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AN EXAMINATION OF ACADEMIC EDUCATION FOR HOMELAND SECURITY

by

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June 2020

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Over the last 19 years, there has been a concerted, multifaceted effort to develop an academic field of Homeland Security. This thesis examined the state of homeland security education to understand the size and characteristics of the field, important to shape future development. Current estimates have significant methodological limitations. There were two questions. First, what are the characteristics and foci of the literature on homeland security education? Second, what are the characteristics of homeland security graduate-degree programs? The first question was answered with a systematic review of 71 articles. The articles were published in homeland security journals, were largely narrative pieces rather than empirical, and mostly focused on homeland security discipline, curriculum or programs. The second question was answered with a review of 110 graduate-level academic programs. There are 58 full degree programs in homeland security–related fields, but only 18 that are exclusively homeland security. Most programs are delivered fully online and require a capstone rather than a thesis. From these analyses are three recommendations. First, the field needs to use stronger empirical research methods. Second, since most programs are delivered online, the field should emphasize educational techniques and outcomes effective in this format. Finally, there needs to be some discussion to clarify the relationship between homeland security and emergency management.

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AN EXAMINATION OF ACADEMIC EDUCATION FOR HOMELAND SECURITY

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ABSTRACT

Over the last 19 years, there has been a concerted, multifaceted effort to develop an academic field of Homeland Security. This thesis examined the state of homeland security education to understand the size and characteristics of the field, important to shape future development. Current estimates have significant methodological limitations. There were two questions. First, what are the characteristics and foci of the literature on homeland security education? Second, what are the characteristics of homeland security graduate-degree programs? The first question was answered with a systematic review of 71 articles. The articles were published in homeland security journals, were largely narrative pieces rather than empirical, and mostly focused on homeland security discipline, curriculum or programs. The second question was answered with a review of 110 graduate-level academic programs. There are 58 full degree programs in homeland security–related fields, but only 18 that are exclusively homeland security. Most programs are delivered fully online and require a capstone rather than a thesis. From these analyses are three recommendations. First, the field needs to use stronger empirical research methods. Second, since most programs are delivered online, the field should emphasize educational techniques and outcomes effective in this format. Finally, there needs to be some discussion to clarify the relationship between homeland security and emergency management.

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EXECUTIVE SUMMARY

Over the last 19 years, there has been a concerted, multifaceted effort to develop an academic field of Homeland Security.[1] The field of homeland security was launched as part of the national response to the 9/11 terrorist attacks, building on previous concepts of national security and civil defense.[2] This work has resulted in the creation of number of academic degree programs, several journals, a growing body of academic research, and a series of professional societies, all centered around homeland security.[3] However, there is still a limited understanding of how large or well-developed homeland security is today. Critical elements in future development of the field.

The few articles examining homeland security as a discipline largely assume that the institutional presence of the academic programs is a sufficient condition for attributing a disciplinary designation. To date, there are two main studies, that concluded that homeland security has become a discipline. albeit young. However, the conclusions are largely based on the existence of academic programs and the methodological problems in these studies compromise the confidence in these conclusions. To better understand the size and scope of the field, this thesis examined two research questions.

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[1] Robert W. Smith, "What Is Homeland Security? Developing a Definition Grounded in the Curricula," *Journal of Public Affairs Education* 11, no. 3 (2005): 233–46, https://doi.org/10.1080/15236803.2005.12001396; Christopher Bellavita, "What Is Preventing Homeland Security?," *Bias Towards Response* 1, no. 1 (2005), http://hdl.handle.net/10945/43677; Jerome H Kahan, "What's in a Name? The Meaning of Homeland Security," *Journal of Homeland Security Education* 2 (2013): 1, http://libproxy.nps.edu/login?url=https://search-proquest-com.libproxy.nps.edu/docview/1465501592?accountid=12702.

[2] Stanley Supinski. "Security Studies: The Homeland Adapts." *Homeland Security Affairs* 7, no. 2 (2011): 9. https://proxying.lib.ncsu.edu/index.php/login?url=https://search-proquest-com.prox.lib.ncsu.edu/docview/1266215259?accountid=12725.

[3] James D. Ramsay and Irmak Renda-Tanali, "Development of Competency-Based Education Standards for Homeland Security Academic Programs," *Journal of Homeland Security and Emergency Management* 15, no. 3 (2018): 1, https://doi.org/10.1515/jhsem-2018-0016.

A. WHAT ARE THE CHARACTERISTICS AND FOCI OF THE LITERATURE RELATED TO HOMELAND SECURITY EDUCATION?

This phase of the thesis was a systematic review of the research examining homeland security education between January 1, 2000, and October 2019. These articles were identified through the use of a systematic review methodology, which is typically a preliminary step in conducting a meta-analysis. A systematic review provides stronger empirical approach by clearly identifying the initial the databases and search terms. The search terms then serve as the inclusion and exclusion criteria evaluate the fit of each article.[4] This review identified a total of 71 articles. The articles were examined across three areas of analysis, the first the characteristics of the articles, second examining the contents of the articles, the third analyzing the empirical articles.

The articles were published between 2004 and 2019, with 2011 having the most articles in a year at 14. Most of the articles included one to two authors, most authors only contributed to one of the articles in this review, and most were written by people at Universities. The articles were published in 20 different journals, most in 3 homeland security journals.

Most of the articles content was narrative in nature (52.1%) while only 29.6% were empirical research. Nearly half of the narrative articles were descriptive, many focusing on the development of a program, course, or class activities. The articles emphasized three main academic fields of homeland security, emergency management, and a combined homeland security and emergency management, which impacted the emphasis in the articles. Further, the articles were examined questions about the discipline or curriculum of homeland security. Finally, across the articles there were a median of 22 references used per articles, with a median of six peer reviewed and a median of 7 directly related to homeland security.

All of the 21 empirical articles used primary data collection and new measures. Seventeen of the studies were quantitative and most used simple descriptive analysis. The

[4] Miranda Cumpston et al., *Cochrane Handbook for Systematic Reviews of Interventions*, 6th ed. (John Wiley & Sons, Inc., 2019), https://doi.org/https://doi.org/10.1002/14651858.ED000142.

remaining four articles were qualitative studies. The samples were all convenience, largely class based student groups. Overall the sampling and methodology across these 21 empirical articles was very simple and in some cases lacked the appropriate statistical rigor in the data analysis.

B. WHAT ARE THE CHARACTERISTICS OF HOMELAND SECURITY GRADUATE DEGREE PROGRAMS?

The goal of these analyses was to develop a more accurate estimate of graduate level homeland security academic degree programs and the characteristics of these programs. These analyses were divided into three levels, school, program, and curriculum, to accommodate the hierarchical relationship between the schools, programs, and curriculum.

This phase used the UAPP list of partners[5] and identified 70 schools offering 110 graduate level programs. Fifty-eight were full degree programs in homeland security, five at the doctoral level. The remaining 53 programs were a concentration. Most schools only offered a single degree program or concentration. The programs were spread across 31 different states and 47 of the school only hosted a single academic program. The schools were evenly divided between public and private institutions, and were slightly more concentrated in medium sized schools, 3,000-9,999.

The full degree programs and concentrations were mostly named emergency management or homeland security. 3 of 5 doctoral programs were emergency management, one was homeland security. Over half of the programs were exclusively online, with 23.6% offering both traditional face to face and online versions. Among the masters level programs 56 required a capstone as a culminating experience, while only 9 required a thesis.

[5] Center for Homeland Defense and Security, "Home Page," University Agency Partnership Initiative, accessed October 7, 2019, https://www.uapi.us/.

C. OUTCOMES AND IMPLICATIONS

From the systematic review there is a focus in the research on the discipline and curriculum and a heavy use of homeland security related journals. There was generally a low level of methodological sophistication across the articles. The field should focus on increasing methodological rigor in both degree programs and the peer-reviewed journals.

Second, the systematic review had a strong focus on the use of exercises, scenarios, and field experiences. For such a high number of exclusively online programs it will be important to study these activities and ensure they are addressing the designated learning objectives.

Third, it seems that the field of homeland security is smaller than presented in the literature. The UAPP list is a useful starting point but is not an accurate estimate of the size of the field. Further, while this study identified 58 full degree programs, only 18 were exclusively focused on homeland security, including one doctoral program. While there were 22 emergency management degree programs, with three at the doctoral level. This does raise a significant question about the relationship between these two fields. The systematic review found a notable difference in the tone of the articles based on which field was identified. These two pieces of data suggest that they are different fields of study. It will be important for the field(s) to more clearly identify the relationship and overlap between these two areas of study.

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I. PROBLEM STATEMENT

Over the last 19 years, there has been a concerted, multifaceted effort to develop an academic field of Homeland Security.[1] This field of study was launched as part of the national response to the 9/11 terrorist attacks, building on previous concepts of national security and civil defense.[2] This work has resulted in the creation of number of academic degree programs, several journals, a growing body of academic research, and a series of professional societies, all centered around homeland security.[3] This progress has initiated recent calls to recognize homeland security as an academic discipline.[4]

Krishnan defines an academic discipline as "a form of specific and rigorous scientific training that will turn out practitioners."[5] He also identifies it as "a technical term for the organization of learning and the systematic production of new knowledge."[6] Both aspects of Krishnan's definition imply a sense of structure and organization, as well as pedagogy and research. Four elements that are being developed for the field of homeland

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[1] Smith, "What Is Homeland Security? Developing a Definition Grounded in the Curricula"; Bellavita, "What Is Preventing Homeland Security?"; David Reed and Martin S Weinberg, "Premarital Coitus: Developing and Established Sexual Scripts," *Social Psychology Quarterly* 47, no. 2 (1984): 129–38; Kahan, "What's in a Name? The Meaning of Homeland Security."

[2] Comiskey, "How Do College Homeland Security Curricula Prepare Students for Homeland Security?"; Supinski, "Security Studies: The Homeland Adapts."

[3] Ramsay and Renda-Tanali, "Development of Competency-Based Education Standards for Homeland Security Academic Programs."

[4] Michael D Falkow, "Does Homeland Security Constitute an Emerging Academic Discipline?" (Naval Postgraduate School, 2013), http://hdl.handle.net/10945/32817; James Ramsay, "The Case to Accredit Homeland Security Programs: Why Outcomes-Based Accreditation Makes Sense," *Journal of Homeland Security Education* 2, no. 13 (2013): 19, http://libproxy.nps.edu/login?url=https://search-proquest-com.libproxy.nps.edu/docview/1465501603?accountid=12702.

[5] Armin Krishnan, "What Are Academic Disciplines ? Some Observations on the Disciplinarity vs. Interdisciplinarity Debate," *Southampton: ESRC National Centre for Research Methods.* (Southampton, UK: National Research Centre, July 2009), http://eprints.ncrm.ac.uk/783/1/ what_are_academic_disciplines.pdf.

[6] Krishnan.

security along with the development of empirical research.[7] An examination of the justification that homeland security has reached a disciplinary status is primarily based on a list of degree programs maintained by The Center for Homeland Defense and Security's University and Agency Partnership Program (UAPP), which currently lists a total of 113 undergraduate, 115 masters, and 12 doctoral programs.[8] While a potentially valuable resource for researchers the list was not developed for research and has not been evaluated as a valid data source for research.[9] A few studies have examined aspects of the field, but have significant limitations, largely based on problems with the external validity of the studies.[10] In essence, there is not currently a reliable or valid empirically based estimate of the number or characteristics of academic programs in homeland security. Further, while a descriptive count can be a valuable starting point, in order to examine the strength of the field it is also important to explore other aspects of the field, such as the academic literature.

This thesis will directly address these two major limitations in the research through two complimentary phases. The first phase was a systematic review of the academic literature that focused on homeland security education and published between 2000 and 2019. The primary goal of this study was to synthesize the characteristics of the articles as well as the foci of the research to provide a richer historical context to the development of the homeland security academic programs. The second phase was a descriptive summary of the characteristics of graduate level homeland security programs and the schools where they reside. This second phase serves as both an empirical review of the UAPP list of program, an estimate of the size of graduate level homeland security programs, and a summary of the program characteristics.

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[7] Krishnan, 9; Falkow, "Does Homeland Security Constitute an Emerging Academic Discipline?"; Comiskey, "How Do College Homeland Security Curricula Prepare Students for Homeland Security?"; Scott Winegar, "Developing the Bench: Building and Effective Homeland Security Undergrauate Programme" (Naval Postgraduate School, 2008), http://bosun.nps.edu/uhtbin/hyperion-image.exe/08Mar_Winegar.pdf.

[8] Center for Homeland Defense and Security, "Home Page."

[9] Center for Homeland Defense and Security.

[10] Comiskey, "How Do College Homeland Security Curricula Prepare Students for Homeland Security?"; Winegar, "Developing the Bench: Building and Effective Homeland Security Undergrauate Programme"; Falkow, "Does Homeland Security Constitute an Emerging Academic Discipline?"

Research Questions

- What are the characteristics and foci of the literature related to homeland security education?
- What are the characteristics of homeland security graduate degree programs?

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II. LITERATURE REVIEW

A. THE DISCIPLINE OF HOMELAND SECURITY

The field of homeland security was launched as part of the national response to the 9/11 terrorist attacks, building on previous concepts of national security and civil defense, while trying to create and respond to an altered and emerging reality.[11] In practice, developing a field to explore the "new" threat, without fully understanding what had to be different going forward.[12]

The few articles examining homeland security as a discipline largely assume that the institutional presence of the academic programs is a sufficient condition for attributing a disciplinary designation.[13] While an institutional presence is important, it only accounts for a single aspect of what constitutes an academic discipline, a necessary but insufficient condition.[14]

There is also a current conflict between the fields identification as an established academic discipline and the limited agreement about what constitute the critical elements of the field, in particular the theory of homeland security..[15] For example, Falkow has determined that homeland security could be classified as a "young/emerging academic discipline," and Ramsay has discussed the role of accreditation and competency-based

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[11] Comiskey, "How Do College Homeland Security Curricula Prepare Students for Homeland Security?"; Supinski, "Security Studies: The Homeland Adapts."

[12] Plato, "Plato's Republic," ed. G.M.A. Grube (Indianapolis, IN: Hackett Publishing Company, 1974), 276; Christopher Bellavita, "Changing Homeland Security: In 2010, Was Homeland Security Useful?," *Homeland Security Affairs* 7, no. 1 (February 2011): 12, http://hdl.handle.net/10945/25085.

[13] Krishnan, "What Are Academic Disciplines ? Some Observations on the Disciplinarity vs. Interdisciplinarity Debate."

[14] Falkow, "Does Homeland Security Constitute an Emerging Academic Discipline?"; Krishnan, "What Are Academic Disciplines ? Some Observations on the Disciplinarity vs. Interdisciplinarity Debate."

[15] Krishnan, "What Are Academic Disciplines ? Some Observations on the Disciplinarity vs. Interdisciplinarity Debate"; Ramsay, "The Case to Accredit Homeland Security Programs: Why Outcomes-Based Accreditation Makes Sense"; Christopher Bellavita, "Waiting for Homeland Security Theory," *Homeland Security Affairs* 8, no. 3 (2012), http://hdl.handle.net/10945/25016; Richard White, "A Theory of Homeland Security," *Journal of Homeland Security and Emergency Management* 15, no. 1 (2018), https://doi.org/10.1515/jhsem-2017-0059.

outcomes as a mechanism to develop the field.[16] Yet Bellavita suggests that one way to develop the theoretical foundation of the field is to be "enthusiastic about discovering as many interesting homeland security theories as people can create."[17] These two perspectives frame two fundamental elements for discipline, physical institutional presence and theoretical enterprise. Yet, neither of these approaches, have adequately defined what the elements of a discipline are, or if homeland security has developed those elements.

