

## **Emergency Management Degree Program Graduate Job Outcomes: A Potential Theoretical Framework for Future Research**

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### **ABSTRACT**

Emergency management has been a college degree one could seek for more than three decades; hundreds of degree programs now exist and are producing thousands of graduates each year. Many scholars believe that the subsequent job placement of program graduates should be purposefully examined, as job placement is an established concern to those involved in emergency management higher education. As of now, however, this has not been carefully considered by scholars within that field. In fact, as of the spring of 2019, there has been no empirical research on this or the related topic of employability of emergency management graduates. Research on both is critical, and this manuscript seeks to develop an initial theoretical framework to facilitate research on topics related to the employment of graduates from these programs. This framework is rooted in dialogues within the greater emergency management community as well as in the scholarship outside of emergency management.

Keywords: emergency management student, emergency management degree, jobs, employment, career, job placement, employability

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### **INTRODUCTION**

Finding a job consistent with one's major is challenging for most graduates (Blau et al., 2017). Brown, Hesketh, and Williams (2003) note that finding employment "not only depends on fulfilling the requirements of a specific job, but also how one stands relative to others within a hierarchy of job seekers" (p. 111). If all applicants for a particular job hold an undergraduate degree, it becomes problematic for an employer to use this credential as the sole means to differentiate among them (Roulin & Bangerter, 2013). In a world where it is increasingly common to have a college degree, graduates must find ways to distinguish themselves relative to other job seekers (Roulin & Bangerter, 2013; Tomlinson, 2008).

While "a degree may have once been a passport into graduate employment" (Harvey, 2000, p. 7), having an undergraduate degree today no longer offers assurances of a full-time job—and it certainly does not guarantee a career (Abel, Deitz, & Su, 2014; Harvey, 2000; Roulin & Bangerter, 2013). Possessing a degree may be better characterized as supporting its recipient in "reaching 'first-base' in the recruitment process" (Harvey, 2000, p. 7), with graduates having to do more to gain a positional advantage over their equally credentialed peers in a competitive labor market (Brown & Hesketh, 2004; Tomlinson, 2008).

The challenge of finding a job consistent with one's major may be even greater for graduates of emergency management undergraduate degree programs. Emergency management as a degree option is relatively new and still evolving (e.g. Cwiak, 2008; Cwiak & Muffet-Willet, 2009; Kapucu & Wart, 2006; Woodbury, 2005), with the majority of emergency management degree programs emerging after the September 11, 2001, terrorist attacks (Blanchard, 2005; Cwiak, 2012). Historically, emergency

management positions have been filled by those transitioning from first-responder or military roles who may have acquired relevant emergency management training but who do not hold a formal emergency management degree (e.g. Heaton, 2013; Lucus-McEwen, 2011; Pittman, 2011). Notably, practitioners still widely value practical knowledge, training, and experience as much as, if not more so, than education (e.g. Canton, 2013; Holdeman, 2018; Lucus-McEwen, 2011; Neal, 2000). While degrees are increasingly available, there are some practitioners who question their value (e.g. Canton, 2013). These practitioners think that emergency management graduates, equipped with theory- and book-based learning, are inadequately prepared for an emergency management career (e.g. Canton, 2013; Lucus-McEwen, 2011). Practitioner concern swirls especially high around those for whom emergency management is a career of first choice (e.g. Darlington, 1999). The question of employability is important, but also relevant is the related and different issue of whether these individuals get jobs.

There is a distinction between the terms “employable” and “employability.” Across fields, what makes an individual employable varies widely (Andrews & Higson, 2008; Bridgestock, 2009; Clarke, 2008; Cranmer, 2006). In the emergency management context, the meaning of employability and the extent to which employers consider emergency management degree program graduates employable is one line of needed research. For example, there could be ten candidates an employer perceives as employable, and ultimately only one will get an available job. This reality suggests that, as important as it is for higher education programs to produce employable graduates, it is equally important that these graduates actually get jobs. Exploring the extent to which graduates are getting jobs and the factors that explain their placement is another critical line of research.

According to the Federal Emergency Management Agency [FEMA] Higher Education Program (2019a), there are 62 institutions offering bachelor’s degree programs in emergency management. Some of these programs are more than 30 years old and have graduated thousands of students (Bennett, 2017, 2018; Cwiak, 2006, 2007, 2008, 2011, 2012). An understanding of job outcomes, in terms of both employability and actual placement, are lacking in the emergency management realm, and a focused longitudinal line of research on these topics is needed.

