a college degree and the related undertaking of a white-collar form of employment.

A career in construction—the application of a rational decision-making process

In a normative sense, a career choice, or the options regarding career choice, should be the product of a rational process of implementing one's self-concept in the transition from school to work (Savickas, 2011). This adaptation takes place as the individual becomes concerned about his or her vocational future, takes control over the planning for that future, displays curiosity through the exploration of possible vocational scenarios, and gains confidence in the pursuit of newly-established aspirations (Savickas, 2011). Thus, as with any career decision, the individual needs to take a proactive role in assessing both his or her own personal qualities and total life experiences as well as the career opportunities that might be available in the job market. Indeed, one of the basic tenets of career management is that one's vocational goals and decisions should be aligned intelligently and fit with one's individual characteristics as well as the broader work environment (Arthur *et al.*, 2017; Greenhaus *et al.*, 2019). Ultimately, individuals who are considering a career in construction need to go through, in a rational and proactive way, a series of iterative steps, including the exploration of interests, talents, and lifestyle preferences as well as the broader work environment; the setting of career goals related to the particular building trade; and then, ultimately, the establishment of career strategies that would allow for goal attainment (Greenhaus and Kossek, 2014; Greenhaus, *et al.*, 2019).

Most importantly, a thorough level of self- and work environment exploration can help in the discovery of new career opportunities, in the establishment and accomplishment of career goals, and in making individuals more productive, satisfied, and successful in their work lives (Arthur *et al.*, 2006; Zikic and Hall, 2009). Indeed, person-environment, person-job, and person-career fit, which collectively represent the "cornerstone" of most career decision-making theories, epitomize the idea that an occupation that is compatible and consistent with one's personal qualities can lead to positive work attitudes and stability within a given career field and organization (Parasuraman *et al.*, 2000; Arthur *et al.*, 2006; Rehfuss *et al.*, 2012; Gabriel *et al.*, 2014; Hardin and Donaldson, 2014; Chuang *et al.*, 2016). Thus, a deeper exploration of oneself and the environment is critical in allowing for the formation of life themes and goals and the "construction" of a career (Savickas, 2011).

In a general sense, the allure of a career in the building trades is at least partially based on the sense of accomplishment and satisfaction that comes from the creation of tangible structures that have enduring and aesthetic value. Since individuals tend to seek "meaningfulness" in their work (Lips-Wiersma *et al.*, 2016), the ability to see the lasting product of one's handiwork is an attractive feature of employment in the construction industry. In addition, construction occupations typically allow one to stay physically active and fit; working outdoors and in the fresh air can be healthful. Indeed, many individuals gravitate to construction occupations since they dread the idea of being stuck in an office building in a "cube world" setting, with little or no chance of physical movement or access to fresh air (Hannon, 2018).

On the opposite side, it is also important to recognize the potential negative aspects of the building trades. First, regardless of the category, all of the types of construction work can be physically demanding, requiring a certain degree of strength and exertion as well as the need

to work in tight spaces or at extreme heights. In addition, if the construction work takes place outdoors, individual workers can face harsh weather conditions. In short, work in the building trades can be tiring and workers face higher injury rates as compared to other professions. Not surprisingly, these physical demands become more onerous as the person ages. Further, since many construction occupations can be affected by the vagaries of weather and economic conditions, seasonal or periodic unemployment is a possibility. These periodic layoffs can produce economic anxiety and life stress given the uncertainty over when (and if) employment is to be resumed (Duke *et al.*, 2013). Of course, economic vagaries, financial uncertainty, and a loss of job security can be a challenge in all occupations, not just the construction fields.