Krishnan defines an academic discipline as "a form of specific and rigorous scientific training that will turn out practitioners."[18] He also identifies it as "a technical term for the organization of learning and the systematic production of new knowledge."[19] Both aspects of this definition imply a sense of structure, organization, and agreement about the central tenets of the field being taught or studied. Krishnan further identifies six common aspects across disciplines:

> 1) disciplines have a particular object of research (e.g., law, society, politics), though the object of research maybe shared with another discipline; 2) disciplines have a body of accumulated specialist knowledge referring to their object of research, which is specific to them and not generally shared with another discipline; 3) disciplines have theories and concepts that can organize and accumulated specialist knowledge effectively; 4) disciplines use specific terminologies or a specific technical language adjusted to their research object; 5) disciplines have developed specific research methods according to their specific research requirements; and maybe most crucially 6) disciplines must have some institutional manifestation in the form of subjects taught at universities or colleges, respective academic departments and professional associations connected to it.[20]

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[16] Falkow, "Does Homeland Security Constitute an Emerging Academic Discipline?"; Ramsay and Renda-Tanali, "Development of Competency-Based Education Standards for Homeland Security Academic Programs"; Ramsay, "The Case to Accredit Homeland Security Programs: Why Outcomes-Based Accreditation Makes Sense"; James D. Ramsay, Daniel Cutrer, and Robert Raffel, "Development of an Outcomes-Based Undergraduate Curriculum in Homeland Security," *Homeland Security Affairs* 6, no. 2 (2010): 20, https://doi.org/https://doi-org.libproxy.nps.edu/10.1515/jhsem-2018-0016.

[17] Bellavita, "Waiting for Homeland Security Theory," 25.

[18] Krishnan, "What Are Academic Disciplines ? Some Observations on the Disciplinarity vs. Interdisciplinarity Debate."

[19] Krishnan.

[20] Krishnan, 9.

Krishnan further emphasizes that "[o]nly through institutionalization are disciplines able to reproduce themselves."[21] Yet, in order to secure and maintain the institutionalization, without the other aspects of a discipline it "diminishes the status of a field of research."[22] In terms of homeland security, the field has developed the physical institutional presence including academic programs, journals, and professional societies.[23] However, it is unclear how well the field addresses the other five common elements of a discipline that Krishnan has identified.[24] The institutional presence is necessary as a mechanism to organize and disseminate knowledge as well as prepare future generations of scholars for the enterprise, referring primarily to graduate level education.[25] The empirical research and theoretical structure are the fundamental elements that exist and flourish within the physical structure, the basic commodity of academia.[26] Further, beyond the existence of the institutional and intellectual structures, the scope and strength of these elements is critical to continued development of the field.

To date, there are two studies, one master thesis and one dissertation, that have examined the disciplinary status of homeland security. The first study was a case study comparison examining if homeland security meets the requirements of a discipline.[27] This case study used an 11-component model of discipline, proposed by King and Brownell in 1966, and conducted a series of four case studies comparing homeland security, public administration, international relations, and computer science.[28] Falkow examined each of the four fields based on the 11 criteria to determine their quintile rank representing disciplinary development. This analysis concluded that homeland security met the

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[21] Krishnan, 9.

[22] Krishnan, 10.

[23] Ramsay and Renda-Tanali, "Development of Competency-Based Education Standards for Homeland Security Academic Programs," 5–7.

[24] Krishnan, "What Are Academic Disciplines ? Some Observations on the Disciplinarity vs. Interdisciplinarity Debate."

[25] Krishnan.

[26] Krishnan, 8.

[27] Falkow, "Does Homeland Security Constitute an Emerging Academic Discipline?"

[28] Falkow.

standards for a "young/emerging academic discipline."[29] The strength of this study was the empirical analysis of the 11 disciplinary criteria along with the case study comparisons across the fields including international relations and public administration.[30] While the comparison between fields was useful, the study's conclusions seem much stronger than the evidence suggests. The findings of the case studies do suggest that homeland security is developing towards a discipline, although the analysis primarily focuses on several aspects of institutional presence, rather than the other disciplinary elements. After ordering Krishnan's common aspects from general to complex, a comparison of the two disciplinary models shows that five of King and Brownell's 11 categories can be primarily classified as elements of Armin Krishnan's institutional manifestation, shown in Table 1. These five elements are: (a) community of persons, (b) tradition, (c) heritage of literature-communication networks, (d) instructive community, and (e) projected demand of discipline's knowledge. Further, it was these institutional components that provided the bulk of the evidence for the conclusion that homeland security be classified as an emerging discipline. This analysis was very useful in examining how well established the academic programs are, but does not address the broader foci of a discipline such as the theoretical or empirical foundations.

A second concern about the study were the dates of the data used in the analysis. The dataset for the case studies covered the academic year of 2005–2006, while the first homeland security academic programs were started around 2003.[31] The data selected, would likely only include information about the first cohort from the first few homeland security programs that were open in 2005–2006 and participated in the study. Further, the results of the thesis do not indicate how many homeland security programs were included in the dataset or the analysis. The two problems with the data, the year of the data and the

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[29] Falkow.

[30] Falkow, 72.

[31] Comiskey, "How Do College Homeland Security Curricula Prepare Students for Homeland Security?"

Table 1. Comparison of Disciplinary Models

Level	Armin Krishnan	King & Brownell, from Falkow[32]
1	Object: "A particular object of research (e.g., law, society, politics), though the object of research maybe shared with another discipline"[33]	3) domain
2	Institutional Manifestation: "Some institutional manifestation in the form of subjects taught at universities or colleges, respective academic departments and professional associations connected to it"[34]	1) Community of persons, 4) tradition, 8) heritage of literature-communication networks 10) instructive community, 11) projected demand of discipline's knowledge
3	Terminology: "Specific terminologies or a specific technical language adjusted to their research object"[35]	6) Conceptual structure 7) Specialized language or system of symbols
4	Research Methods: "Specific research methods according to their specific research requirements"[36]	5) Syntactical structure-mode of inquiry
5	Theories: "Theories and concepts that can organize and accumulated specialists knowledge effectively"[37]	2) Expression of human imagination 9) valuable and affective stance
6	Body of Knowledge: "A body of accumulated specialist knowledge referring to their object of research, which is specific to them and not generally shared with another discipline"[38]	

[32] Falkow, "Does Homeland Security Constitute an Emerging Academic Discipline?"

[33] Krishnan, "What Are Academic Disciplines ? Some Observations on the Disciplinarity vs. Interdisciplinarity Debate," 9.

[34] Krishnan, 9.

[35] Krishnan, 9.

[36] Krishnan, 9.

[37] Krishnan, 9.

[38] Krishnan, 9.

unknown number of programs, limit the validity of the data and therefore compromise our confidence in the findings. This study does provide an interesting analytical approach for examining the status and, potentially, the development of the field over time. However, the analyses would have been much stronger if the number of homeland security programs in the dataset was reported in the study to provide an estimate for what percentage of the existing programs were included, or even how many were in existence in that period of time. It would also be interesting to see the results of a replication study using more recent or even longitudinal data.

The second study, a dissertation, was a survey of academic program directors or faculty, examining how theory was used to develop academic programs and to help the programs remain current.[39] Comiskey sent requests to 587 faculty, and received 86 responses, a response rate of 14.6 percent.[40] The study found that the programs were located in nine different departments across the universities such as criminal justice, and public administration, although the largest category, which included 31 of the 86 programs was labeled "other."[41] Comiskey also concluded that the "discipline of homeland security is still emerging and evolving and there is little consensus about what homeland security actually is."[42] While this study provides a glimpse into homeland security programs, the low response rate raises concerns about the representativeness of the sample and the validity of the findings.[43] The stated focus of this study was the theory underlying homeland security programs, however, like Falkow, the results of the study focused primarily on the characteristics of the programs.[44] As such, the conclusion that homeland security is a discipline, is largely based on the existence of academic programs rather than the other disciplinary elements.

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[39] Comiskey, "How Do College Homeland Security Curricula Prepare Students for Homeland Security?"

[40] Comiskey, 64.

[41] Comiskey, "How Do College Homeland Security Curricula Prepare Students for Homeland Security?"

[42] Comiskey, 5.

[43] Comiskey, 64.

[44] Falkow, "Does Homeland Security Constitute an Emerging Academic Discipline?"

While the conclusions from these two studies state that homeland security has become a discipline, albeit a young discipline; the methodological problems in these studies compromise the confidence in these conclusions. These validity problems highlight several gaps in the current research. Most notable is the very limited understanding of the size and scope of the field of homeland security. Having an empirically supported count of the academic programs would provide a foundation for an in depth analysis of the academic programs and their characteristics.

B. HOMELAND SECURITY THEORY

Krishnan identified theory as one of the key aspects of a disciplines intellectual structure as the "[t]heories and concepts that can organize an accumulated specialists knowledge effectively."[45] To provide a broader context for this analysis this section examines the few authors that have written about the theory of homeland security.[46]

In the earliest article, Bellavita proposes four models that homeland security could use to develop theory.[47] First, he examined micro theories that examine "the theoretical frameworks provided by the professions that make up homeland security—law enforcement, emergency management, the military, public health, and so on."[48] Second, he examined the use of mid-range theories that emphasize "the constituent elements of homeland security—like border security, transportation, intelligence, preparedness, or critical infrastructure."[49] Third, he examined the notion of a grand theory, one that provides an overarching framework that incorporates both the micro and macro approaches. He then discussed the challenges of operationalizing terminology in the field, which is a necessary step in the development of a theory, especially one that is multidisciplinary in nature. Throughout this discussion, Bellavita demonstrated the fluid nature of the field and how it

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[45] Krishnan, "What Are Academic Disciplines ? Some Observations on the Disciplinarity vs. Interdisciplinarity Debate," 9.

[46] Bellavita, "Waiting for Homeland Security Theory"; Comiskey, "How Do College Homeland Security Curricula Prepare Students for Homeland Security?"; White, "A Theory of Homeland Security."

[47] Bellavita, "Waiting for Homeland Security Theory."

[48] Bellavita.

[49] Bellavita.

has been dramatically re-conceptualized since 2001. Based on these observations about the field he argued a fourth notion that the field should encourage practitioners to become theory developers, using their personal micro and macro theories to inform the development of the field, loosely conceptualized as a critical thinking approach.

Each of the approaches Bellavita described provide a useful strategy for generating a theory or theories of homeland security. The article identified that a major limitation of using the micro, macro, or grand theory approaches is that it necessarily impose a flawed structure and in turn may limit critical thinking. While the fourth, critical thinker, position lauds the value of encouraging "as many interesting homeland security theories as people can create."[50] One major risk of this approach is a spiral into relativism, where all theories have equal claim as they all represent a different perspective or community. At minimum, these four positions provide possible models to develop theory in the field of homeland security, and likely represent competing approaches.

A second article, by White, examines the theory of homeland security from the perspective of actions.[51] White proposed a theory that "[h]omeland security encompasses actions designed to safeguard a nation from domestic catastrophic destruction."[52] In many ways, this models is similar to the micro and mid-range approaches presented by Bellavita. This theory emphasized the response and impact of historically significant events to define the fields focus..[53] White identified the 1995 Tokyo subway attack as the inception point of the field. Next the 9/11 terrorist attacks as well as Hurricane Katrina are identified as events that significantly changed the U.S. government's perspective on the importance and meaning of homeland security.[54] Based on this context White then examines how this theory can be used to meet three aspects of a theory to describe, prescribe, and predict.[55]

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[50] Bellavita, 25.

[51] White, "A Theory of Homeland Security."

[52] White.

[53] Bellavita, "Waiting for Homeland Security Theory."

[54] White, "A Theory of Homeland Security."

[55] Bellavita, "Waiting for Homeland Security Theory"; White, "A Theory of Homeland Security."

However, his discussion of these the three aspects of a theory, are used more to demonstrate how the response to the major events justify the value of his definition of homeland security. He did not provide enough information to demonstrate how the theory could be applied to the examination of other homeland security phenomena.

The systematic approach to examining the three aspects of a theory was useful, while the context of the three historical events was too limited. The focus on these events reduces the focus of the field to the impact of an event. Simultaneously the approach discounts all prior events that impacted national security and ties the field's growth to the understanding of the largest most recent event, a primarily reactive approach.[56] White is also argued a relativistic approach to the field, although for White, the theory is only good until the next catastrophic event. As a consequence, White's approach fails to meet the standards of his proposed evaluation because his model does not work for any event outside of his chosen exemplars. The theory is only retrospective in nature, and thus is only capable of providing a descriptive analysis. The theory is not therefore able to prescribe general principles or develop causal explanations, or even build on the commonalities across disasters, large and small. White's argument about the disruptive and defining nature of these extreme events is notable, as extreme events often challenge the veracity of current theory. However, a useful theory should apply to events from small to extreme, and as White proposes provide a mechanism that will help describe, prescribe and predict timelines, needs, and approaches that can be useful for both practitioners and researchers.

Finally, Comiskey examined homeland security theory through an empirical study of homeland security program directors and faculty.[57] The value of this study was a classification system to identify models used in the development of the curriculum within academic programs. The models could then be used to measure both our current status as well as changes in the future of the field. Comiskey identified four purposes of theory—descriptive, exploratory, explanatory, and predictive—and three levels of theory—grand,

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[56] White, "A Theory of Homeland Security."

[57] Comiskey, "How Do College Homeland Security Curricula Prepare Students for Homeland Security?"

macro, meso/mid, and micro.[58] Comiskey then examined the legitimacy and complexity of the discipline. Legitimacy refers to the development of the field as an academic discipline based on markers of academic success, such as disciplinary journals and societies. Complexity refers to how information is conceptualized in the field across four different types of disciplines: single discipline, multidisciplinary, interdisciplinary, or meta-discipline.[59] Despite presenting such a strong model for evaluation, the analysis in the paper was limited. The results were based on a largely descriptive analysis from a very small sample. The descriptive information does suggest that the field has some legitimacy, although the response rate limits the confidence in these findings. Complexity is introduced but not discussed further in the paper, beyond acknowledging the complexity of the field. Similar to the other papers, this analysis provides a framework for testing or organizing theories about homeland security but not enough data to develop a conclusion.

These three articles provide a modest starting point for understanding the framework of theory generally, but not specifically for homeland security.[60] However, none of these articles articulate any pieces of what a homeland security theory should or might include. Based on Krishnan's disciplinary aspects, these theories could be classified as defining terminology, which is represented in Krishnan's third level.[61] White does the best job of attempting to identify a clear object of research for the field, yet his approach is limited by its reliance on the most recent catastrophic event.[62] Bellavita and Comsiky, on the other hand, provide frameworks to classify and evaluate theories that are developed, without clearly articulating what theories currently exist in the field.[63] The primary value

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[58] Bellavita, "Waiting for Homeland Security Theory"; Comiskey, "How Do College Homeland Security Curricula Prepare Students for Homeland Security?"

[59] Comiskey, "How Do College Homeland Security Curricula Prepare Students for Homeland Security?," 40–42.

[60] Bellavita, "Waiting for Homeland Security Theory"; Comiskey, "How Do College Homeland Security Curricula Prepare Students for Homeland Security?"; White, "A Theory of Homeland Security."