The results of such research would allow those associated with undergraduate emergency management degree programs to identify how to best support their students’ employability and placement. It would also provide students a means of identifying where to focus their efforts while seeking their degrees in order to be competitive on the job market. Practitioners would have some sense of where they might most effectively lend their support in fostering the next generation of emergency management professionals, were such research to exist. Unfortunately, such research does not exist at this stage. We do not know the extent to which graduates are securing employment, where their employers are located, or what explains the difference between those who succeed and those who do not. This lack of research is true for both undergraduate and graduate students.

As much as scholarship is needed on where successful graduates are employed and what helped them to succeed versus those who are not, it will be best if it is grounded in theory. There has certainly been a lot of discussion about these topics in emergency management higher education and practice circles, yet a formal, testable theoretical framework to guide research has not been developed. This article presents such a theoretical framework to guide scholarly work that is grounded both in emergency management discussion and formal research from outside emergency management.

## LITERATURE REVIEW

Emergency management degree program administrators have been concerned about job outcomes for their graduates for years (Bennett, 2017, 2018; Cwiak, 2006, 2007, 2008, 2011, 2012). In addition, emergency management practitioners and educators have also voiced concerns about the employability and placement of emergency management degree program graduates. These discussions have appeared in blogs as well as higher education and practitioner conferences, webinars, focus groups, and the *IAEM Bulletin* (e.g. Cox, 2016; Cox, De Palma, Ehlers, & Walsh, 2016; Dykstra, 2013; Feldman, 2018; FEMA, 2016, 2017, 2018, 2019b; Francis, 2018; Garner, 2013; Heaton, 2013; Holdeman, 2018; Lariviere & Cooper, 2018; Lucas-McEwen, 2011; McEntire, 2004; Muffet-Willet, 2018; Pittman, 2012; Walsh, 2016). Certain themes concerning what is thought to influence job outcomes emerge from analysis of these discussions, yet a line of empirical research on real-world job outcomes for degree program graduates has not been undertaken.

We were interested in initiating research to explore job outcomes for emergency management degree program graduates and desired a foundation for our work that was based on more than anecdotal evidence and informal discussion. Ideally, we wanted a formal theoretical framework or model to guide our work. In the absence of such a framework or model specific to emergency management, we turned to the body of scholarship generated from outside the field of emergency management that addresses who gets jobs and why. We searched Google Scholar and library resources (i.e., EBSCO, ProQuest) at our institution for scholarly peer-reviewed journals using combinations of the following keywords: recent, college, graduate, job, placement, employment, employability, professional, career, development, and network. When we identified a helpful article, we snowballed from its references to find more relevant scholarship.