Individual attributes and the potential for a career in construction

For the person who might be best suited to entering a career in the building trades, and for the career counselor who might be providing guidance, the most important first step is to consider whether the person's "profile" fits the individual characteristics that are linked with success in these careers. In the process of career exploration and decision making, there are four categories of individual traits that should be considered and assessed—interests, work values, abilities, and personality and personality-related constructs (Greenhaus *et al.*, 2019). As Borgen (2006) states, interests refer to likes and dislikes attached to specific activities or objects and are expressions of what a person likes to do. Of the six general interest orientations of Holland (1997), the category most associated with a career in the building trades is the Realistic type. Individuals with a Realistic profile tend to be comparatively more practical and task oriented and prefer activities such as construction and other occupations that allow for a tangible sense of accomplishment (Shahnasarian, 2006). Specifically, individuals with a Realistic interest orientation prefer activities requiring motor coordination, skill, and physical strength and are comfortable with concrete rather than abstract problem situations (Shahnasarian, 2006).

Beyond one's interest orientation, a person's work values, which represent the beliefs about the qualities of human life or the types of behavior that an individual wants to attain through their work (Zytowski, 2006), could also play a deterministic role in the choice of construction-based occupation. While each individual typically displays a combination of values that are personally significant (Schwartz, 1999), such values as achievement (personal success through demonstrating competence according to social standards) and tradition (the respect, commitment, and acceptance of standards, customs, and ideas) could be linked to the pursuit of a construction career. A person's values could also find an outlet in a construction occupation through a "passion" for a particular activity, such that the need to create or contribute to an enduring structure motivates the individual to consider the building trades as a life choice.

Abilities (or talents) refer to the aptitudes, capacities, or proficiencies that allow an individual to perform a wide range of tasks (Rotundo, 2006). Depending on the nature of the potential construction occupation, certain abilities would be of utmost importance. For example, given the exacting demands of construction projects, a range of cognitive skills from general intelligence to logical reasoning ability could all be linked to required capabilities in the building trades. Similarly, the other categories of abilities, such as psychomotor and physical, would likely be prerequisites for most construction occupations. These non-cognitive skills would likely include manual dexterity, hand–eye coordination, physical stamina and strength, and being unafraid of heights (Bureau of Labor Statistics, 2018a). Individual personality factors could also be linked with success in construction careers. Of the basic personality factors, success in construction occupations likely would be associated with comparatively higher levels of conscientiousness and emotional stability since daily demands and the need for teamwork dictate that reliability and even-temperedness are essential traits.

Collectively, individuals who are contemplating a career in the building trades need a solid understanding and awareness of themselves in order to achieve "fit" with the demands of such occupations. It would be hoped that full awareness of the components of self-exploration provides an interconnected composite of an individual in terms of the potential for a construction occupation. Further, career counselors, especially at the high school level, should be aware of those personal qualities that could lead a young person to at least consider pursuing a construction career, as well as the overall positive and negative results that can be realized from these occupations.

Environmental influences on the potential for a career in construction

Beyond individual qualities, the potential viability and practicality of a career in the construction industry also hinges on the level of opportunity, support, and encouragement that exists in the broader social environment. First, it is abundantly clear that demand exists for individuals to enter the building trades in the US and in many other parts of the developed and developing parts of the world (Torpey, 2018b). Shortages in labor supply are apparent in all categories of the trades in the US as listed in Table I (Torpey, 2018c). Second and simultaneously, the rise of the gig, app-enabled economy means that more limited options exist for entering into, and remaining in, a stable, traditional, and long-term organizational career (Callanan *et al.*, 2017, 2019). The combination of these two factors indicates that a career in construction could offer a comparatively higher level of opportunity to gain subjective and objective career success. Further, as opposed to office-based white-collar work, the pressures of the constant striving to climb the corporate ladder and the stresses associated with office politics and extreme time demands would likely be comparatively far lower or non-existent in construction-based occupations. In addition, for those interested in eventually pursuing an entrepreneurial career path, being employed in the construction industry and gaining needed experience can serve as a springboard into starting a business of one's own, even if it is initially on a small scale (Beesley, 2017).