[61] Krishnan, "What Are Academic Disciplines ? Some Observations on the Disciplinarity vs. Interdisciplinarity Debate," 9.

[62] White, "A Theory of Homeland Security."

[63] Bellavita, "Waiting for Homeland Security Theory"; Comiskey, "How Do College Homeland Security Curricula Prepare Students for Homeland Security?"

of the three articles is providing a description of the levels of analysis and the functions of a theory, that could be used to evaluate and classify theories developed for homeland security, specifically methodological models.[64]

C. RESEARCH FOCUS

In considering both the discipline and theory of homeland security, there are clearly two gaps that need to be addressed. First, there is a clear lack of variety in the research examining homeland security education. Second, while the research does provide some evidence of the institutional manifestation for the field, the studies have limited validity and there is no current empirically based estimates of the size and scope of the field.

One way to examine the first gap was a review of academic literature focused on homeland security education. This examined how academics in the field are discussing homeland security education. This was intentionally broad and included research across several areas of program, curriculum, and course development as well as the implementation of teaching innovations such as class activities or experiential programs. The review also included articles on the pedagogy of teaching and learning in homeland security. This review can provide a glimpse into the theoretical and methodological approaches used in research, as well as identify themes in the literature

The second gap, verifying institutional manifestation, is somewhat easier to address. The goal of this phase was to identify and describe the size and organization of the graduate level academic programs in homeland security. Graduate level programs are more narrowly focused on core elements of the field, and an important mechanism to develop the next generation of practitioners, researchers, and theory.[65] Evidence suggests that homeland security has established itself institutionally, but the data supporting this claim is weak. A systematic summary of the homeland security related programs would help to strengthen this previous evidence.

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[64] Comiskey, "How Do College Homeland Security Curricula Prepare Students for Homeland Security?"; White, "A Theory of Homeland Security"; Bellavita, "Waiting for Homeland Security Theory."

[65] Krishnan, "What Are Academic Disciplines ? Some Observations on the Disciplinarity vs. Interdisciplinarity Debate," 8.

Further, in developing these academic programs, directors need to provide a justification of the degree program to the university, especially the graduate level programs. Program directors must demonstrate that the field is distinct from other programs, has some elements of theoretical foundation, empirical methodologies, existing body of research, as well as a potential student body and accompanying jobs for those who complete the programs.

D. RESEARCH QUESTIONS

This thesis is organized around two areas of analysis about homeland security related education.

1. Research Question #1: What Are the Characteristics and Foci of the Literature Related to Homeland Security Education?

This question was answered using a systematic review methodology, which is described in detail in Chapter II. The analyses were divided into three sections. The first section examined the basic characteristics of the article, author(s), and journals.

a. Article Characteristics

- What is the distribution of articles across years?
- Who are the authors
- What are the authors professional affiliations?
- What percentage of authors are affiliated with graduate level program in homeland security?
- Which journals are the articles published in?

b. Content Characteristics

This second set of questions coded several characteristics of the articles content. These questions were designed to summarize the methodology used in each article, and provide an overview of the main focus of the article, and an examination of the references.

- What types of studies are being conducted, e.g., empirical vs. theoretical?
- What field is the main focus of the articles?
- What level of academic process is the article aimed towards? (e.g., discipline, class activity)
- How many references are used in the articles?
- Total number of references?
- Number of peer reviewed references?
- Number of homeland security focused references?
- What is the general quality of the article argument and analysis?

c. Analysis of Empirical Articles

The final set of analyses were focused on the subset of empirical research articles. These questions were designed to provide a general summary of the types of methods used in this area of research.

- What type of studies were conducted?
- What type of analyses were used in the studies?
- What method of sampling were used in the studies?
- What is the face validity of the instruments used in the studies?

2. Research Question #2: What Are the Characteristics of Homeland Security Graduate Degree Programs?

This question is examining both school and program level characteristics. This set of analyses examined the characteristic of both the program and the schools where they were located, as well as some general information about the curriculums.

a. School Level Characteristics

- Where are homeland security programs geographically located?
- What is the distribution of programs across public and private schools?
- What is the distribution of programs across the size of the schools?

b. Program Level Characteristics

- What are the names of the homeland security–related programs?
- What level of training is offered in the programs?
- What is the level of degree offered (PhD, MA, Concentration)?
- What are the fields for the degrees offered?
- How are the programs delivered?

c. Curricula Level Characteristics

- How many credit hours are required?
- Do the programs require concluding activities, such as Thesis or Capstone?

III. SYSTEMATIC REVIEW OF LITERATURE

The first research question of this thesis was addressed through a systematic review of the academic research literature around homeland security education. The current research about academic homeland security is focused around several themes: (a) theory of homeland security,[66] (b) the development of specific academic programs,[67] (c) suggestions for core curriculum and concentrations,[68] (d) identifying professional skill development,[69] and (e) role of accreditation.[70] It can be valuable to periodically review the empirical literature in the field to understand trends in the research and emerging issues

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[66] Bellavita, "Waiting for Homeland Security Theory"; White, "A Theory of Homeland Security"; John Comiskey, "Theory for Homeland Security," *Journal of Homeland Security Education* 7 (2018): 29–45, http://libproxy.nps.edu/login?url=https://search-proquest-com.libproxy.nps.edu/docview/2041124367?accountid=12702.

[67] Jeremy F. Plant, Thomas Arminio, and Paul Thompson, "A Matrix Approach to Homeland Security Professional Education," *Journal of Homeland Security and Emergency Management* 8, no. 2 (2011), https://doi.org/10.2202/1547-7355.1883; Jack L. Rozdilsky et al., "Reflections on the Development of an Undergraduate Emergency Management Program: The Experiences of Western Illinois University," *Journal of Homeland Security and Emergency Management* 8, no. 2 (2011), https://doi.org/10.2202/1547-7355.1877; Cheryl Polson and John Persyn, "Partnership in Progress: A Model for Development of a Homeland Security Graduate Degree Program," *Homeland Security Affairs* 6, no. 2 (2010), http://hdl.handle.net/10945/25047.

[68] Cameron Carlson and Joseph M Little, "Identifying Core Themes for an Integrated HSEM Curriculum," *Journal of Homeland Security Education* 8 (2009): 1–22, http://libproxy.nps.edu/login?url=https://search-proquest-com.libproxy.nps.edu/docview/2236681968?accountid=12702; Gary Kessler and James Ramsay, "Paradigms for Cybersecurity Education in a Homeland Security Program," *Journal of Homeland Security Education* 2 (2013): 35, https://search-proquest-com.prox.lib.ncsu.edu/docview/1465501816?accountid=12725; Ramsay, Cutrer, and Raffel, "Development of an Outcomes-Based Undergraduate Curriculum in Homeland Security"; Ramsay and Renda-Tanali, "Development of Competency-Based Education Standards for Homeland Security Academic Programs."

[69] Linda Kiltz, "Developing Critical Thinking Skills in Homeland Security and Emergency Management Courses," *Journal of Homeland Security and Emergency Management* 6, no. 1 (2009), https://doi.org/10.2202/1547-7355.1558; Claire Connolly Knox and Brittany Haupt, "Incorporating Cultural Competency Skills in Emergency Management Education," *Disaster Prevention and Management* 24, no. 5 (2015): 619–34, https://doi.org/10.1108/DPM-04-2015-0089; Brittany Haupt and Claire Connolly Knox, "Measuring Cultural Competence in Emergency Management and Homeland Security Higher Education Programs," *Journal of Public Affairs Education* 24, no. 4 (2018): 538–56, https://doi.org/10.1080/15236803.2018.1455124; John Thomas Mills and De Mond Shondell Miller, "Educating the Next Generation of Emergency Management and Homeland Security Professionals: Promoting Racial and Ethnic Understanding via Cultural Competence and Critical Race Theory," *Journal of Applied Security Research* 10, no. 4 (2015): 466–80, https://doi.org/10.1080/19361610.2015.1069542.

[70] Ramsay, "The Case to Accredit Homeland Security Programs: Why Outcomes-Based Accreditation Makes Sense."

that may be identified. To date there has been no literature review or systematic evaluation of research examining homeland security education.

To ensure a stronger empirical process this review employed a systematic review approach, which is typically a preliminary step in conducting a meta-analyses. A systematic review provides stronger empirical approach than a literature review by clearly laying out the methodology to identify the initial set of articles through the selection of databases and the search terms. The search terms can then serve as the main inclusion/ exclusion criteria when evaluating the fit for each reference and article.[71] This process was designed to reduce researcher bias by broadening the scope of the search and explicitly articulating the search. These terms then were used as the inclusion and exclusion criteria for articles that were identified. By contrast a typical literature review often is based on a more limited set of articles, largely based on what is available to and of interest to the author. This potentially limits the scope and increases the bias of the articles chosen. In addition, the references of every article included in the review were searched. This provided an opportunity to identify references that may be missed in a typical library search. The review of references also served as a reliability check, to ensure that all relevant articles listed in a reference section that meet the study criteria were included in the study.

The strengths of a systematic review approach come in three different areas. First, the selection of search terms and databases provide maximum coverage of likely literature in the field. Second, the use of the search terms ensures that each article included in the final analytical sample meets the inclusion criteria. Third, once a preliminary list of reference is identified, the articles titles, then abstracts, then full text are systematically reviewed against the inclusion criteria. At each of these three stages there is bias towards overinclusion. There must be clear evidence that the reference or article does NOT fit the search criteria in order for it to be excluded. This is designed to help mitigate the researchers' biases. At the full text review phase, if an article is excluded there is a record of the reason it did not meet the study criteria. For all articles included in the study, the

[71] Cumpston et al., *Cochrane Handbook for Systematic Reviews of Interventions.*

references are reviewed to identify any additional articles that may have been missed in the search process.

A. METHODS

The purpose of this phase of the thesis was to examine the characteristics, foci, and strength of the peer-reviewed literature in this area.

1. Article Identification

For the initial database search I used two terms. The first was "homeland security" to identify any articles related to this new field of study. Second, I chose to use the term "educat*", which would identify all articles related to education, including all related endings such as educate, education, or educating. The articles publication date was constrained to between January 1, 2000 to September 30 2019. The year 2000 was chosen to identify any discussion of homeland security education programs being discussed just prior to 9/11/2001. However, it turns out the date restriction was not necessary, as only one article was identified using the terms homeland security education prior to 2000. Further, the oldest article included in the review was not published until 2004.[72]

The search using these terms was conducted through five general databases through the Dudley Knox Library at the Naval Postgraduate School:

1. Academic Search Complete
2. Public Administration Abstracts
3. Criminal Justice Abstracts
4. Criminal Justice Database
5. ERIC

[72] David Auerswald, Janet Breslin-Smith, and Paula Thornhill, "Teaching Strategy through Theory and Practice," *Defence Studies* 4, no. 1 (2004): 1–17, https://doi.org/10.1080/1470243042000255245.

In addition, as a quality check the two terms were used in the library general search bar, which included all databases, to see if there were additional databases to consider. This general search confirmed that these 5 databases included the same set of articles used in a more general search, confirming a total of 1,564 articles related to the two search terms.

To review the articles there were five inclusion criteria for each article.

1. Peer-reviewed articles
2. U.S.-based academic programs
3. Primary field of focus homeland security or emergency management
4. Education and training in college or university academic programs
5. Focus on college or university education including
    - academic discipline
    - academic program
    - curriculum (full, core, or specialization)
    - course, or course related activities
    - potential student populations

2. Analytical Sample

The initial review of the 1,564 articles was conducted through library search engines. At this stage there is a preference for over-inclusion, and 260 articles were identified as possibly meeting the inclusion criteria. The references for these 260 articles were imported into a program called Covidence, an online program designed to facilitate systematic reviews and meta-analysis.[73]

[73] Cumpston et al., *Cochrane Handbook for Systematic Reviews of Interventions*; Cochrane Library, "Covidence Home Page," accessed October 7, 2019, https://www.covidence.org/home.

The Covidence program allows a reviewer, or set of reviewers, to import reference lists and full-text articles for review providing a user-friendly interface. The software is designed to allow the systematic evaluation of a set of references and to record the decisions at each level of the analysis, based on the inclusion criteria defined in the study. During the review of the references of the full-text articles included in the study, 13 additional articles were identified and added. These 273 articles were then screened by title/abstract. From this screening 121 articles were excluded as not relevant for the study.

This left a total of 152 articles identified for a review of the full text. These studies were screened and coded based on the inclusion/exclusion criteria. In all an additional 81 studies were excluded from the study for a variety of reasons: (a) 31 not peer reviewed, (b) 26 were not about academic programs or education, (c) 13 were focused on a field outside homeland security, (d) 8 were focused on training outside universities, and (f) 3 were articles about programs outside the U.S. This left a final sample of 71 articles that were included in the study and coded for analysis. The complete article identification process is summarized in Figure 1.

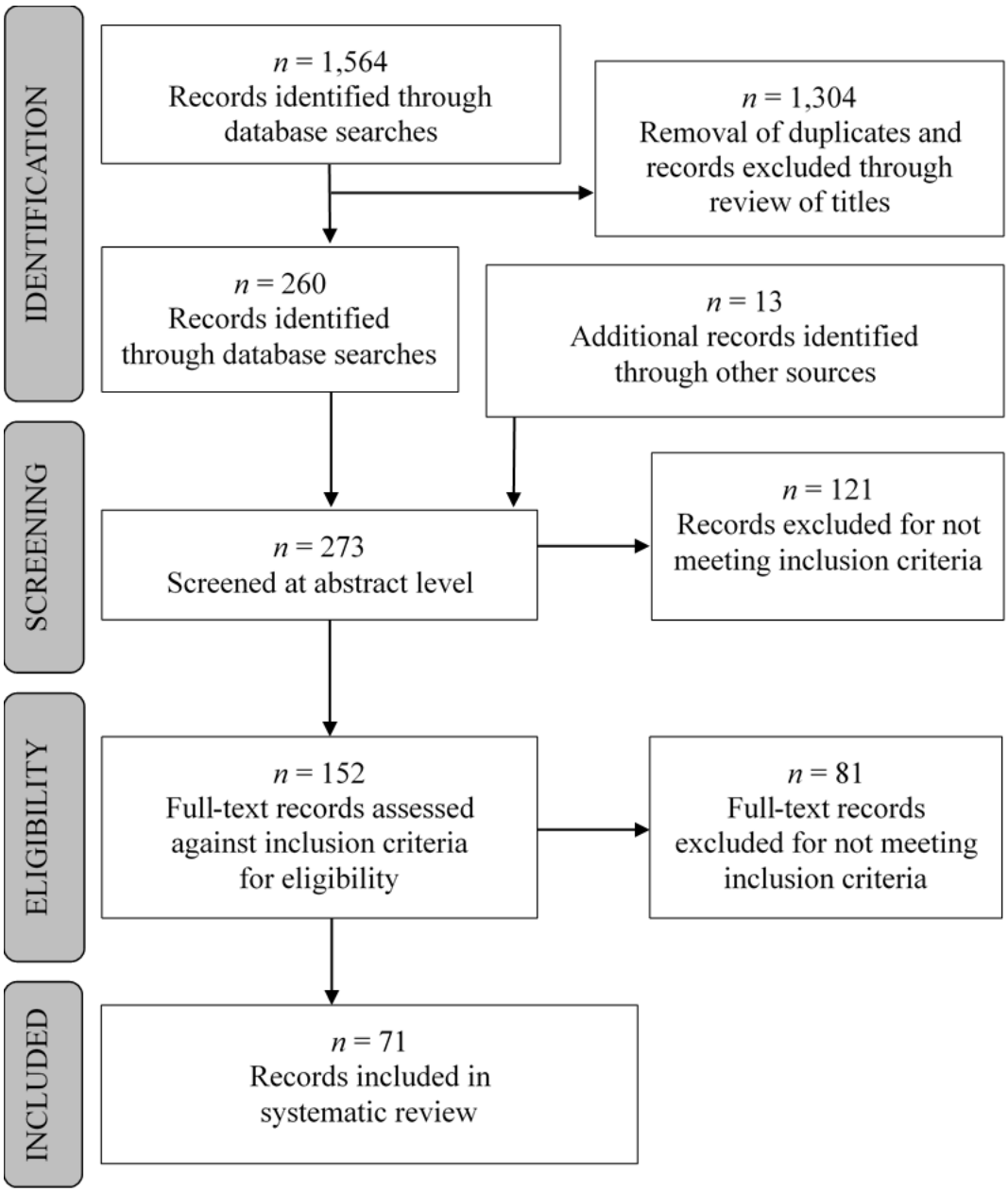

Figure 1. Systematic Review Literature Search

B. ARTICLE CODING AND ANALYSIS

Each article was coded to identify a set of characteristics about the article as well as the content. A main focus in a systematic review is the primary focus of the articles and the type of research that was reported. To facilitate data entry all data was collected through a google form designed around the following characteristics, see Appendix B.