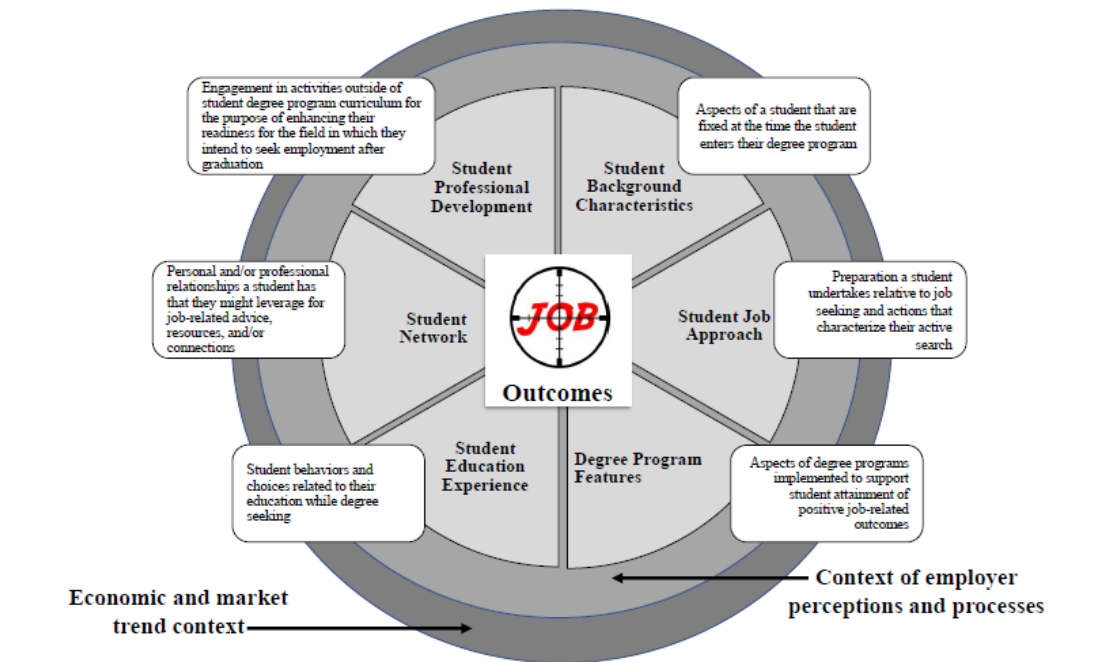
Our search resulted in a collection of 75 scholarly peer-reviewed journal articles spanning dozens of journals. These articles were generated by scholars in a variety of disciplines; business, marketing, hospitality, and engineering were the dominant disciplines reflected in this body of work. We are not confident we found all existing literature on these topics, but to do so was not our intent. Our intent was to identify a theoretical foundation for scholarly inquiry with respect to the job outcomes of emergency management degree program graduates.

As previously stated, discovery of a tested and reliable model to leverage in future research within this body of work would have been ideal. However, review of the literature demonstrated that no one discipline owns the research on these topics. Scholars from many disciplines are asking related questions, but there are very few scholars in any field that have developed a long-term research agenda on these topics. This reality illuminates why we were only able to identify four theoretical models (e.g. Blau & Snell, 2013; Bridgestock, 2009; Jackson, 2014; Pool & Sewell, 2007) related to graduate job outcomes—none of which appeared to be a consensus-backed, oft-cited, or used model within this body of work. Furthermore, these models explored myriad dependent variables and an assortment of potential independent variable relationships. In fact, the body of work on employability and job placement explores a range of units of data collection and analysis, such as employers versus job seekers; stages, such as coming out of an educational experience, changing jobs, throughout a career, or while unemployed; and dependent variables, such as employability versus job placement. With respect to job placement, some scholars examined different points along the way to placement as a dependent variable—for example the number of interviews received, the number of offers received—in lieu of or in combination with placement itself (Boswell, Zimmerman, & Swider, 2012; Kanfer, Wanberg, & Kantrowitz, 2001).

Additionally, a sizeable array of variables was identified in the extant literature on employability and placement. We analyzed these variables across the literature, including across the four theoretical models

we had found. Our analysis revealed that the independent variables most often considered, regardless of job outcome, were naturally grouped into categories. Furthermore, we found that informal emergency management discussion also offers support for the potential significance of these same categories and provides some specifics that might be usefully examined within each. Based on the integration and synthesis of the themes related to what influences job outcomes within emergency management discussions and in the scholarship external to emergency management on these topics, we developed a six-category framework that might be leveraged initially to explore employability and placement-dependent variables. The categories include student professional development, student network, student background characteristics, student education experience, student job approach, and degree program features. See the framework in Figure 1.

Figure 1. Job Outcomes for Emergency Management Degree Program Graduates: A Theoretical Framework



Of note, the variable categories are sized identically in Figure 1; however, the relative influence of each variable category on job outcomes may vary widely and warrant differential sizing as a result. Until research is conducted with the purpose of determining the relative influence of each category, we determined it most appropriate to depict each identically.

### STUDENT PROFESSIONAL DEVELOPMENT

Research has found that professional development is related to job outcomes (e.g. Blau et al., 2015; Blau & Snell, 2013; Tomlinson, 2012). Professional development is understood to be engagement in activities outside of the student degree program curriculum for the purpose of enhancing students’ readiness for the field in which they intend to seek employment after graduation. Scholarship outside of emergency management suggests it is important for college students to invest in such activities (Blau & Snell, 2013; Tomlinson, 2012). Certainly, within the emergency management community—both academic and practitioner—it would be difficult to find anyone who would disagree with the idea that professional development is critically important. Professional development in emergency management is more broadly

understood as critical to the professionalization of the field at large, even beyond students (Girard, 2014; Golland, 2014; Harmon, 2014).