The pursuit of a career in the construction industry also offers unique opportunities for historically under-represented populations. Data from the Bureau of Labor Statistics (2018b) show that of the more than 8 million workers employed in construction and extraction occupations in the US in 2017, only 3 percent were women and just under 7 percent were African-American. For women, minorities, and those who are from economically disadvantaged backgrounds, the building trades can provide a chance for entry into occupations where the demand for workers with requisite skill sets is significant and where hiring organizations are looking to fill open positions with people from traditionally underutilized or untapped labor pools (Azhar and Amos Griffin, 2014; Crary, 2014; Gose, 2019). Indeed, construction occupations can provide opportunities for economic advancement, improved work-family balance, and self-fulfillment that would not be available in other occupational pursuits (Arcand, 2016; Dabke *et al.*, 2008; Lopez del Puerto and Crowson, 2013). Larger cities and municipalities throughout the US have created partnerships between developers, public officials, and community organizations to recruit and train individuals from impoverished neighborhoods to enter into, and be successful in, construction occupations (Gose, 2019). Of course, even with community and governmental support, the historically high levels of abusive treatment, pervasive sexual harassment of women on job sites, feelings of tokenism, and the potential for ongoing discriminatory hiring practices are possible obstacles that women and other under-represented populations might need to overcome in becoming established in construction-based occupations (Arcand, 2016).

Another element influencing the choice of a construction-based occupation is access to training and educational programs directed at potential entrants (Loosemore and Bridgeman, 2018; US Department of Education, 2013; Wyman, 2015). These programs

could be offered through vocational secondary education, technical schools, governmental programs at the federal, state, and local levels, and non-profit organizations that seek to encourage young people to consider a career in the construction industry as a viable occupational alternative. Vocational and technical education programs at the high school level are offered by school districts throughout the US as a means to help students develop the academic and technical knowledge and skills that allow for occupational advancement. However, when it comes to participation rates in technical education, the United States is an outlier compared with other developed nations. According to a Department of Education report, the US falls far below other nations in terms of the percentage of high school students enrolled in a vocational course of study (US Department of Education, 2013). As of 2013, only 6 percent of American high school students were enrolled in a vocational study track compared to the United Kingdom with 42 percent, Germany with 59 percent, the Netherlands with 67 percent, and Japan with 25 percent (US Department of Education, 2013). Nonetheless, both the federal government and certain states have given greater attention to the need for an expansion in vocational education programs (more broadly referred to as Career and Technical Education) given the projected labor force needs over the coming decades (Goldstein, 2017; Green, 2018).

Beyond the secondary school level, for-profit and not-for-profit technical schools offer programs in most if not all of the building trades. These programs can operate independently or in concert with apprenticeship training, and the courses can be taken either before the person is hired or after employment has been granted as part of ongoing on-the-job training (Bureau of Labor Statistics, 2018a). These educational programs play an important role in the career exploration process since individuals can gain self-insight as to whether a certain career represents a "fit" with their personal qualities and background. In addition, vocational education could serve to enhance an individual's degree of self-efficacy within a particular construction-based occupation and would likely also increase the individual's intent to enter the occupation. Unfortunately, attrition is recognized as a major concern in construction skills training, reflecting primarily a lack of self-efficacy on the part of students in their ability to actually master the multi-faceted job demands of the building trades (Elliott and Lopez del Puerto, 2015). Accordingly, institutions and instructors need to pay particular attention to instilling confidence in their students to fulfill the job requirements in construction jobs. The provision of a supportive learning environment and the opportunity to work autonomously can promote feelings of competence and increase training and occupational commitment (Salzmann *et al.*, 2018). One novel approach to attract and retain younger workers in the construction industry is to use high-tech simulators as a mechanism to provide prospective workers with a realistic sense of what it is like to operate heavy construction equipment (Bailey, 2019). For millennials raised on video games, the opportunity to use simulators that mirror arcade-style amusements can be an enticing method to attract younger prospective workers (Bailey, 2019).

Perhaps the most effective technique for preparing individuals for full entry into the construction workforce is the use of apprenticeships (Torpey, 2013; Woods, 2012). As a developmental tool, apprenticeships represent a form of anticipatory socialization and involve "learning as a beginner" through a sequence of supervised competency- and work-based training that allows for an increased level of independence (Orr, 2006). Depending on the nature of the building trade, apprenticeships typically last four years, but could take as little as one year or as long as six years (Torpey and Farrell, 2019). In addition, the wages in a number of the top occupations for apprenticeships are well above the median annual wage in all occupations (Torpey and Farrell, 2019). In 2018, the US Department of Labor counted roughly 585 thousand active apprentices in more than 23 thousand registered apprenticeship programs within the United States (Torpey, 2019).