1. Article Characteristics Summary

This set of analyses focused on the general characteristics of the articles and included the year of publication, name of the journal as well as information about the authors and their professional affiliation.

As indicated above the search was limited to articles that were published between January 1, 2000, and September 30, 2019. The oldest article included in the analysis was 2004 and was the only article published that year.[74] Between 2005 and 2019 each year included at least three articles relating to homeland security education except for 2006, with only two published articles and 2017 with only one published article. The year with the highest number of published articles was 2011, with a total 14 publications representing 19.7% of the total. Further, 50% (n=42) of the included articles were published in a six-year period between 2009 and 2014. This distribution of articles over time is summarized in Figure 2.

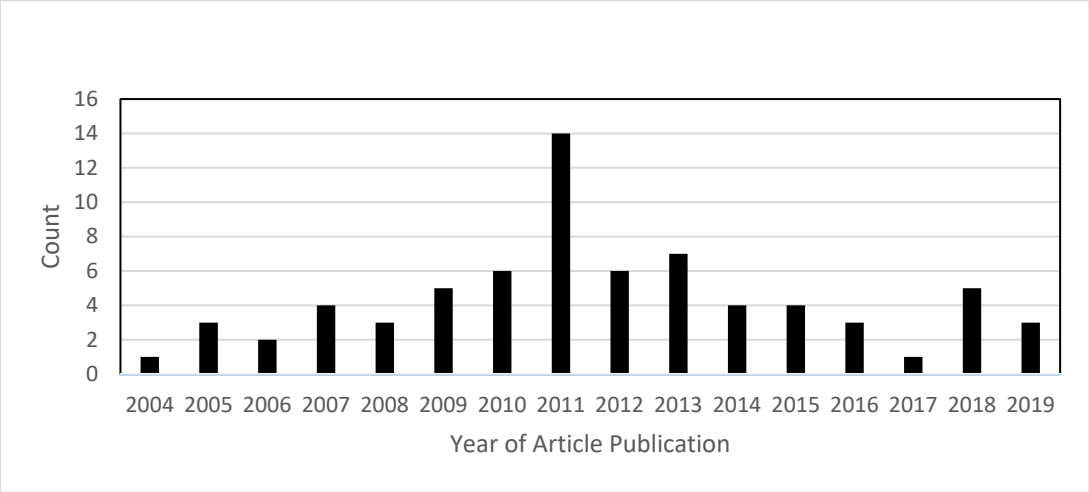

Figure 2. Years of Publication

Twenty-eight (39.4%) of the articles were single author publications, 26 (36.6%) were two author publications, and the remaining 17 (23.9%) articles had three or more

[74] Auerswald, Breslin-Smith, and Thornhill, "Teaching Strategy through Theory and Practice."

authors (Table 2). Out of 110 unique authors, 87 contributed to a single publication, 18 contributed to two publications, and two authors contributed to three publications. James Ramsey contributed to the most publications with a total of seven, followed by Claire Knox with five and Linda Kiltz with four (Table 2).

Table 2. Number of Authors and Publications

Category		Number	%
Number of Authors		n=71	
	One	28	39.4%
	Two	26	36.6%
	Three or more	17	23.9%
Number of Publications Per Author		n=110	
	One	87	79.1%
	Two	18	16.4%
	Three	2	1.8%
	Four	1	0.9%
	Five	1	0.9%
	Seven	1	0.9%

A related analysis examined the affiliation of the authors. One measure of success in graduate programming is submission of peer-reviewed journal articles. The 110 authors represented connections to 69 different organizations, including 57 U.S.-based universities, summarized in Table 3. The remaining 12 organizations were split among universities outside the U.S. (n=3), U.S. government agencies (n=3), research centers (n=3), and independent consultants (n=3). Of the 57 universities, 21 (30.0%) have an active graduate program or concentration in homeland security. Fourteen offer master's degree level programs, three offer doctoral level, and the remaining four offer concentrations.[75]

[75] Center for Homeland Defense and Security, "Home Page."

Table 3. Author Affiliations

Organizations represented by Authors		n=69	
	University	57	82.6%
	Government	3	4.3%
	International Universities	3	4.3%
	Research centers	3	4.3%
	Independent consultants	3	4.3%
University connections to UAPP		n=21	
	Doctoral degree programs	3	14.3%
	Master's degree programs	14	66.7%
	Concentrations	4	19.0%

The 71 articles were published in a total of 22 different journals shown in Table 4. However, 57.8% of the articles were published in three journals: (a) *Journal of Homeland Security and Emergency Management* (n=20, 28.2%), *Journal of Homeland Security Education* (n=12, 16.9%), *Homeland Security Affairs* (n=9, ,12.7%). An additional 19.7% (n=14) of the articles were distributed across three journals: (a) *Journal of Emergency Management* (n=5, 7.0%), (b) *Journal of Public Affairs Education* (n=5, 7.0%), and (c) *Journal of Applied Security Research* (n=4, 5.6%). The remaining journals only published one or two articles. This suggests that the core publications around homeland security education are largely contained in three homeland security related journals. Also notable was the limited number of publications in emergency management.

Table 4. Number and Type of Study by Journal Title

Journal Name	Empirical		Theoretical		Narrative		Total	
	n	%	n	%	n	%	n	%
Academic Medicine			1	7.7%	1	2.8%	2	2.8%
British Journal of Educational Studies	1	4.8%					1	1.4%
Criminal Justice Studies			1	7.7%			1	1.4%
Defense Studies					1	2.7%	1	1.4%
Disaster Prevention and Management	1	4.8%					1	1.4%
Evaluation Review	1	4.8%					1	1.4%
Homeland Security Affairs	2	9.5%			7	18.9%	9	12.7%
Journal of Homeland Security and Emergency Management	3	14.3%	4	30.8%	13	35.1%	20	28.2%
IEEE Proceedings					1	2.7%	1	1.4%
Intelligence and National Security					1	2.7%	1	1.4%
International Journal of Intelligence and Counterintelligence					1	2.7%	1	1.4%
International Journal of Mass Emergencies and Disasters	1	4.8%			1	2.7%	2	2.8%
Journal of Applied Learning in Higher Education	1	4.8%					1	1.4%
Journal of Applied Security Research	1	4.8%	1	7.7%	2	5.4%	4	5.6%
Journal of Education for Business	1	4.8%					1	1.4%
Journal of Emergency Management	1	4.8%	1	7.7%	3	8.3%	5	7.0%
Journal of Homeland Security Education	5	23.8%	4	30.8%	3	8.1%	12	16.9%
Journal of Public Affairs Education	3	14.3%			2	5.4%	5	7.0%
The Homeland Security Review			1	7.7%			1	1.4%
Total	21	--	13	--	37	--	71	--

2. Article Content Characteristics

The second set of analyses examined the characteristics of the content in the articles, such as the type of study reported, what academic field was emphasized, and what

level of education the article focused on. This information was important as it reflected some of the standards of practice within the field and to identify patterns in the studies.

a. Type of Research

In a typical systematic review, the primary focus is the empirical research studies. However, for this study the largest category for the type of research were narrative articles, which included opinions about the field trough descriptions of program development. As such this section examined articles across three categories, summarized in Table 5. Only 29.6% (n=21) of the articles were classified as empirical studies, meaning they included data collection and analysis. An additional 18.3% (n=13) were considered theoretical articles that used other peer-reviewed literature for the analysis. Finally, 52.1% (n=37) of the studies were classified as narrative which included articles that were op-ed, opinion, and descriptive.

This distribution of studies was problematic due to the limited number of empirical articles, and also the significant number of narrative pieces. The narrative articles tended to be opinion or descriptive in nature and relied on few references to support the claims presented. It appears that the narrative pieces were peer-reviewed, although the Journal of Homeland Security and Emergency Management accepts pieces that are short form articles or essays, and the journal Homeland Security Affairs accepts both news and opinion pieces. However, neither of these journals appear to clearly designate which category the articles were accepted under.

The narrative category was further broken down into three categories, shown in Table 5. The largest of these was Descriptive, included 18 articles (48.6%) and focused on describing the process for developing a program or course, as well as the implementation of classroom activities. The second category were arguments with 13 articles (35.1%), which presented a particular agenda, such as accreditation, or perspectives about where the field is or should be headed. The final category was commentaries which included 6 articles (16.2%) that focused on the discipline broadly and sought to identify and describe the current issues, debates, and state of the field. As the field develops it should limit the

publication of the argument and commentaries, or at least clarify that they are not empirical articles.

Table 5. Type of Research and Narrative Articles

Type of Research		n=71	
	Empirical	21	29.6%
	Theoretical	13	18.3%
	Narrative	37	52.1%
Type of Narrative Articles		n=37	
	Descriptive	18	48.6%
	Arguments	13	35.1%
	Commentaries	6	16.2%

b. Name of Academic Field Referenced in Articles

This variable was designed to count the different ways that authors were referring to the field. There was some variation in how people address the field, however, more interesting was that the field selected seems to represent a slightly different perspective about the core focus and approach to homeland security (Table 6).

The majority of the articles focused on homeland security, emergency management or combined homeland security and emergency management. The largest percentage of articles were focused on the field of homeland security (38.0%, n=27). These articles examined the development of the discipline, the field, and specific academic programs. There were also quite a few articles that focused on specific professional skills needed in the profession[76] and classroom activities to augment students experiences. The second largest group of articles focused on the field of emergency management (23.9%, n=17). These articles largely discussed the differences between emergency management and

[76] Kiltz, "Developing Critical Thinking Skills in Homeland Security and Emergency Management Courses"; Knox and Haupt, "Incorporating Cultural Competency Skills in Emergency Management Education"; Haupt and Connolly Knox, "Measuring Cultural Competence in Emergency Management and Homeland Security Higher Education Programs."

homeland security.[77] Several of these articles were very pointed in stating that emergency management was a distinct and separate field from homeland security and other fields, such as public administration.[78] A notable subset of these articles also sought to integrate theories from other fields into the field of emergency management.[79] The third group of articles focused on the combined field of homeland security and emergency management (21.1%, n=15). The majority of these articles identified challenges related to the development of the field of homeland security, although it ranged from classroom tools,[80] to curricular themes,[81] and competency standards for the field.[82] The articles addressing the discipline broadly also touched on the challenges of integrating homeland security and emergency management, without identifying specific issues or practical solutions.

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[77] Carol Cwiak, "Framing the Future: What Should Emergency Management Graduates Know?," *Journal of Homeland Security and Emergency Management* 8, no. 2 (2011), https://doi.org/10.2202/1547-7355.1910; Keith E. Clement, "The Essentials of Emergency Management and Homeland Security Graduate Education Programs: Design, Development, and Future," *Journal of Homeland Security and Emergency Management* 8, no. 2 (2011), https://doi.org/10.2202/1547-7355.1902; William L. Waugh and Abdul Akeem Sadiq, "Professional Education for Emergency Managers," *Journal of Homeland Security and Emergency Management* 8, no. 2 (2011), https://doi.org/10.2202/1547-7355.1891.

[78] David Alexander, "Towards the Development of Standards in Emergency Management Training and Education," *Disaster Prevention and Management: An International Journal* 12, no. 2 (2003): 113–23, https://doi.org/10.1108/09653560310474223; Thomas E. Drabek, PhD, "Emergency Management and Homeland Security Curricula: Contexts, Cultures, and Constraints," *Journal of Emergency Management* 5, no. 5 (2007): 33, https://doi.org/10.5055/jem.2007.0022.

[79] Heriberto Urby and David A. McEntire, "Applying Public Administration in Emergency Management: The Importance of Integrating Management into Disaster Education," *Journal of Homeland Security and Emergency Management* 11, no. 1 (2014): 39–60, https://doi.org/10.1515/jhsem-2013-0060; Glen L. Woodbury, MA, "Critical Curriculum for Emergency Management Leaders: Three Essential Themes," *Journal of Emergency Management* 3, no. 2 (2005): 27, https://doi.org/10.5055/jem.2005.0017.

[80] Irmak Renda-Tanali and Husein Abdul-Hamid, "An Assessment of the Benefits of Online Scenario Simulation Tools in Homeland Security and Emergency Management Education," *Journal of Homeland Security and Emergency Management* 8, no. 2 (2011), https://doi.org/10.2202/1547-7355.1917.

[81] Carlson and Little, "Identifying Core Themes for an Integrated HSEM Curriculum"; Linda Kiltz and James D. Ramsay, "Perceptual Framing of Homeland Security," *Homeland Security Affairs* 8, no. 3 (2012): 1, https://search-proquest-com.libproxy.nps.edu/docview/1266360730?accountid=12702; Donald A. Donahue et al., "Meeting Educational Challenges in Homeland Security and Emergency Management," *Journal of Homeland Security and Emergency Management* 7, no. 1 (2010): 1–12, https://doi.org/10.2202/1547-7355.1718.

[82] Ramsay and Renda-Tanali, "Development of Competency-Based Education Standards for Homeland Security Academic Programs"; Magdalena A Denham and Lee M Miller, "Partnering for Resilience: An Innovative Approach to Hazard Education and Child-Centered Risk Reduction," *International Journal of Mass Emergencies & Disasters* 37, no. 1 (2019), http://search.ebscohost.com.libproxy.nps.edu/login.aspx?direct=true&db=sih&AN=138800522&site=ehost-live&scope=site. Accessed: 19 mar. 2020.

The next field category were articles that included homeland security mentions (7.0%, n=5). These articles primarily discussed program development of homeland security related concentrations, such as public health, where homeland security was a secondary focus.[83] The final set of articles did not include any mention of homeland security directly (9.9%, n=7). These articles largely focused on areas of concern to homeland security, such examining core elements for a critical infrastructure protection class.[84] Finally, there were also articles discussing class activities within other degree programs, such as intelligence studies, which focused on assignments like murder boards and briefing books, which again had relevance for courses, such as intelligence, within homeland security programs.[85]

Table 6. Academic Field Referenced in Article

Academic Field	n=71	
Homeland security	27	38.0%
Emergency management	17	23.9%
Homeland security & emergency management	15	21.1%
Homeland security mentions	5	7.0%
No mention of homeland security	7	9.9%

c. Level of Academic Focus

This variable was used to examine at which level in an academic program the articles were focused. There were a total of five levels identified: (a) discipline, (b) program, (c) curriculum, (d) course, and (e) class activity. Forty articles (56.4%) focused

[83] David M. Claborn and Kunal A. Sonavane, "Public Health Components of Academic Programs in Homeland Security," *Journal of Homeland Security and Emergency Management* 7, no. 1 (2010), https://doi.org/10.2202/1547-7355.1664.