Both the emergency management community and formal scholarship on job placement consistently support the claim that internships—as a professional development activity—are related to job outcomes, as they provide students the opportunity to experience the world of work. From an emergency management perspective, the conversations around internships have also stressed their importance in getting students necessary boots-on-the-ground experience (e.g. Anderson & Russell, 2013; Crerar, 2013; Garner, 2013; Lariviere & Cooper, 2018; Muffet-Willet, 2019; Phillips, Neal, & Webb, 2012; Wall & Moore, 2018). Empirically, internships have shown to positively influence post-graduation employment, both over time and across disciplines (e.g. Blau et al., 2017; Brooks, 2012; Callanan & Benzing, 2004; Chi & Gursoy, 2009; Fang, Lee, Lee, & Huang, 2004; Gault, Leech, & Duey, 2010; Gault, Redington, & Schlager, 2000; Knouse et al., 1999; Nair & Gosh, 2006; Nunley et al., 2016; Richards, 1984; Silva et al., 2016). Volunteering is an additional means of increasing employer interest and has also been found to have a positive effect on job placement (e.g. Baert & Vujic, 2018; Bourner & Millican, 2011; Brennan & Shah, 2003). Emergency management discussions, too, tout the value of volunteering for students, again in the context of the importance of acquiring experience (Feldman, 2018; Garner, 2013; Phillips et al., 2012; Wade, 2013; Wall & Moore, 2018).

One would expect that internships and volunteering would have a similar influence on job outcomes for emergency management degree program graduates. Yet, the extent to which either influence job outcomes has not yet been explored despite how often the topic has been raised within FEMA Higher Education Program events such as focus groups, special interest groups, sessions in yearly symposiums, and webinars (e.g. Christopher, 2018; Cox et al., 2016; FEMA Higher Education Program, 2016, 2017) and practitioner conference settings (e.g. Cox, 2016; Jensen, 2017; Muffet-Willet, 2018).

Other extracurricular activities are important to job outcomes beyond internships and volunteering (Roulin & Bangerter, 2013; Sin, Tavares, & Amaral, 2016). Employers recognize these additional activities such as student associations, clubs, or sports (Blau et al., 2017; Clark et al., 2015; Sagen, Dallam, & Lavery, 2000; Stuart et al., 2011); job shadowing (Cho & Gao, 2009); and informational interviews (Blau et al., 2015; Saks & Ashforth, 1999) to be a way for applicants to demonstrate critical skills and competencies, commitment, and goodness-of-fit with the organizational culture (Clark et al., 2015; Stuart et al., 2011), and participation in such activities positively correlates to job placement consistent with one's major (e.g. Blau et al., 2017).

In the emergency management realm, sources of additional professional development have also been discussed, with a particular emphasis on ensuring emergency management degree program students, in particular, get enough of it (e.g. Cwiak, 2011, 2014b; Jensen, 2014a, b, c; Vigneaux, 2017a, b). Training (e.g. Francis, 2018; Phillips et al., 2012), membership in emergency management student or professional organizations (e.g. Garibay & Webb, 2018; Garner, 2013; Phillips et al., 2012), and conference attendance (Garibay & Webb, 2018; Garner, 2013; Phillips et al., 2012; Vigneaux, 2017a, b; Wade, 2013) are examples of important activities that have been discussed.

Studies suggest that the more extracurricular activities on a resume, the more an applicant stands out in the job-seeking process (e.g. Albrecht, Carpenter, & Sivo, 1994; Brennan & Shah, 2003; Nair & Gosh, 2006; Nemanick & Clark, 2002; Sagen et al., 2000; Self, 2005; Stuart et al., 2011). But, while it seems that participation in some form of professional development beyond internships and volunteer work would be relevant to the job outcomes in emergency management, their actual influence remains unknown.