Formal apprenticeships are normally offered by employers who provide training, both inside and outside of the classroom, as a means to give newly-hired employees the

opportunity to learn and master requisite skill sets to attain competency in a building trade (Torpey, 2013). According to the US Bureau of Labor Statistics, apprenticeships serve as the typical entry path for nearly all of the categories of construction occupations as listed in Table I (Torpey, 2013). Formal apprenticeship programs can also be sponsored by unions and contractor associations. Beyond the specific job skills of a particular trade, apprenticeships usually provide instruction in the basic elements of construction, including blueprint reading, mathematics for measurement, building code requirements, and safety and first-aid practices (Bureau of Labor Statistics, 2018c). Most individuals who enter the building trades learn their craft not only through formal and informal apprenticeships, but also on the job, by typically starting out as laborers, and then working with and observing experienced craft-persons (Bureau of Labor Statistics, 2018c; Detsima *et al.*, 2016; Seresht and Fayek, 2015).

The US Department of Labor also provides detailed assistance in the acquisition and funding of apprenticeships in the construction industry. Assistance takes the form of identifying grant opportunities (US Department of Labor, 2018a), finding apprenticeship opportunities working for the federal government (US Department of Labor, 2018b), and educating businesses on how to establish apprenticeship programs. In addition, potential construction workers can avail themselves of a federal program called the Public Workforce System. This system receives federal funds to help individuals prepare for and find construction jobs and to help employers find qualified workers. Career centers are located in each state and provide an access point for employers and job seekers to receive workforce development services. The Public Workforce System has also developed a suite of online services for individuals and employers, available on state and local workforce websites. Public workforce funds are used to train eligible individuals for occupations in demand in the community. This may involve paying a community or technical college or other post-secondary school for the cost of an individual's training program, or may entail reimbursing an employer for a portion of the costs related to on-the-job training. The US Department of Labor (2018c) provides a list of primary contacts for every state. States have the choice of belonging to a broad federal program or running their own state-level program. According to the US Department of Labor (2018d), 26 states offer tax credits to employers for hiring apprentices.

The important role of career and educational counselors

To state the obvious, career counselors are obliged to help students understand the full spectrum of occupational choices. In so doing, it is hoped that a match can be achieved between the whole person and the career that best fits that person in a meaningful way. However, whether conscious or not, there tends to be a natural inclination to steer teenagers and young adults into the belief that attainment of a college degree is the primary way to achieve personal and professional success in life. Unfortunately, statistics that have accumulated over the past 3 decades have shown that in the US less than 40 percent of students who pursue a college degree graduate within the normal four-year window and only about 60 percent graduate within a six-year window (Ginder *et al.*, 2017). Thus, many individuals fail to complete the college degree, are saddled with an onerous amount of debt, and end up taking a job that did not require a college degree in the first place. Further, even those individuals who complete a four-year degree might be "overeducated," wherein a person's "educational level exceeds the educational level required in their job" (Moore and Rosenbloom, 2016, p. 467). This overeducation phenomenon could lead to a distinct mismatch between one's educational level and the chosen occupational field (Moore and Rosenbloom, 2016). At the same time, on a global basis, labor shortages exist in the construction industry (and in other industries) where the entry into occupations is not contingent on the possession of a college degree and where the person can immediately begin earning a wage and gaining valuable work experience.

Given this backdrop, it makes sense that career counselors redouble their efforts to give a clear and balanced preview and factual accounting of the positives and the negatives that could accrue to the individual if he or she foregoes college but instead pursues a career in the building trades (Francis and Prosser, 2013). At a minimum, counselors need to have a full understanding of the job duties and required skill sets of the various construction-related occupations as well as the positive and negative individual outcomes that could result from these career choices. One simple option would be to have short videos available that allow students and clients to visualize the particular construction work being done and the physical and cognitive skills that are required.