[84] Steven Hart and Jim Ramsay, "A Guide for Homeland Security Instructors Preparing Physical Critical Infrastructure Protection Courses," *Homeland Security Affairs* 63, no. 1 (2011): 1, http://libproxy.nps.edu/login?url=https://search-proquest-com.libproxy.nps.edu/docview/1266215283?accountid=12702.

[85] Loch K. Johnson, "Teaching Intelligence: Briefing Books, Murder Boards, and Stirring Scenarios," *Intelligence and National Security* 32, no. 7 (2017): 961–71, https://doi.org/10.1080/02684527.2017.1328829.

on either the discipline (n=20, 28.2%) or curriculum (n=20, 28.2%), two central areas in the development of a new field (Table 7).

The broadest category focused on the discipline level and included 20 articles (28.2%). These articles were mainly focused across two themes, the current state of the field and the future of the field. At the program level (n=11, 15.5%) the articles focused on the development of new programs or subspecialties, as well as the evaluation of academic programs. For example, the Plant et al. article discussed the process used in the development of the homeland security program at Pennsylvania State.[86] Articles examining the curriculum level (n=20, 28.2%) examined several themes around application of theory to the curriculum, such as public administration or emergency management,[87] discussion around core elements for programs,[88] and finally emphasis on professional skills, such as critical thinking[89] and cultural competence.[90]

The final two categories examined courses and class activities, which emphasized teaching skills and student outcomes. The articles focused at the course level (n=7, 9.9%) examined teaching specific courses, such as critical infrastructure protection or intelligence,[91] as well as a few articles examining scholarship of teaching and learning

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[86] Plant, Arminio, and Thompson, "A Matrix Approach to Homeland Security Professional Education"; Polson and Persyn, "Partnership in Progress: A Model for Development of a Homeland Security Graduate Degree Program."

[87] Drabek, PhD, "Emergency Management and Homeland Security Curricula: Contexts, Cultures, and Constraints."

[88] Carlson and Little, "Identifying Core Themes for an Integrated HSEM Curriculum."

[89] Kiltz, "Developing Critical Thinking Skills in Homeland Security and Emergency Management Courses."

[90] Haupt and Connolly Knox, "Measuring Cultural Competence in Emergency Management and Homeland Security Higher Education Programs"; Knox and Haupt, "Incorporating Cultural Competency Skills in Emergency Management Education"; Mills and Miller, "Educating the Next Generation of Emergency Management and Homeland Security Professionals: Promoting Racial and Ethnic Understanding via Cultural Competence and Critical Race Theory."

[91] George H. Baker and Richard G. Little, "Enhancing Homeland Security: Development of a Course on Critical Infrastructure Systems," *Journal of Homeland Security and Emergency Management* 3, no. 4 (2006), https://doi.org/10.2202/1547-7355.1263; Johnson, "Teaching Intelligence: Briefing Books, Murder Boards, and Stirring Scenarios."

more generally.[92] Finally, the articles examining class activities (n=13, 18.3%) were primarily focused on the integration of active learning strategies into courses. These activities included disaster exercises, community partnerships, online games, and reflective journaling.[93] The two most common class activities were simulations and exercises, both focused on increasing student learning by facilitative active decision making in stressful environments related to the course materials.[94]

Table 7. Articles Level of Focus in Academic Program

Level of Focus	n=71	
Discipline	20	28.2%
Program	11	15.5%
Curriculum	20	28.2%
Courses	7	9.9%
Class activities	13	18.3%

d. Use of References

This set of analyses was added to the review process, after identifying several articles with very few references. From an academic development perspective, the field

[92] Shirley Feldmann-Jensen et al., "The Scholarship of Teaching and Learning in Emergency Management and Homeland Security: Trends, Gaps, Barriers, and Opportunities," *Journal of Emergency Management* 17, no. 1 (2019): 27–34, https://doi.org/10.5055/jem.2019.0394.

[93] John R Fisher and Muhaedin Bela, "Engaging Students in Disaster Relief Training Exercises.," *Vizione* 23 (2015): 101–7, https://search.ebscohost.com/ login.aspx?direct=true&db=a9h&AN=117047520&site=ehost-live; Denham and Miller, "Partnering for Resilience: An Innovative Approach to Hazard Education and Child-Centered Risk Reduction"; Renda-Tanali and Abdul-Hamid, "An Assessment of the Benefits of Online Scenario Simulation Tools in Homeland Security and Emergency Management Education"; Kenneth Goldberg, "Reflective Journaling : Building Bridges between Theory and Practice," *Journal of Homeland Security Education* 70, no. 1 (2012): 63–69, https://search-proquest-com.prox.lib.ncsu.edu/docview/1312298323?accountid=12725.

[94] Brian A. Jackson, "A Table-Top Game to Teach Technological and Tactical Planning in a Graduate Terrorism and Counterterrorism Course," *Journal of Homeland Security and Emergency Management* 8, no. 2 (2011), https://doi.org/10.2202/1547-7355.1863; R Jeffrey Maxfield and Utah Valley, "Employing Critical Reflection in an Online Emergency Services Course," *Journal of Homeland Security Education* 1, no. 1 (2012): 26–40, http://libproxy.nps.edu/login?url=https://search-proquest-com.libproxy.nps.edu/ docview/1312298325?accountid=12702.

needs to develop its own research and build on that research over time..[95] This section evaluated how references were used in these articles across three areas: (a) references overall, (b) peer-reviewed references, and (c) homeland security related/relevant.

Across the 70 articles there was a median of 22 references per article, with a range of zero to 113. There were four articles with over 80 references, two of which included over 100 references, one of which was based on a dissertation[96] At the other end, there were three articles with zero references and 25% of the articles used less than 14 references. The limited use of references was concerning because it reflects that either there is limited peer-reviewed literature available, that the academic standards in the field have not been articulated, or that authors are not writing these articles as academic pieces or for an academic audience. There was a modest positive trend with the number of references used in articles increasing over time, however, this was likely skewed by the two articles with over 100 references in 2018.[97]

The second analysis here examined the number of peer-reviewed references that were used in the articles. Overall there was a median of 6 peer-reviewed articles used with a range zero 36. This was about half of the number of non-peer reviewed sources (median = 14, range =94) used in the articles. As with the use of references generally, there was also a modest increase in peer-reviewed references over time, while the non-peer reviewed references has remained mostly stable. This is a concern for the overall quality and strength of the empirical research however there are two caveats that should be considered for this literature. First, within the field of homeland security, there is still a large amount of reliance on government documents including departmental reports and legislation. These government documents include a large amount of academic course related materials

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[95] Krishnan, "What Are Academic Disciplines ? Some Observations on the Disciplinarity vs. Interdisciplinarity Debate."

[96] Comiskey, "How Do College Homeland Security Curricula Prepare Students for Homeland Security?"; Ramsay and Renda-Tanali, "Development of Competency-Based Education Standards for Homeland Security Academic Programs."

[97] Comiskey, "How Do College Homeland Security Curricula Prepare Students for Homeland Security?"; Ramsay and Renda-Tanali, "Development of Competency-Based Education Standards for Homeland Security Academic Programs."

provided by both Center for Homeland Defense and Security and Federal Emergency Management Agency. Second, in general the research literature around teaching and learning is not as well developed as other areas of research.[98] As such, this literature may not be representative of the broader empirical literature in the field of homeland security.

A third analysis examined the number of homeland security related references in each study (median = 7, range 73). As with the peer-reviewed sources there were a relatively small number of these used in these articles and appears to be modestly increasing over time. However, the limited use of homeland security related references, peer reviewed or not, does highlight a weakness in the field, as a more developed field can draw upon a larger base of empirical peer-reviewed research. However, it is important to take this finding with caution, as the scholarship of teaching and learning is a newer field and still developing. As such the research is often less sophisticated than the standard research used in the field, such as homeland security.[99] This study did not do a comparison to the broader homeland security research literature which is likely to have a much stronger theoretical and empirical peer-reviewed and homeland security focused foundations.

3. Review of Empirical Articles

The final set of analyses are a more detailed analysis of the methods used and results presented in the empirical articles (n=21). All of these 21 articles used primary data with instruments that were designed specifically for those studies. The majority of the studies were quantitative and descriptive (n=13, 61.9%), with 19.0% (n=4) correlational and 19.0% (n=4) qualitative (Table 8).

Table 8. Review of Empirical Articles

Type of Study	n=21	
Descriptive	13	61.9%
Correlational	4	19.0%
Qualitative	4	19.0%

[98] Elizabeth Marquis, "Developing SoTL through Organized Scholarship Institutes," *Teaching & Learning Inquiry* 3, no. 2 (2015): 19–36, https://files.eric.ed.gov/fulltext/EJ1148595.pdf.

[99] Marquis.

In trying to identify themes or patterns in the studies, four (19.0%) used the process of expert consensus across three different methodologies: delphi, modified nominal group techniques and best worst scaling.[100] Each of these methods used a model of expert consensus building to rate or rank a list of items related to core elements of homeland security curriculum. As the field continues to develop, the expert consensus methods seems to be a promising technique for future research, especially across roles, such as faculty and practitioners, within homeland security. Future studies would benefit from a more detailed methodology describing how the expert participants were selected and how the materials for consensus building were developed or complied. None of the four studies provided a clear description of either process, thus decreasing both the confidence and replicability of the results.

In looking across the articles the majority of them focused on the implementation and evaluation of a class activity. The current studies provide useful case studies but lack the methodological rigor to demonstrate that these activities are effective at impacting the targeted outcomes. As the field develops it will be important to expand the methodology to include more correlational and causal studies to more effectively analyze the effectiveness of these approaches to teaching. The remainder of the empirical articles focused on the development of the curriculum in the field. Again this is a largely descriptive exercise, however, advanced sampling and analytical techniques, like the best worst scaling, are important for advancing the field as a whole. As suggested above it is likely that the methodology and analysis surrounding scholarship of teaching and learning is likely to lag behind the sophistication of the field general, but this does not mean we should be satisfied with basic studies and methodologies.[101]

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[100] Michael J. O'Connor, "A Study Utilizing the Delphi Technique to Develop a Consensus on the Importance of Certain Curricular Goals for Emergency Management Associate, Bachelor's and Master's-Level Programs in the United States," *Journal of Applied Security Research* 3, no. 2 (2008): 231–40, https://doi.org/10.1080/19361610802135946; Daniel A. Cutrer, "Developing a Homeland Security Curriculum: A Case Study in Outcomes-Based Education," *Developing a Homeland Security Curriculum: A Case Study in Outcomes-Based Education*, 2017, https://doi.org/10.4135/9781526408037; Carlson and Little, "Identifying Core Themes for an Integrated HSEM Curriculum"; Ramsay, Cutrer, and Raffel, "Development of an Outcomes-Based Undergraduate Curriculum in Homeland Security."

[101] Marquis, "Developing SoTL through Organized Scholarship Institutes."

An example of use of basic methodology is the wide use of convenience sampling. Seven (33.3%) of the studies used students in a class, and 7 (33.3%) used a small set of intentionally selected individuals such as expert consensus, class and community sample, and one web search for homeland security related syllabi (Table 9). While useful for pilot studies and preliminary analyses it will be important for future research to utilize more robust sampling methodologies to address the limitations of convenience sampling. This may include matched samples of other courses as well as longitudinal studies. An additional set of four (19.2%) studies used academic program lists, three used the UAPI list (UAPI reference/link) and the fourth used the Federal Emergency Management Agency "The College List" of academic programs.[102] While the use of existing lists can be useful it is important the lists themselves are vetted to understand what segment of the population they actually represent. This is discussed in some detail in the next chapter.

Table 9. Sampling Strategy across Studies

Sampling Strategy	n=21	
Convenience	2	9.6%
Student in class	7	33.3%
Intentionally sample selection	8	38.1%
Academic Program lists	4	19.0%

There were two studies that had strong sampling methods. The first was a convenience study that collected data from 5,122 Department of Homeland security workers across the country among four different agencies. The authors acknowledged the limitations of the convenience methods but also took several steps to address those concerns, including collecting data from a large sample.[103] The strength in this study is the creative methodology to address the obvious limitations of the studies sampling method,

[102] Federal Emergency Management Agency, "Emergency Management Institute (EMI) | The College List - Colleges, Universities and Institutions Offering Emergency Management Courses," accessed March 2, 2020, https://training.fema.gov/hiedu/collegelist/.

[103] Cristina D. Ramirez and Gail A. Rioux, "Advancing Curricula Development for Homeland Security Education through a Survey of DHS Personnel," *Journal of Homeland Security Education* 1, no. 1 (2012): 6, https://search-proquest-com.prox.lib.ncsu.edu/docview/1312298322?accountid=12725.

where possible. The second study used a combination of direct mail and internet list-serves to identify homeland security and emergency management professionals.[104] Again the authors admitted this was essentially a convenience sample, however, they were able to identify the weakness of this methodology band work to address the limitations. They ended up with a sample of 1,006 and were reasonably cautious about the generalizability of these findings. A third study had a very detailed methodology with a complex strategy for surveying potential students from critical infrastructure agencies in their region.[105] The authors ran a power analysis but used it incorrectly to identify the number of surveys to distribute rather than the number of responses they needed, thus undermining the validity of the study and the veracity of their results.[106]

Overall the methodology across these 21 studies was very simple and in some cases lacked the appropriate statistical rigor.[107] The basic methods also extended into the data analysis. Most of the survey results were reported as simple item level frequencies. While this can be a useful descriptive approach, it cannot be used for any type of comparison across items or speculation about the impact of the intervention or generalization to other programs. There were several papers where the authors could have conducted simple correlations between groups to enhance the results. Further, the use of simple scales that combined related questions, may have allowed the researchers to better analyze their research questions and demonstrate the impact of their class activities.

C. CONCLUSION

The purpose of this chapter was to examine the first research question: What are the characteristics and foci of the literature related to homeland security education? Overall the systematic review identified 71 articles for inclusion. The articles were examined across

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[104] Carlson and Little, "Identifying Core Themes for an Integrated HSEM Curriculum."

[105] Daniel Doss et al., "Homeland Security Education: Managerial versus Nonmanagerial Market Perspectives of an Academic Program," *Journal of Education for Business* 91, no. 4 (2016): 203–10, https://doi.org/10.1080/08832323.2016.1154001.

[106] Jason Brownlee, "A Gentle Introduction to Statistical Power and Power Analysis in Python," 2019, https://machinelearningmastery.com/statistical-power-and-power-analysis-in-python/.

[107] Doss et al., "Homeland Security Education: Managerial versus Nonmanagerial Market Perspectives of an Academic Program."

three areas of analysis, the first examining the characteristics of the articles, the second examining the contents of the articles, the third examining the empirical articles.

The articles were published between 2004 and 2019, with 2011 having the most articles in a year at 14. Most of the articles included one to two authors, and most authors only contributed to one of the articles in this review. In addition, most of the articles were written by people working at Universities. Finally, the articles were published in 20 different journals with 41 of the articles published in 3 journals focusing on homeland security.