## **STUDENT NETWORK**

There is long-standing and significant support for the old saying “it’s not what you know, it’s who you know” (Jones & Azrin, 1973; Lin & Dumin, 1986; Silliker, 1993; Villar et al., 2000). Scholarship suggests it is important for any job seeker, much less students, “to develop and maintain relationships with others who have the potential to assist them in their work or career” (Forret & Dougherty, 2001, p. 284). Strategic networking has been shown to enhance actual employment opportunities in a variety of employment contexts (e.g. Eby, Butts, & Lockwood, 2003; Mamaros & Sacerdote, 2002; Silliker, 1993; Villar et al., 2000), and the strength of the network, meaning both the total number of pertinent people to whom the individual is tied and the closeness of the relationship between the individual and others in the network, has been found to be related to positive job outcomes (e.g. Fugate, Kiniki, & Ashforth, 2004; van Hoyer, van Hooft, & Lievens, 2009).

The ability to leverage these networks is also key to understanding job outcomes. Network ties have been found to influence job seekers’ knowledge of job opportunities (e.g. de Janasz & Forret, 2008; Forret, 2014; Villar et al., 2000). Network members often make a difference in job outcomes by virtue of the career advice they provide (e.g. Forret, 2014; Purcell et al., 2013) and the professional recommendations they may offer (e.g. Forret, 2014). These themes have been echoed within emergency management without the benefit of research to support them (e.g. Dykstra, 2013; Garner, 2013; Huntley, 2013). Various emergency management practitioners and academics have also argued that it is important for students seeking to enter practice to have a professional network in the field (Phillips et al., 2012; Wade, 2013).

The extent to which having a network is related to job outcomes in emergency management is unknown, let alone the extent to which network strength and/or ability to leverage connections within it are relevant. Student networks can be understood to be the personal and/or professional relationships a student has that they might leverage for job-related advice, resources, and/or connections. Thus, exploring the relationship between student networks and job outcomes is warranted.

## **STUDENT BACKGROUND CHARACTERISTICS**

Scholarship external to emergency management suggests that student background characteristics are relevant to understanding job outcomes. Student background characteristics can be understood to be those aspects of a student that are fixed at the time the student enters their degree program. Various individual characteristics such as age (Clarke, 2008; Lahey, 2008; Jackson, 2014; Stuart et al., 2011; Tomlinson, 2014), race and ethnicity (Conner et al., 2004; Kaas & Manger, 2012; Mau & Kopishcke, 2001; Stuart et al., 2011; Wilton, 2011), and gender (Booth & Leigh, 2010; Clarke, 2008; Coasts & Edwards, 2011; Conner et al., 2004; Fang et al., 2004; Lahey, 2008; Mau & Kopishcke, 2001; Sagen et al., 2000; Wilton, 2011), among others, are commonly studied in conjunction with job outcomes. Statistical relationships among these variables and outcomes have often been observed in research; however, the nature of those relationships varies from field to field and sometimes study to study.

The individual characteristics of emergency management degree program students has not been formally studied. As recently as 2003, we knew “next to nothing about the demographic profile of [emergency management] students” (Phillips, 2003, p. 23). Today we know somewhat more about the profile of emergency management students, thanks to the work of Cwiak (2006, 2007, 2008, 2011, 2012) and Bennett (2017, 2018, 2019). Based on data from a small fraction of existing programs, it would seem the average emergency management student is Caucasian, male, and older than a traditional college-age student (i.e., 18-24), even with the increase of diversity in the student body. This student profile is

perhaps unsurprising, given that emergency management practice has been historically dominated by older, white males who have transitioned into emergency management from a military and/or some sort of first response background (e.g. fire, law enforcement, emergency medical services, 9-1-1 dispatch, search and rescue) (e.g. Kirkland & Tobin, 2018; Phillips et al., 2012), although diversity has been found to be improving in the field particularly in terms of gender (Phillips et al., 2012). Whether any of these characteristics individually or in combination with another are actually associated with job outcomes has not been explored in emergency management and should be considered in future research.