Further, employment counselors and educators should deploy techniques that get at a "whole person" perspective in seeking to provide the most salient and appropriate direction. In line with the goals of the career construction model of guidance, career counselors should encourage teenagers and young adults to "tell their story" in terms their identity, interests, and life goals (Savickas, 2011). The story, which might include descriptions of role models, preferred occupational settings, and self-regulation strategies, could very well indicate that a career in the building trades is a better personal fit than other alternatives. Counselors should also encourage their clients to take a future orientation in their career planning by envisioning their prospective selves in appropriate occupations and then utilizing exploration and adaptation strategies that would place the envisioned self in a personally-fitting occupation (Ginevra *et al.*, 2018; Savickas, 2011). A variety of structured, life design approaches exist that counselors could deploy in helping individuals to adopt a self- and future orientation in their career planning (Nota and Rossier, 2015; Stoltz *et al.*, 2018), which again might allow for certain individuals to see a construction-based occupation as a worthwhile pursuit.

Beyond the life design approach to vocational guidance, counselors should also attempt to integrate a relational perspective in assisting their clients in the career decision-making process regarding a potential fit with a job in construction. As described by Kenny *et al.* (2018), a relational approach allows for an examination of all relationships in life that have had, and could have, an influence on occupational choices. A career in the building trades could, for certain individuals, satisfy extant relational needs that might not be fulfilled in other occupations or careers. More precisely, the building trades tend to have a more predictable work schedule with defined hours and, once the workday is done, one's responsibility to the employing organization is completed. This could allow for a greater degree of fit with personal values by freeing up non-work hours to be devoted to other spheres of life, including family, leisure, and spiritual pursuits. This fact can be contrasted with stereotypical "rat race" occupations where the employee is expected to be devoted and electronically-tethered to the employing company on a near constant basis. To an individual who prizes personal time and a clear demarcation between work and non-work domains, a career in construction could be a proper and fulfilling choice. As Kenny *et al.* (2018, p. 139) state, "family and other close relationships are vital domains of life experiences" that need to be considered in making career decisions.

Areas for future research and conclusions

There are several areas where additional research on the decision-making processes regarding the choice of a career in construction would be warranted. First, little direct attention has been paid to the study of the personal qualities, including interests, values, abilities, and personality-related constructs, that are potentially linked with success and satisfaction in a career in the building trades. A further understanding of the linkages between personal qualities and success in construction occupations would have practical value by providing counselors with more knowledge on who might be more inclined to consider and explore these occupations. Specifically, this additional knowledge could be used

to help determine person-environment, person-job, and person-career fit with the various building trades as listed in Table I. Second, it would be worthwhile to explore the efficacy of different types of counseling initiatives and their relationship with a prompting of consideration of an occupation in the building trades as a viable vocational choice. Given the prospect that the pursuit of a construction career could be considered a non-traditional path in the current environment, an understanding of the usefulness and value of different forms of counseling would be helpful. Third, studies are also needed to provide greater insight on the specific factors that lead to a rejection of consideration of a career in construction. More precisely, a greater understanding of these "negative" or "discouraging" factors could lead to a better appreciation of 1.) when person-environment might not be attainable regarding the building trades and/or 2.) where construction companies or general contractors could make changes to their organizations as a way to make a career in construction more palatable. Finally, further research is warranted on the experiences of women and other under-represented groups within construction occupations. Specifically, what factors serve to attract individuals from these groups to careers in the building trades as well as the influences and outcomes once these individuals are in these occupations?

In conclusion, pursuing a career in construction clearly is not for everyone. The physical demands and the need to work in various weather conditions can certainly create occupational obstacles that must be overcome for successful entry into the building trades. But, by the same token, the personal and financial rewards that can result from a career in construction are significant. The ability to help create a lasting structure of value, the chance to work in an open and non-routine environment, and the prospects for increased objective and subjective career success are all reasons why a construction career can be a fitting choice for the right person. The responsibility for helping young people make correct vocational and life decisions falls on many shoulders—parents, families, teachers, and counselors all have a role to play in the process. With open-minded and honest guidance, these interested parties might be able to assist more people to "construct a construction career."

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