In examining the article content most of the articles were narrative in nature (52.1%) while only 29.6% were empirical research. Nearly half of the narrative articles were descriptive in nature, many focusing on the development of program, courses and class activities. The articles emphasized three main academic fields of homeland security, emergency management, and a combined homeland security and emergency management. Across these fields the contents and emphasis in the articles did vary. Further, the articles were examined questions about the discipline or curriculum of homeland security. Finally, across the articles there were a median of 22 references used per articles, with a median of six peer reviewed and a median of 7 directly related to homeland security.

All of the 21 empirical articles used primary data collection and new measures. Seventeen of the studies were quantitative and most used simple descriptive analysis. The remaining four articles presented qualitative studies. The samples of the studies were all convenience samples focused largely on class based student groups. Both the sampling methods and data analysis were at a very basic level.

IV. SUMMARY OF GRADUATE LEVEL HOMELAND SECURITY RELATED PROGRAMS

The key arguments for the classification of homeland security as a discipline are based on the institutional elements of the field such as academic programs, journals, and professional societies.[108] It was relatively easy to identify the journals and professional societies since these are only a few and less likely to change over time.[109] As such, the claims about the field largely depend on the number of homeland security related academic programs. However, there is very limited empirical validation of these claims and even less known about the scope and characteristics of these academic programs.[110] Having a better estimate of the size of the field will also facilitate better estimates of changes in the field. This chapter therefore addresses the second research question: what are the characteristics of homeland security graduate degree programs?

Krishnan suggests that the designation as a field or discipline, includes both benefits and responsibilities. The benefits include credibility which is likely to increase the access to resources such as research money and potential students.[111] However, from the academic side there is also an expectation that the field develops a body of empirical research as well as models for translating research into practice. Much of this work is done

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[108] Comiskey, "How Do College Homeland Security Curricula Prepare Students for Homeland Security?"; Falkow, "Does Homeland Security Constitute an Emerging Academic Discipline?"; Ramsay, "The Case to Accredit Homeland Security Programs: Why Outcomes-Based Accreditation Makes Sense."

[109] Ramsay and Renda-Tanali, "Development of Competency-Based Education Standards for Homeland Security Academic Programs"; Stanley B Supinski, "The Journal of Homeland Security Education: The Right Journal at the Right Time," *Journal of Homeland Security Education* 1, no. 1 (2012): 3, https://proxying.lib.ncsu.edu/index.php/login?url=https://search-proquest-com.prox.lib.ncsu.edu/docview/1312298321?accountid=12725.

[110] William V. Sr. Pelfrey and William V. Jr. Pelfrey, "Sensemaking in a Nascent Field: A Conceptual Framework for Understanding the Emerging Discipline of Homeland Security," *Homeland Security Review* 4, no. 3 (2010): 157–72, http://web.a.ebscohost.com/pov/pdfviewer/pdfviewer?vid=9&sid=05d5e4d7-c884-40fd-9b40-e24b149dfd41%40sessionmgr4008; William V. Pelfrey and William V. Pelfrey, "Curriculum Evaluation and Revision in a Nascent Field: The Utility of the Retrospective Pretestg-Posttest Model in a Homeland Security Program of Study," *Evaluation Review* 33, no. 1 (2009): 54–82, https://doi.org/10.1177/0193841X08327578; Ramsay, "The Case to Accredit Homeland Security Programs: Why Outcomes-Based Accreditation Makes Sense"; Comiskey, "Theory for Homeland Security."

[111] Krishnan, "What Are Academic Disciplines ? Some Observations on the Disciplinarity vs. Interdisciplinarity Debate," 10.

in the context of graduate level academic programs; particularly at the doctoral level which emphasizes the training of new researchers and advancing the body of empirical research.[112] Master's level programs provide a place to develop expertise in the theory, empirical foundations, and research methods, with an emphasis on training practitioners. Given the importance of graduate level education in the development of the field, this is the level of analysis.

The main resources for identifying the number of homeland security academic programs is the University and Agency Partnership Initiative site at the Center for Homeland Defense and Security (UAPP).[113] The current count of academic programs was 460 homeland security academic programs, including 185 Certificate and Associate's degree programs, 113 bachelor degree programs and 127 graduate degree programs. To date there has not been an analysis of the quality or accuracy of this list, nor a systematic description of the programs included. This analysis was focused on graduate level education because these programs provide more narrow focus on specialized education and also make a larger contribution to the development of both practitioners and researchers.[114]

One of the larger studies examining homeland security academic programs, Comisky analyzed data from 122 program directors and faculty at homeland security programs. On the face of it, the 122 seem to suggest there is a large number of programs, although the sample of 122 respondents, reflects a 12.8% response rate from 953 prospective participants.[115] Further, the study does not appear to list the number of programs represented, or how the number of programs was corrected to account for instances where multiple faculty from a single program responded to the survey. More concerning, because there is not a baseline estimate for the number of homeland security

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[112] Krishnan, 8.

[113] Center for Homeland Defense and Security, "Home Page."

[114] Krishnan, "What Are Academic Disciplines ? Some Observations on the Disciplinarity vs. Interdisciplinarity Debate."

[115] Comiskey, "How Do College Homeland Security Curricula Prepare Students for Homeland Security?"

programs, there is no way to know how well the sample represents the population of either homeland security programs or homeland security faculty, limiting the validity of this data.

This chapter reviews a set of analyses designed to develop a more accurate count of homeland security academic programs that can serve as a baseline estimate for the field. The analysis will also examine the characteristics of these programs. There are at least four benefits from such an examination. First, this can provide a more accurate estimate of the number of schools offering homeland security programs, as well as the total number of programs being offered. Second, having a baseline can potentially increase the strength of previous research, by providing a benchmark to compare the representativeness of previous samples. Third, having a baseline can provide a mechanism for more clearly measuring the change in the field of homeland security over time. Finally, the data can also provide an opportunity to critically examine how the programs are being delivered, how much overlap there is in criteria such as the number of credit hours, requirement for a capstone or thesis.

A. METHODS

This was a descriptive study of the existing graduate level academic programs focusing on homeland security. The data collected from publicly available information about both the schools, colleges and universities that offer the programs, as well as characteristics of the academic programs. The sample was identified through the list of programs held at the CHDS UAPP site.[116]

1. Data Source

A list of universities with homeland security related programs was developed from University Agency Partnership Program (UAPP).[117]

> The University and Agency Partnership Program, or UAPP, brings together institutions nationwide dedicated to advancing homeland security education. This effort seeks to increase the number and diversity of students receiving homeland security education, accelerate the establishment of high-quality academic programs, and provide opportunities for

[116] Center for Homeland Defense and Security, "Home Page."

[117] Center for Homeland Defense and Security.

> collaboration that create an intellectual multiplier effect that furthers the study of homeland security.[118]

Individuals self-select into UAPP membership by requesting access through the CHDS UAPI webpage.[119] The UAPP site provides links both the schools and the academic programs, which represent the spectrum of professional certificates to degrees from associate's to doctoral level. Currently the site lists a total of 460 homeland security programs, which actually reflects the number of universities offering academic programs. Programs on UAPP site refer to both the university and the degree programs. This paper refers to universities or colleges as schools, and to degree programs as academic programs.

2. Characteristics Variables

The analysis of characteristics was divided into three levels: school, program, and curriculum. It was organized this way to accommodate the hierarchical relationship between the schools, programs, and curriculum. In particular, schools with multiple programs would have all the same school level data. Further, a few of the programs had multiple specializations in which case the program level data would be similar when the curriculum would be different.

a. School Characteristic Variables

College or University Name: this variable is simply the name of the university where the academic programs are offered.

Location [City, State, Zip Code]: These three variables provide location information for the school. This was collected to identify the distribution of the programs across the country, regionally, and across states. One challenge that was not anticipated was the increasing number of online-only institutions, such as the American Military University or American Public University, which are located in Maryland, but the physical

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[118] Center for Homeland Defense and Security.

[119] Center for Homeland Defense and Security, "About UAPP - UAPP," accessed March 2, 2020, https://www.uapi.us/about.

location is not particularly important in identifying either the focus of the program or the potential student population.

Public vs. Private: This variable is designed to identify if the schools are publicly funded universities or private entities. Among the private schools' data was also collected about the specific type of financial structure to compare non-profit (and not-for-profit) schools with profit based institution.

School Size: This data was collected from the College Tuition Compare Site and included data on the size of both the Undergraduate and Graduate student populations. This data was further examined based on the Carnegie size classifications from very small (under 1,000) to very large (over 10,000).[120]

b. Academic Program Variables

Location of Programs: This variable examines both the college and department level placement of homeland security programs. This will be used to determine if there is a pattern to which schools are hosting degree programs or concentration in homeland security.

Type of Degree: This variable divides academic programs into four categories across degree levels and focus of homeland security training: (a) doctoral degree, (b) master's degree, (c) doctoral concentration, and (d) master's concentration. These degree levels reflect the depth of training in homeland security.

Program Delivery: This variable examined how the faculty and students interacted. Data was collected to reflect programs that were traditional face to face, online only, or blended and offering both degrees. There are a few cases where academic programs had multiple modes of delivery, such as both face to face and online, but these were counted as a single blended programs.

Number of Academic: This variable counted the number of credit required to complete a specific degree program.

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[120] College Tuition Compare, "Home - College Tuition Compare," accessed March 2, 2020, https://www.collegetuitioncompare.com/.

Final Program Product/Activity: This variable examined if the programs require a major project or activity to complete the degree program. This initially began as a variable to see how many required thesis, and was expanded to include capstone, comprehensive exam, and internships.

3. Analytic Dataset

This analysis examined the graduate level programs related to homeland security. The UAPP has a list of 115 schools offering master's degrees and 12 schools offering doctoral programs, for a total of 127 schools.[121] However, this number of graduate programs, (n=127) is inaccurate in two ways. First, the number of schools are over counted, as schools that offer different levels of degrees, master's and doctoral degree, are listed once for each level of program, in essence double counting the number of school. Of the 12 schools with doctoral level academic programs 10 schools also had master's level programs, reducing the total down to 117 schools with graduate level academic degree programs. Further, there were three universities that had double entries in the list of master's level programs, which further reduced the total sample to 114 schools.

The analytic dataset started with schools from the UAPP list that had master's or doctoral level academic degree program or concentrations. Degree programs were primarily focused on homeland security or emergency management. Concentrations were degree programs in other fields that included at least four courses focused on homeland security or emergency management. After reviewing the academic programs offered at the 114 schools, an additional 42 schools were excluded across three categories (see Table 10). First, 12 schools no longer offered the program listed, 2 schools were community colleges, one school only offered a graduate certificate degree, one school was an international program, and one school was acquired by another on the list creating a duplicate entry. A total of 20 schools were excluded for offering programs that were adjacent to, but not directly homeland security. Examples of these programs include national security studies which has a primary focus outside the U.S.; or cybersecurity programs that were only

[121] Center for Homeland Defense and Security, "Home Page."

focused on computer or network security. Finally, 5 programs were excluded because they only offered 1–2 homeland security related courses, which is too few for a concentration. This left a final analytical sample of 70 schools summarized in Table 10.

Table 10. Summary of School Exclusions

Description	Schools Impacted	Schools Remaining
Beginning Sample	--	127
Duplicates	15	112
Excluded (Not HS)	17	95
Adjacent to HS	20	75
Few HS Courses	5	70

B. ANALYSIS

This section summarizes the characteristics of the homeland security related programs across three levels. The three levels reflect the nested relationship between curriculum, programs, and schools. The first set of analyses summarize the characteristics of the 70 schools identified as housing at least one graduate level degree or concentration in homeland security. The second set of analyses examines the program level characteristics. The third set of analyses examine a few remaining variables examining elements of the program curriculum.

1. School Level Characteristics

This first set of analyses examined the characteristics of the schools where the programs were housed. These analyses account for the nested relationship of academic programs in schools. This is important since several school offered more than one academic program. Reporting the school level characteristics separately provides a more accurate count of the characteristics.

a. Type of School: Public/Private

In examining the type of schools where the academic programs were located there was an even split in between public and private schools that have homeland security programs, Table 11. Although private schools are more likely to have multiple programs.

Table 11. School Funding Type: Public vs. Private

Type	#	%
Public	35	50%
Private	35	50%

b. School Size

To estimate the size of the schools the undergraduate and graduate student enrollment for academic year 2018–2019 was collected from the site College Tuition Compare.[122] There were two schools where data was not available, in those cases data from school fact sheets were used. For analysis only the graduate student enrollment was used.

Schools were then classified into groups based on the Carnegie Classification [123] using the graduate enrollment data, Table 12. The largest percentage of schools were classified as medium (38.6%), with an enrollment of 3,000-9,999. The percentage of very small (22.9%) and small (24.3%) were similar. The smallest group was large schools (14.3%), with over 10,000 graduate students. In examining the comparison of degrees there were no significant differences based on size of the schools.

Table 12. Size of Graduate Enrollment by Carnegie Classification

Classification	Frequency	Percentage
Very Small—under 1,000	16	22.9%
Small—1,000-2,999	17	24.3%
Medium—3,000-9,999	27	38.6%
Large—10,000 and over	10	14.3%

[122] College Tuition Compare, "Home - College Tuition Compare."

[123] Center for Postsecondary Reserach, "Carnegie Classifications | Size & Setting Classification," accessed March 2, 2020, https://carnegieclassifications.iu.edu/classification_descriptions/size_setting.php.

2. Program Level Characteristics

This set of analyses was focused on examining seven characteristics of the academic programs. These analyses provide the most information about the organization and delivery of these programs.

a. Total number of Graduate Level Academic Programs

Across the 70 schools there were a total of 110 graduate level programs related to homeland security. Eleven of the 110 programs were doctoral level programs and the remaining 99 were master's level programs. Table 13 summarizes the number of programs across the degree types. Appendix C includes a list of the school and program name, for full degree programs and Appendix D list the school and program name for concentrations.

Table 13. Frequency and Type of Degree

Type of Doctoral Degree	Frequency
PHD—Doctorate of Philosophy	5
DBA—Doctor of Business Administration	2
DSc—Doctor of Science	2
DEM—Doctor of Emergency Management	1
DPS—Doctor of Professional Studies	1
Total Doctoral Degrees	11
Type of Master's Degree	Frequency
MS—Master of Science	57
MA—Master of Arts	21
MPA—Master of Public Administration	10
MPS—Masters of Professional Studies	5
MBA—Masters of Business Administration	3
MHA—Masters of Health Administration	2
MPH—Masters of Public Health	1
Total Master's Degree Programs	99
Total Graduate Degree Programs	**110**

In examining the 70 schools with homeland security related programs, the UAPP site for these schools include links for 9 doctoral level programs and 70 master's level

programs.[124] This is much lower than the 110 programs identified empirically, there is a large difference in the number of masters level degrees with 70 at UAPP and 99 here.

Forty-seven of the 70 schools only offer a single homeland security related graduate program. Two schools, St. John's University & Pennsylvania State at Harrisburg only offer doctoral level degrees, while the other 45 schools offer masters level degrees. Seventeen schools offered two academic degree programs, 11 offered two master's level degrees and the remaining six offered two programs, one masters and one doctoral level program. The remaining eight schools offered between three and five degree programs with a total of 29 graduate degree programs, including three doctoral and 26 master's level programs. No school offered more than one doctoral degree program.

b. Location

The 110 graduate programs were spread across 31 different states, shown in Figure 3. There were five states that only had masters level concentrations and eight only offered masters level degree programs. There were eight states with both a master's level degree and concentration. Four states had doctoral concentrations coupled with master's level degrees and concentrations. Finally, five states had full doctoral level programs along with master's level degrees and concentrations. There were no states with only doctoral level degree program, but 10 states with a single master's degree or a master level concentration.