### **STUDENT EDUCATION EXPERIENCE**

The student education experience variables reflect student behaviors and choices related to their education while degree seeking. Emergency management discussions have not focused on the significance of these factors; nevertheless, scholarship outside of emergency management suggests these variables are important to explore with respect to job outcomes. Graduate coursework, both degree specific (e.g. Sagen et al., 2000) and otherwise (e.g. did the student double major, complete a minor), seem potentially relevant to job outcomes (e.g. Fang et al., 2004). Graduates from degree programs are certainly expected to have specific knowledge, skills, and understanding related to the job they seek and “employers will judge graduates on the basis of how successfully they have completed their degree course” (Pool & Sewell, 2007, p. 281). One means some employers use when evaluating candidates for a position is the mode by which they completed their degree (i.e., online, blended, face to face) (e.g. Jackson, 2014). There are a range of ways this might be assessed (e.g. what major courses were taken), but employers often use grade point average (GPA) to make this judgement and, thus, GPA can be a factor in determining job placement (e.g. Albrecht et al., 1994; Fang et al., 2004; Nair & Gosh, 2006; Rynes, Orlitzky, & Bretz, 1997; Sagen et al., 2000; Saks & Ashforth, 1999; Self, 2005).

Outside of academic program choices and performance, some studies suggest that the relationship between students’ work choices and job outcomes is relevant. Some studies have shown that students who work while degree seeking have greater success with post-graduate job placement (e.g. Andrews & Higson, 2008; Jackson, 2014; Nair & Gosh, 2006; Pool & Sewell, 2007), while others note that this only holds true only when that employment is not excessive (e.g. Self, 2005) and is directly related to the student’s desired career and not just a part-time job “to pay the bills” (e.g. Bourner & Millican, 2011; Sagen et al., 2000).

Student choices and behaviors while seeking their degree shape their experience while in school, and, potentially, their employability and likelihood of placement. As study begins on these topics with respect to emergency management students, research ought to explore the relevance of these factors in understanding their job outcomes.

### **STUDENT JOB SEARCH APPROACH**

Another area considered with respect to job outcomes in external scholarship, but not within emergency management discussion, is student job search approach (e.g. Blau, 1993; 1994; Bowers et al., 2001; Brown et al., 2006; Saks & Ashforth, 1999; Jackson, 2014; Mau & Kopishcke, 2001). Research suggests that student self-efficacy with respect to searching for jobs is related to their job outcomes (e.g. Brown et al., 2006; Burger & Caldwell, 2000; Manroop & Richardson, 2016) as well as familiarity with and use of a variety of job search methods (e.g. Jackson & Wilton, 2016; McCorkle et al., 2003). The steps leading up to beginning a job search, such as visiting an institution’s career center, attending resume writing workshops, and meeting with advisors, have been found to be important with respect to job outcomes, as

has their approach when actively searching including search intensity, persistence, effort, and quality of search (e.g. Blau, 1993; Kanfer et al., 2001; Manroop & Richardson, 2016; McKeown & Lindorff, 2011; Saks & Ashforth, 1999; 2000). It has been suggested that the quality of job search behaviors may matter more than the intensity of the effort (e.g. van Hove et al., 2009). Thus, while emergency management discussions have not focused on the extent to which student job search approach factors explain emergency management graduate job outcomes, they are important to examine in future research.

## **DEGREE PROGRAM FEATURES**

The degree program features group of variables reflects aspects of degree programs implemented to support student attainment of positive job outcomes. Students believe that degree programs and the institutions in which they are housed bear significant responsibility in their employability (e.g. Boden & Nedeva, 2010; Sin et al., 2016; Tymon, 2013) and employers tend to share that perception (e.g. Tymon, 2013). Yet, exactly how or what programs do to bolster employability is not entirely known or agreed upon in either wider scholarship or emergency management.

Scholarship across fields suggests that employers are looking for some combination of generic or transferable skills (e.g. communication, teamwork, interpersonal skills, leadership, time management, adaptability) that can be useful across a range of working environments (e.g. Andrews & Higson, 2010; Clarke, 2008; Finch et al., 2013; Jackson, 2014; Nilsson, 2010; Sewell & Powell, 2007; Tomilson, 2012; Tymon, 2013), along with a series of job-specific competencies and skills (e.g. Huang & Lin, 2011; Laker & Powell, 2011; Nilsson, 2010). Some prospective employers place more value on the generic or transferable kinds of skills than degree-related knowledge (e.g. Brown & Hesketh, 2004; Harvey, 2000), while others place more emphasis on job-specific competencies and skills (e.g. Andrews & Higson, 2010; Clarke, 2008; Finch et al., 2013; Nilsson, 2010). The desired mixture of the two appears to be very context dependent (e.g. Andrews & Higson, 2010; Nilsson, 2010), but the view that higher education programs are obligated to help students develop these skills is not context dependent (e.g. Bridgestock, 2009; Chi & Gursoy, 2009). Some have argued that higher education programs must begin to help students build these skills early in their coursework and make participation in such skill-building mandatory (e.g. Bridgestock, 2009).