[124] Center for Homeland Defense and Security, "Home Page."

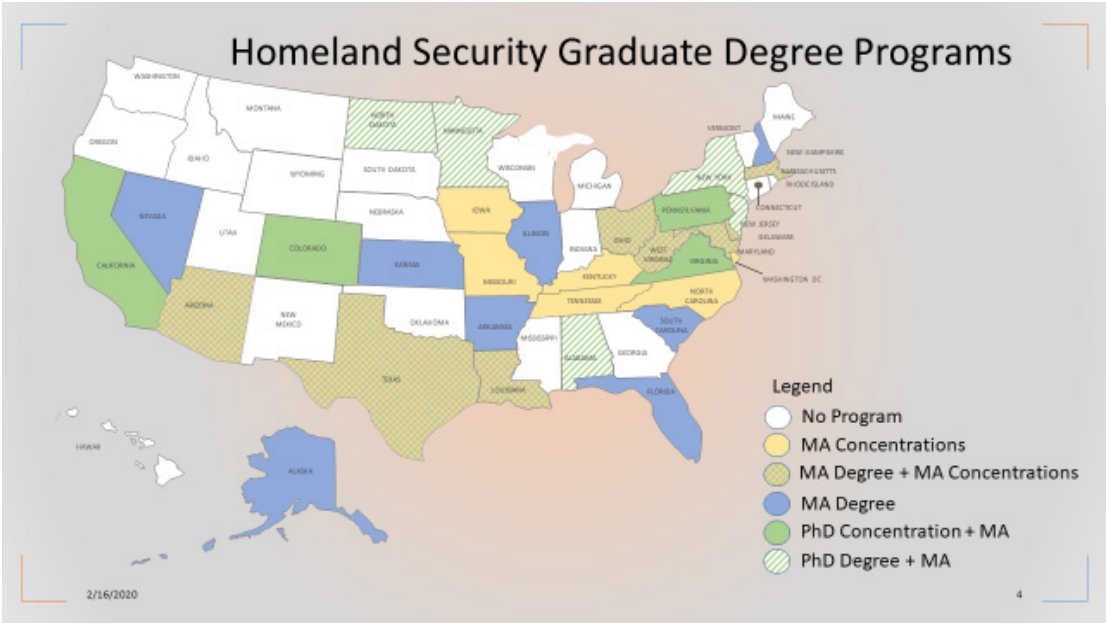

Figure 3. Map of Homeland Security Degree Programs

c. Type of Program Offered

The 110 academic programs were classified into either a full degree (52.7%, n=58) or a concentration (47.3%, n=52), Table 14. The full degree programs were named and included course content focused on homeland security or emergency management. Concentrations represent degrees in other fields, such as management or criminal justice, with a at least four courses focusing on homeland security or emergency management.

Table 14. Level of Degree by Type of Program

Type	Degree		Concentration		Total	
	n	%	n	%	n	%
Masters	53	91.4%	46	88.5%	99	90.0%
Doctoral	5	8.6%	6	11.5%	11	10.0%

d. Program Names

Program names were coded across nine categories based on the primary field of the degree offered. For example, criminal justice program with a homeland security specialization was coded as criminal justice.

Across all 99 graduate level degree programs and concentrations 44.4% of the programs used emergency management (20.2%), homeland security (18.2%), or homeland security and emergency management (6.1%). An additional 41% of programs were security studies (15%), public administration (15%), or criminal justice (11%). The remaining 14% of the programs were business/management (7%), cyber and technology (5%), or biosecurity/health (2%).

When comparing these between academic programs that offer degree or a concentration there were some interesting differences (Table 15). The master's level degree programs were primarily in emergency management (n=19, 35.8%), homeland security (n=17, 32.1%), or homeland security and emergency management (n=6, 11.3%). The remaining 11 programs were security related (n=7, 13.2%), public administration (n=2, 3.8%), cyber and technology (n=1, 1.9%), as well as criminal justice (n=1, 1.9%).

While the master's level concentrations in homeland security were largely distributed across three programs: (a) public administration (n=13, 28.3%), (b) criminal justice (n=10, 21.7%), (c) security studies (n=8, 17.4%), and (d) business/management (n=7, 15.2%). The remaining concentrations were in cyber and technology (n=4, 8.7%), biological and health security (n=2, 4.3%), emergency management (n=1, 2.2%) and homeland security (n=1, 2.2%).

e. Doctoral Degree Programs

There was a similar pattern among the doctoral programs summarized in Table 15. Of the 5 doctoral degree programs three (60%) were emergency management, one was homeland security, and one was a security studies program, with a strong emphasis on emergency management. Among the six doctoral programs with concentrations half of the degree programs were in business or management (n=3, 50%), the other three were in public administration, public health, and criminal justice.

Table 15. Frequency of Program Names by Degree and Type

	Masters		Doctoral		Total
Program Name	Degree	Concentrate	Degree	Concentrate	
Emergency Management	19	1	3	--	23
Homeland Security	17	1	1	--	19
Security	7	8	1	--	16
Homeland Security & Emergency Management	6	--	--	--	6
Public Administration	2	13	--	1	16
Cyber or Technology	1	4	--	--	5
Criminal Justice	1	10	--	1	12
Biological and Health Security	--	2	--	1	3
Business or Management	--	7	--	3	10
Total	53	46	5	6	110

f. Program Delivery

In examining program delivery, the schools were coded across three categories summarized in Table 16. The most common type of program delivery was fully online or distance education (n=62, 56.4%). The second type of programs was traditional programs with primarily face to face instruction (n=22, 20%). The traditional programs did include some executive programs that met on nights or weekends or irregularly, such as the first weekend of each month, but all instruction in these programs was conducted in person. The third category were schools that offered both traditional and online versions (n=26, 23.6%) of their programs. Further, in comparing degree programs to concentrations, there is no significant difference in how these programs are delivered.

Table 16. Frequency of Program Names by Degree and Type

	Masters		Doctoral		Total	
Program Name	Degree	Concentrate	Degree	Concentrate	n	%
Traditional Face to Face	10	9	1	2	22	20.0%
Online	34	21	3	4	62	56.4%
Both	9	16	1	--	26	23.6%
Total	53	46	5	6	110	100.0%

g. Thesis or Capstone Project

In examining the 99 masters level programs and concentrations experiences 56 programs require a capstone project, 9 require a thesis, 10 have the option for either thesis or capstone, 5 require practicum or internship experience. The remaining 19 programs do not have any culminating assignment.

C. CONCLUSIONS

This chapter provided a descriptive summary of the characteristics of graduate level programs related to homeland security. The study was designed to address the second research question: What are the characteristics of homeland security related graduate degree programs?

To address this question the analysis first generated a list of programs using the UAPP list of partners.[125] A total of 70 schools were identified that offer 110 graduate level programs offering full degrees in homeland security (n=58) or concentration (n=53). Among these were 11 doctoral level programs, with 5 offering full degrees, and 99 masters level programs, with 53 offering full degrees. The analysis examined the characteristics of these programs at both the school and program levels.

At the school level the analysis examined the name and location of the schools, status as public or private, and the size of graduate student population. Most schools only offered a single degree program or concentration. The programs were spread across 31 different states and 47 of the school only hosted a single academic program. The schools were evenly divided between public and private, and were slightly more concentrated in medium schools with 3,000-9,999 students.

At the program level the study examined the name off the degree programs, how the programs were delivered and type of culminating experience. In looking at the program names among master level 20% of the full degree programs were emergency management, along with 35.8% of the concentrations. An additional 18.7% of the degree programs and 32.1% of the concentrations were homeland security. Very few programs or concentrations

[125] Center for Homeland Defense and Security.

had adopted the combined name of homeland security and emergency management. For doctoral degree programs 3 of the 5 were emergency management and one was homeland security. Finally, the programs were primarily offered exclusively online (56.4%), with an additional 23.6% offering both traditional face to face and online versions of their programs. Among the master's level programs 56 required a capstone as a culminating experience, while only 9 required a thesis.

This data provides an empirical estimate of the size and characteristics for the academic field of homeland security. The conclusions and recommendations from these findings will be discussed in Chapter V.

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V. FINDINGS, CONCLUSIONS, RECOMMENDATIONS

While the field of homeland security is nearly 20 years old, there has not been a systematic evaluation of the academic programs. This study sought to provide an overview of the field across two research questions.

- What are the characteristics and foci of the literature related to homeland security education?
- What are the characteristics of homeland security graduate degree programs?

A. SYSTEMATIC REVIEW OF ARTICLES

The first set of analyses sought to address the first research question and examined the peer review literature related to teach homeland security education. The articles characteristics and content were examined. Below the findings of these analyses are briefly summarized and then followed by some outcomes and implications.

1. Findings

The first research question was addressed using a systematic review of the peer-reviewed literature from 2000 through 2019. The first set of analyses examined the characteristics of the articles. This process identified a total of 71 articles which were examined across both the characteristics and the content of the articles. The oldest article included in the review was published in 2004. In most years there were about three articles published per year, except for a spike in 2011. While there were a total of 110 different authors from 69 organizations, 76% (n=54) of the articles had one or two authors. Finally, the articles were published across 20 different journals, with 57.8% published in the three main homeland security journals: (a) Journal of Homeland Security and Emergency Management (n=20, 28.2%), (b) Journal of Homeland Security Education (n=12, 16.9%), (c) Homeland Security Affairs (n=9, ,12.7%).

In examining the content only 29.6% of the articles were empirical studies while 52.1% were classified as narrative papers. Of the articles classified in the narrative category, 18 described the development of academic programs, course, or class activities. The remaining articles were either arguments or opinion pieces. Across the articles there were three main fields emphasized. Articles emphasizing homeland security (38.0%, n=27) tended to emphasize the development of the discipline at several levels. While the articles emphasizing emergency management (23.9%, n=17) and homeland security and emergency management (21.1%, n=15) focused on differences between the fields and the difficulty integrating them.

The articles also focused across five different levels of the academic field. The articles examining discipline, program and curriculum generally focused on the development of the field at these levels. The other two levels emphasized the implementation of courses and class activities, and were more likely to include empirical studies. The final analysis examined the use of references in the articles. Across the 70 articles there was a median of 22 references per article, with three articles having no references and four with over 80 references. Of these very few were peer-reviewed, a median of 6 peer-reviewed references per article, again a low of zero and a high of 36. Homeland security references were also not widely used, with a median of 7 per article. The use of peer-review and homeland security related references should be a priority as the field develops and is able to build on empirical peer-reviewed studies in homeland security.

The final set of analyses examined the characteristics of the empirical articles. All of the articles use primary data collection and instruments develop for the study. The vast majority of the research was descriptive in nature examining the outcomes of in class activities. Only two of the studies used some form of correlational analysis. In looking at methodologies four studies used a process for integrating expert feedback, often across multiple iterations of the data, a method that could be very useful as the field continues to develop the curriculum course and outcomes.

2. Outcomes and Implications

Based on the systematic review it seems that there is a growing body of research examining homeland security related education. Fitting a new field, there is a focus on the discipline and curriculum and a heavy use of homeland security related journals. In examining the article content there seems to be considerable agreement among the authors around core curriculum, but substantial differences between homeland security and emergency management. As noted articles discussing emergency management emphasized the differences between the two fields and those articles focusing on the combined homeland security and emergency management raised concerns about the challenges of integrating of the fields. The field of emergency management is older than homeland security and had been working towards identification as an independent discipline prior to start of homeland security.[126] Future research should examine the overlap between these fields, as well as how or if they could be better integrated. It is possible, if not likely, that they represent two distinct but complimentary, fields of study.

A significant challenge was the low level of methodological sophistication represented across this research. The majority of the articles were classified as narrative pieces, rather than empirical. For example, an opinion piece by McCreight is widely cited in the field, while the strongest empirical articles, by Pelfrey and Williams as well as Pelfrey and Pelfrey, are scarcely mentioned in the literature.[127] There is a place for narrative work, although moving forward the field should rely more heavily on the empirically based articles where possible. Empirical work provides an unbiased perspective, a clearer definition of the assumptions and terms in the study, as well as the potential to generalize the findings beyond the study.

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[126] Drabek, PhD, "Emergency Management and Homeland Security Curricula: Contexts, Cultures, and Constraints."

[127] Robert McCreight, "A Pathway Forward in Homeland Security Education: An Option Worth Considering and the Challenge Ahead," *Journal of Homeland Security and Emergency Management* 11, no. 1 (2014): 25–38, https://doi.org/10.1515/jhsem-2013-0099; Pelfrey and Pelfrey, "Sensemaking in a Nascent Field: A Conceptual Framework for Understanding the Emerging Discipline of Homeland Security"; William V. Pelfrey and William D. Kelley, "Homeland Security Education: A Way Forward," *Homeland Security Affairs* 9, no. 1 (2013): 1–13.

The empirical articles had considerable validity issues across both the sampling and analysis. Together this suggests that there should be a stronger focus on the methodology at all levels of study design, references, and peer-review process. Some of the limited methodological sophistication is likely related to the rapid development of the field. However, there should be a stronger emphasis going forward on increasing the methodological rigor within the field. Increasing the methodological expectations is likely to increase the strength of the studies as well as the confidence and credibility in the results. For example, most of the class activity research relies on simple frequency counts of course evaluation data. Using pre-post designs or experimental studies with random assignment, can improve our confidence that these activities impact student learning across specific outcomes as we expect. There are likely to be gaps in this literature as it develops but the use of strong empirical studies will help establish a stronger foundation to build upon.

B. REVIEW OF GRADUATE PROGRAMS

The second phase was designed to address the second research question and examine the characteristics of the homeland security related graduate programs. Much of the current evidence about the growth of the field of homeland security is based on the count of academic programs. However, these estimates are not based on empirical analyses but simple counts from a list of programs managed on the UAPP list. The study focused on graduate programs as these have a narrower focus and more potential impact on the professional development of both practitioners and researchers.[128]

1. Findings

The UAPP list is a self-populated list of individuals and programs with a connection to homeland security.[129] The site currently lists a total of 127 graduate level programs, 115 masters level and 12 doctoral level. After reviewing the list of schools and programs a total

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[128] Krishnan, "What Are Academic Disciplines ? Some Observations on the Disciplinarity vs. Interdisciplinarity Debate."

[129] Brian E Borsari and Kate B Carey, "Peer Influences on College Drinking: A Review of the Research," *Journal of Substance Abuse* 13, no. 4 (2001): 391–424, http://www.elsevier.com/inca/publications/store/6/2/0/2/0/3/.

of 110 graduate programs at 70 schools were identified. Analyses examined characteristics at three levels of schools, programs, and curriculum

a. School Level Characteristics

The schools were spread across 31 different states and there was an even split between public and private schools. Schools were also evenly divided by size, based on the Carnegie classification, with slightly more programs at medium sized schools and slightly fewer at large schools.[130]

b. Program Level Characteristics

The analysis identified 99 masters level and 10 doctoral level programs. Fifty-eight of the programs offered full degree related to homeland security, while the remaining 53 offered a concentration, representing about half of masters and doctoral programs in each group. Across the masters' level degree programs about 67.8% were named emergency management (n=19) or homeland security (n=17). The concentrations were housed in public administration(n=13), criminal justice (n=10) and business (n=7) degree programs. There was also an even number of degrees (n=7) and concentrations (n=8) housed in security degree programs. Among the doctoral programs 4 were emergency management and only 1 was homeland security. Slightly over half of the programs and concentrations were delivered through fully online programs (56.4%), while only 20.0% of the programs were fully face to face programs. Finally, 56 of the 99 master's programs required students to complete a capstone project while only 9 required a thesis. Further, 19 programs did not require a final project essentially only requiring course work.