Obviously, emergency management degree programs, like any other degree program, have an obligation to provide students the opportunity to engage with an emergency management body of knowledge and develop some set of related competencies. There exists no consensus within the higher-education or practitioner community as to what should be taught (Neal, 2000, 2005; Phillips, 2005) or the related competencies to be built in students, though many suggestions have been made (e.g. Feldmann-Jensen et al., 2019; Jensen, 2011, 2014a, b, c; Muffet-Willet et al., 2015; Polis Center, 2018). Nevertheless, both communities agree that programs have a responsibility to help students build basic skills, even though the exact list varies (e.g. Collins & Peerbolte, 2011; Jensen, 2014a; Kiltz, 2009; Thomas & Mileti, 2003; Waugh & Sadiq, 2011).

There is also scholarship that suggests it is important for degree programs to emphasize professional development and networking (e.g. Chi & Gursoy, 2009; Wilson et al., 2013), and discussions within the emergency management higher education and practitioner communities echo these findings. There is agreement that emergency management programs should accentuate professional development and provide opportunities for students to engage in such development and build professional networks (e.g. Donahue et al., 2010; Jensen, 2014a, b, c; Martinez, 2013; Muffet-Willet et al., 2015; Muffet-Willet, 2019), and, to that end, it has been implied that programs have an obligation to provide experiential learning opportunities as well (e.g. Jensen, 2014a; Knox & Harris, 2016; Muffet-Willet et al., 2015;



Thomas & Mileti, 2003). But again, in what ways and to what extent program efforts in these areas are linked to job outcomes remains unknown.

The academic literature further indicates that it is important for programs to help students develop job search and interviewing skills and provide support regarding resume development (e.g. Bridgestock, 2009; Chi & Gursoy, 2009; Pool & Sewell, 2007). Student self-efficacy in the job search is critical (e.g. Brown et al., 2006; Burger & Caldwell, 2000; Manroop & Richardson, 2016), and the extent to which students attend events such as workshops on business etiquette and job search strategies and receive critiques on their resumes makes a difference in their placement (e.g. Blau et al., 2015). In the emergency management context, the significance of programmatic support for career development activities, such as finding job opportunities and building an emergency management resume, has also been highlighted (e.g. Anderson & Russell, 2013; Garner, 2013).

While at least some responsibility for student employability has been attributed to programs, specific features of degree programs that may or may not support student attainment of positive job outcomes have not been studied in the emergency management context.

### **COMPLEXITY AND MODEL LIMITS**

A theoretical framework with six categories of independent variables to test in initial research on job outcomes related to emergency management degree program graduates is complex; yet, this framework is likely an oversimplification of all that is actually involved in job outcomes. There is evidence to suggest that a host of additional variables beyond the six categories discussed are also relevant, and some of these require sophisticated scales to truly assess traits such as candidate personality (Brown et al., 2006; Burger & Caldwell, 2000; Uysal & Pohlmeier, 2011), motivation (Eby et al., 2003; Knouse et al., 1999), and emotional intelligence (Pool & Sewell, 2007). Furthermore, variables related to employer perceptions and processes appear involved in job outcomes too, including, for example, perceptions of candidate physical appearance (Patacchini, Ragusa, & Senou, 2015), interviewing preparation (Albrecht et al., 1994), interviewing skills (Burger & Caldwell, 2000), and reputation of the institution from which a candidate graduated (Jackson, 2014; Li & Miller, 2013; Smith et al., 2000), among others. To learn about these perceptions and processes, data would have to be gathered from employers as opposed to just students (Sagen et al., 2000). Further complicating matters, general macroeconomic and labor market conditions also influence hiring, and, hence, job outcomes (Clarke, 2008; Jackson, 2014; Sagen et al., 2000). Finally, there appears to be complex interactions between variables related to the student, the economy and job market, and employer perceptions and processes (e.g. Blau et al., 2017; Jackson, 2014; Manroop & Richardson, 2016).