2. Outcomes and Implications

To begin it is clear that the UAPP list is a valuable resource, but not an accurate list of graduate level homeland security programs. The lists estimates for the number of schools and the number of programs were different than the count found in this study. Future researcher should be diligent in screening resources before using it for a study. The list

[130] Center for Postsecondary Reserach, "Carnegie Classifications | Size & Setting Classification."

seems to overestimate the number of schools that offer homeland security programs, largely due to its focus on networking individuals and programs related to homeland security. When examining this list there were 70 schools and 110 graduate level programs identified. Supplemental internet searches did not identify any additional programs; however, it is likely that the focus of this study on the UAPP list is missing a few programs.

There were not many differences in school characteristics, type of program delivery. There were very few programs that have adopted the name of homeland security & emergency management, and in fact more programs are considered emergency management than homeland security. Again this seems to reflect an area worth additional evaluation, and suggests the idea that these may represent different fields of research. There is a strong preference at the master's level for capstone projects instead of thesis. This may reflect the populations and a focus on developing practitioners' abilities, but would require a closer examination of the curriculum, and student population within the programs. Finally, there also seems to be a preference for fully online programs compared to traditional face to face.

Being very conservative, this analysis suggests that there are only about 20 true homeland security graduate programs, 19 masters level and 1 doctoral level. There are an additional 6 programs that are hybrid homeland security and emergency management, potentially increasing the total to 26. Much lower than the 127 listed on the UAPP site.

C. RECOMMENDATIONS

To begin the estimates of the number of homeland security programs presented here provide a stronger estimate of the size and characteristic of the field of homeland security. This estimate would be strengthened with a complimentary study on the certificate, associates, and bachelor level degree programs listed at the UAPP site. The strongest, and most conservative, estimate is 18 programs focused exclusively on homeland security. The inclusion of emergency management programs doubles the size of the field, however, it is still unclear how much overlap there is between these two academic fields.

Future research should first confirm the veracity of this data. Once there is some empirical agreement these estimates can be used to periodically examine the size and

characteristics of these programs as a way to monitor the changes in the size and focus of the field. Research in this area should also examine the field at a deeper level, such as comparison of curriculum across programs, examination of faculty backgrounds across programs, and evaluation of student outcomes in both educational and professional settings. Further, research in this area should also examine the direct impact of these academic programs on the staffing and development of homeland security profession. A key question here is whether students from these programs are actually filling the mid and senior level management positions within the field.

A major concern of the programs, identified in the systematic review, was the limited methodological rigor in the research examining homeland security education. For a new field it is important to establish a high level of methodological rigor in the field. Also extending into the publication and peer-review processes in the homeland security related journals. While descriptive statistics are useful they provide very little information that can be generalized beyond the study. One specific suggestions, is for the homeland security related journals to clearly differentiate between the empirical articles the narrative pieces, as the current system provides them equal credibility. Related it will be important to emphasize a strong methodological foundation in the graduate programs as well, to ensure the students are good consumers of research and potentially partners for applied studies.

From a program perspective there are at least three areas worth considering as the field develops. First, there seems to be a practical difference between the programs in homeland security and emergency management. The field would benefit from a public discussion about the relationship between these two fields. While there is some logical overlap the systematic review and the programs analysis suggest that there are different perspectives and approaches between the fields. One analysis could compare the overlap between the curriculum in the homeland security and emergency management programs.

Second, the data show that most of the academic programs are being offered exclusively online, or in both online and face to face formats. It will be important to explore the programmatic as well as pedagogical approaches necessary to successfully recruit and educate homeland security professionals. This will include evaluating the appropriateness of homeland security curriculum to online formats and identifying the correct program

objectives and course outcomes. Careful consideration will also have to be used to develop effective active learning components, such as scenarios and simulations, in an online environment. From a pedagogical perspective, there is a need to consider and study the core elements of the programs, especially field based educational experiences. As many of the programs are online only it will be important to consider how to accommodate these field and experience based training opportunities through online programs. The online environment also provides a tremendous opportunity for collecting data about student performance across a wide range of potential outcomes and objectives. As the programs continue to develop it would be valuable to have several robust empirical studies demonstrating which pedagogical approaches, curriculum structures, and course activities are most effective at meeting the objectives and outcomes of the field.

Third, it will be important for the field to develop mechanisms to expand the empirical foundation of the field, essentially establishing several high quality doctoral level programs. Currently, there is only one homeland security doctoral program. As mentioned above there should be a strong focus on teaching empirical research methods and data analysis. These research skills are increasingly important and have many applications to the challenges across the homeland security landscape. At a practical level it also strengthens the pool for potential doctoral candidates in the field.

There is significant promise is the burgeoning field, the challenge is to identify how to nurture its development. The analyses here do suggest the field of homeland security has established itself, but is not quite as well developed as the research literature suggests. The review of graduate programs provides a reasonable baseline count of these programs. The analysis also provides a preliminary summary of the characteristics and some key questions that can help guide the continued development of the field. The most significant challenge is to clarify the relationship between emergency management and homeland security.

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APPENDIX B: SYSTEMATIC REVIEW ARTICLE CODING FORM

Thesis Coding Coding of full text articles for systematic review. *Required		
Title of Article *		
Year of article (after 2000) *		
First Author Name (Last, First) *		
University Affiliation 1st Author		
Other Authors (Last)		
University Affiliation		
Journal Name *		
9/11 in First Line	Yes	
	No	
Type of Analysis	Empirical (organized study and analysis)	
	Theoretical (summarizes peer review articles0	
	Narrative (OpEd, Commentary, Argument, Opinion)	
Type of Analysis: Narrative Description		
Field Emphasized in Article	Homeland Security & Emergency Management	
	Homeland Security	
	Emergency Management	
	HS/EM Concentration	
	HS Mention	
	No Homeland Security	
	Other	
Field Emphasized--Other field		
Level of Focus	Discipline	
	Program	
	Curriculum Full	
	Curriculum Core	
	Student/Potential Students (Market & Potential Employers)	
	Course (specify name)	
	Class Activity (Specify Course)	
	Other:	
Level of Focus: Other		
	Level of Focus-Course Name/Class Activity Course	
	Type of Class Activity	Simulation
		Game

		Other		
	Type of Class Activity: Other			
	Value/Contribution of Activity			
Total Number of References				
	References—Peer Reviewed			
	References—HS Focused			
	References—Methodology			
	References—Not Peer Reviewed			
Overall Evaluation of Article		Empirical	Theoretical	Narrative
	Good (clear/focused/argument & analysis)			
	Moderate (unclear focus/argument or analysis)			
	Poor (no focus/argument, poor analysis)			
Contribution of article				
Concerns about article				
Additional comments about article				
Empirical Article		Yes (answer following)		
		No		
	Data	Primary		
		Secondary		
	Type of study	Survey		
		Case Study		
		Program Evaluation		
		Other		
	Type of study: Other			
	Type of Study	Descriptive		
		Correlational		
		Causal		
		Other		
	Type of Study: other			
	Sampling Strategy	Random		
		Intentional		
		Contained (class)		
		Convenience		
		Other		
	Sampling Strategy: Other			
	Sample Size			
	Response Rate	N/A		
		Not Reported		
		Other		
	Response Rate—(Other details)			
		N/A		

	Power Analysis	Not Reported		
		Other		
	Power Analysis—(Other details)			
	Demographic Variables			
	Type of Instrument	Existing Validated		
		New for study (based on previous work/ references)		
		Other		
	Type of Instrument: Other			
	Instrument reasonableness (face validity)	Good		
		Neutral		
		Poor		
	Notes on Instrument (concerns/ comments)			
	Type of Analysis	Descriptive		
		Correlational		
		Comparative (bivariate)		
		Comparative (multivariate)		
		Other		
	Type of Analysis: Other			
	Analysis/Results/Discussion	Good	Neutral	Poor
	Reasonableness of analysis			
	Reporting of analysis (accurate)			
	Results Contribution/Value			
	Results Interpretation (correct/ useful)			
	Discussion Implications			
	Discussion—Limitations of Study			
	Discussion—Next Steps			
Checked References		Yes		

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APPENDIX C: LIST OF HOMELAND SECURITY DEGREE PROGRAMS

Doctoral Level Degree Programs		
Name	**Program**	**Degree**
Capella University	Emergency Management (PhD)	DEM
Jacksonville State University	Emergency Management (DSc)	DSc
New Jersey City University	Civil Security Leadership, Management & Policy	DSc
North Dakota State University	Emergency Management (PhD)	PhD
St John's University	Homeland Security	DPS

Master Level Degree Programs		
Name	**Program**	**Degree**
American Military University	Emergency and Disaster Management	MA
	Homeland Security	MA
	Emergency & Disaster Management & Homeland Security (Dual Degree)	MA
American Public University	Homeland Security	MA
	Emergency & Disaster Management	MA
Arizona State University	Emergency Management and Homeland Security	MA
	Public Safety Leadership & Administration	MPSLA
Arkansas Tech University	Emergency Management & Homeland Security	MS
Auburn University Montgomery	Justice & Public Safety: Homeland Security & Emergency Management	MS
California State University-Long Beach	Emergency Services Administration	MS

Master Level Degree Programs (cont.)		
Name	**Program**	**Degree**
Capella University	Emergency Management	MS
Columbia Southern University	Emergency Services Management	MS
Embry-Riddle Aeronautical University	Human Security & Resilience	MS
Endicott College	Homeland Security Studies	MS
Florida International University	Disaster Management	MA
Jacksonville State University	Emergency Management	MA
Purdue University Global (formerly Kaplan University)	Homeland Security and Emergency Management	MS
Lander University	Emergency Management	MS
Long Island University	Homeland Security Management	MS
	Cyber Security Policy	MS
Massachusetts Maritime Academy	Emergency Management	MS
Medaille College	Homeland Security	MS
Metropolitan College of New York	Public Administration: Emergency and Disaster Management	MPA
Millersville University	Emergency Management	MS
	Social Work & Emergency Management (Dual Degree)	MS
National University	Homeland Security and Emergency Management	MS
New England College	Homeland Security and Emergency Preparedness	MA
New Jersey City University	National Security Studies	MS
North Dakota State University	Emergency Management	MS

Master Level Degree Programs (cont.)		
Name	**Program**	**Degree**
Northeastern University	Security and Resilience Studies	MS
	Homeland Security	MA
Northwestern State University	Homeland Security	MS
Notre Dame College	National Security and Intelligence Studies	MA
Nova Southeastern	Disaster and Emergency Management	MS
NPS Center for Homeland Defense and Security	Security Studies	MS
Pace University	Homeland Security	MA
Pennsylvania State University (World Campus)	Homeland Security	MPS
Sam Houston State University	Homeland Security Studies	MS
San Diego State University	Homeland Security	MS
Southwestern College-KS	Security Administration	MS
The University of Management and Technology	Homeland Security	MS
Thomas Jefferson University (formerly Philadelphia University)	Disaster Medicine & Management	MS
Towson University	Integrated Homeland Security Management	MS
Trident University International	Homeland Security	MS
Tulane University	Homeland Security Studies	MPS
	Emergency Management	MPS

Master Level Degree Programs (cont.)		
Name	**Program**	**Degree**
University of Alaska Fairbanks	Security and Disaster Management	MA
University of Chicago	Threat and Response Management	MS
University of Kansas	Homeland Security: Law and Policy	MS
University of Minnesota	Security Technologies	MS
University of Nevada, Las Vegas	Emergency and Crisis Management	MS
Virginia Commonwealth University	Homeland Security and Emergency Management	MA
Wilmington College	Homeland Security	MS

APPENDIX D: DEGREE PROGRAMS WITH HOMELAND SECURITY CONCENTRATIONS

Doctoral Level Programs with Concentrations		
Name	**Program Name**	**Degree**
Colorado Technical University	Management: Homeland Security	PHD
George Mason University	Biodefense	PhD
Liberty University	Criminal Justice: Homeland Security	PhD
Northcentral University	Business Administration: Homeland Security Leadership	DBA
Pennsylvania State Harrisburg	Public Administration: Homeland Security	PHD
Walden University	Business Administration: Homeland Security	DBA

Masters Level Programs with Concentrations		
Name	**Program Name**	**Degree**
American Military University	National Security Studies: Homeland Security	MA
California University of Pennsylvania	Legal Studies: Homeland Security	MS
Colorado Technical University	Criminal Justice: Homeland Security & Emergency Management	MS
Columbia Southern University	Public Administration: Emergency Services Management	MS
East Carolina University	Security Studies: Homeland Security Policy	MS
Eastern Kentucky University	Safety, Security & Emergency Management	MS
Fairleigh Dickinson University	Cyber & Homeland Security Administration: Terrorism & Security Studies	MS
	Cyber & Homeland Security Administration: Emergency Management	MS
	Cyber and Homeland Security Administration: Leadership	MS

Masters Level Programs with Concentrations (cont.)		
Name	**Program Name**	**Degree**
George Mason University	Biodefense	MS
	Public Administration: Emergency Management and Homeland Security	MPA
Grand Canyon University	Leadership: Homeland Security and Emergency Management	MS
Jacksonville State University	Public Administration: Emergency Management	MPA
Liberty University	National Security: Homeland Security	MS
	Public Administration: Disaster Management	MPA
	Criminal Justice: Homeland Security	MS
Middle Tennessee State University	Criminal Justice	MCJ
Monmouth University	Criminal Justice: Homeland Security	MA
Northcentral University	Business Administration: Homeland Security	MBA
Northwestern State University	Adult Education: Homeland Security	MA
Park University	Public Administration: Disaster & Emergency Management	MPA
	Healthcare Administration: Disaster & Emergency Management	MHA
	Healthcare Administration: Homeland Security	MHA
	Business Administration: Homeland Security	MBA
	Business Administration: Disaster & Emergency Management	MBA
Richard Stockton College of New Jersey	Criminal Justice: Homeland Security	MA
Saint Joseph's University	Criminal Justice: Homeland Security	MS
Saint Louis University	Biosecurity and Disaster Preparedness	MPH
SUNY Albany	Public Administration: Homeland Security	MPA

Masters Level Programs with Concentrations (cont.)		
Name	**Program Name**	**Degree**
Texas A&M University-College Station	Public Service and Administration	MPA
The Institute of World Politics	Statecraft and National Security Affairs	MA
The University of Management and Technology	Criminal Justice w/ Homeland Security Concentration	MS
Tiffin University	Criminal Justice: Homeland Security Administration	MS
	Criminal Justice: Homeland Security	MS
Tulane University	Security Management	MPS
University of Colorado-Colorado Springs	Public Administration	MPA
University of Denver	International Security	MA
University of Maryland Global Campus (formerly University College)	Information Technology: Homeland Security Management	MS
	Management: Homeland Security Management	MS
University of Massachusetts, Lowell	Security Studies: Homeland Defense	MA
	Security Studies: Critical Infrastructure Protection	MS
Upper Iowa University	Public Administration: Emergency Management & Homeland Security	MPA
Walden University	Public Administration: Emergency Management	MPA
Wilmington College	Administration of Justice: Homeland Security	MS
	Management: Homeland Security	MS
	Business Administration: Homeland Security	MS

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