The existence of such a wide range of independent variables that are also likely driving job outcomes suggests that there is a threshold to what we can expect to learn from statistical testing related to the framework offered here. First, any relationships found when operationalizing and testing the framework will need to be viewed with caution because the existence and strength of those relationships may change if data related to a broader range of variables were gathered (e.g. student personality) and data were gathered and integrated from all relevant units (i.e., students, employers, market research centers). Additionally, any tests to explore the combined influence of variables related to the model presented here (e.g. logistic regression) would likely reveal a moderate combined influence (i.e., r-square). Nevertheless, while the model offered here does not account for the totality of what is likely involved in job outcomes for degree program graduates, the framework does provide a relatively simple and theoretically grounded approach to guide a line of research that is important to emergency management but has not yet begun.

Additionally, we are able to offer a series of initial hypotheses for future research to explore based on review of the literature presented in this article (see Table 1).

Table 1. Initial Hypotheses for Future Research Related to Emergency Management Graduate Job Outcomes

Student Professional Development	<p>H1: Emergency management experience is positively related to emergency management job outcomes</p> <p>H2: Participation in extracurricular activities is positively related to emergency management job outcomes.</p>
Student Network	<p>H3: Professional network strength is positively related to emergency management job outcomes.</p> <p>H4: Ability to leverage professional network is positively related to emergency management job outcomes.</p>
Student Background Characteristics	<p>H5: Age and emergency management job outcomes are positively related.</p> <p>H6: Race and emergency management job outcomes are statistically related.</p> <p>H7: Biological sex and emergency management job outcomes are statistically related.</p> <p>H8: Prior work experience and emergency management job outcomes are positively related.</p>
Student Education Experience	<p>H9: Academic performance and emergency management job outcomes are positively related.</p> <p>H10: Curriculum features and emergency management job outcomes are statistically related.</p> <p>H11: Student employment while in pursuit of their degree is related to job outcomes (e.g. average hours worked, type of job).</p>
Student Job Approach	<p>H12: Student job approach is statistically related to emergency management job outcomes.</p>
Degree Program Features	<p>H13: Degree program emphasis on student professional development and emergency management job outcomes are positively related.</p> <p>H14: Degree program support for student career development and emergency management job outcomes are positively related.</p> <p>H15: Degree program requirements to build basic skills and emergency management job outcomes are positively related.</p>

## DISCUSSION, CONCLUSION, AND FURTHER RESEARCH

Just like individuals associated with a range of other fields, the emergency management higher education community is grappling with the topics of employability and job placement of its graduates, particularly at the undergraduate level. Much of what the emergency management community has claimed relevant to its graduates' job outcome achievements is similar to that of other fields, and research in those fields has found additional factors to be important in explaining what happens with their respective graduates. It

may very well be that emergency management degree program graduate job outcomes vary with the same set of factors as graduates seeking employment in other fields, but until there is a focused line of research on these topics, we will not know.

The higher education community would benefit from knowing employers' perceptions of what makes students with undergraduate degrees in emergency management employable for emergency management positions in nonprofit, business, and government agencies. A starting point could be to examine the extent to which the framework categories are part of that graduate's employability profile. The higher education community also needs to have an understanding of job placement rates for graduates of emergency management bachelor's, master's, and doctoral degree programs over time with explanations for the results. Even though the hypotheses studied in this article developed from our interest in and literature focused on undergraduates, research focused on graduates from all degree levels may begin with this framework's categories and variables. Further research could delve into which framework categories are the most powerful in explaining placement outcomes as well as the combined influence of them.

However, there are some lingering issues that must be resolved with this theoretical framework. The independent variables in the model presented here are theoretically grounded, but exactly what constitutes an emergency management degree program—the students of which would be studied—is an open question, and this question must be answered for the research to be meaningful. Additionally, the dependent variable for which the framework is supposed to facilitate testing has been left open. Earlier we suggested the model may be of use in early explorations of both emergency management employer perceptions of employability and actual placement in emergency management positions. Yet, exploring either of these as dependent variables will require further theory. The concept of “emergency management position” has yet to be defined and widely agreed upon within the emergency management community at large, and, again, it is vital for meaningful research on placement in such positions.

Research on a number of job outcomes related to emergency management degree program students is needed. At the outset, we suggested that this research would be best if built upon theory. The framework and hypotheses offered here could serve as the theoretical foundation from which to build such a line of research.

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