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**HIGHER EDUCATION AND HOMELAND SECURITY:  
SINCE 9/11 AND FOR THE NEXT DECADE**

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**ABOUT THIS ISSUE**

This is the inaugural issue of the electronic journal, *The Journal of the Global Homeland Security Education Network (JGHSEN)*. The Global Homeland Security Education Network (GHSEN) seeks to provide an internet-based venue to bring together individuals and institutions from across the globe dedicated to advancing homeland security education as evidenced in many disciplines and areas. The GHSEN is a product of the work of a consortium of universities under a EU-U.S. Atlantis grant (P116J090056) from the Fund for the Improvement of Postsecondary Education, (FIPSE), U.S. Department of Education and the European Union's Education, Audiovisual and Culture Executive Agency (156478-UK-2009-USAPOM).

Four partner institutions have been involved in the first two-years of this project: in terms of the European Union these are Northumbria University (the United Kingdom), and Linnaeus University (Sweden). For the U.S. the partner institutions were the University of Central Missouri and Virginia Commonwealth University. The efforts of this consortium has entailed an assessment of the state of homeland security education in the US and in Europe.

The JGHSEN evolved out of this Atlantis Policy Project. As an integral part of the GHSEN is established to allow for the publication of innovative contributions in the examination of transnational, comparative, and cooperative efforts to ensure and advance homeland security. The JGHSEN will serve as a venue to allow for academics, researchers, and practitioners to publish through this electronic journal articles describing relevant research or practice.

The articles in this issue were submitted by authors who responded to our call for manuscripts on higher education and homeland security since 9/11 and for the next decade. The terrorist attacks on the US in 2001 and the subsequent attacks on European countries such as the UK and Spain prompted both sides of the Atlantic to reinvigorate their respective efforts to ensure homeland security and combat terrorism, however, with differing approaches. The US embarked on a wholesale reorganization of its domestic security and border protection institutions. By contrast European countries largely preferred to work within their existing institutional architectures to combat terrorism and respond to other security challenges and disasters, both natural and man-made. Further, there is now a plethora of HS-nominal programs being offered by US universities, whereas this has not been the development within Europe. Very few European academic institutions offer a dedicated program in HS. The approach taken in the

U.S. appears to be that the institutionalization of homeland security must rely on academia to create the professional who will make the world a more secure and safer place. An examination of homeland security academic education is an appropriate means for ultimately enhancing the functions of the homeland security apparatus. Academia has traditionally served as a forum for public debate and decision. Academia seemingly should provide the role of critical examination of homeland security issues with its research capabilities. Homeland security practitioners and policymakers require the knowledge and abilities to confront homeland security threats that are characteristically transnational and multinational in nature, and require a corresponding effort to successfully confront them.

For this inaugural issue the content of the articles and reports reflect in a small part the broad array of subject areas that can be included in the range of homeland security concerns that examine the developments in the academic provision of homeland security education. The articles for this inaugural issue demonstrate the innovative multi- and inter-disciplinary scholarship that engages with key issues in homeland security education issues. The editors of the JGHSEN used an independent double-blind-peer-reviewed process for selection of the articles for this issue. The reports that follow these articles focus on program developments and research efforts in specific institutions.

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## Academia and American Intelligence Agencies: Symbiosis or Co-optation?

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### Abstract

*This article examines the most recent efforts to bring the academic community into the discussion of social problems aligned with contemporary missions of the intelligence community and associated governmental policy areas such as homeland security. The overall structure of the intelligence community is first discussed to demonstrate the scope of possible socio-professional interactions with academia with a focus on exemplars of the contemporary socio-professional interactions between the intelligence and academic communities. The conclusion notes that the contemporary intelligence community-academic relationship is not new, having waxed and waned over the decades and is currently enjoying a resurgence of purpose, yet questions the success of the current outreach efforts of the intelligence community.*

### Introduction

The academic community has a long and tumultuous history of cooperation with government agencies, intelligence services, and related organizations involved in national security activities (a.k.a., the Intelligence

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Community or IC).<sup>1</sup> Over the last six decades the IC-Academic relationship has waxed and waned with the political winds — sometimes cooperative, sometimes antagonistic.<sup>2</sup> This relationship has been controversial given the abuses of power these agencies engage in at times, the political pressures on campuses and also based on the occupational impact of ever more detailed

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<sup>1</sup> Details on the interactions, conflicts and controversies between the intelligence and academic communities are voluminous. Riddle (1992) discusses the National Security Education Act of 1991 and how the NSEA began a new era of funding for the instruction of foreign languages and the study of geographic areas, both important areas of concern for intelligence agencies. In Gordon, Smyth and Diehl (2008) the authors argue that U.S. administrations use intelligence agencies to fabricate evidence, a process used in other policy debates. Bogad (2007) approaches the issues from a different perspective – using pedagogical “ironic performances” to address such issues as the implications of the U.S.A. Patriot Act and seeking to educate students on the question of who is watching the intelligence community as they watch the nation. The waxing and waning nature of the academic/IC relationship is mirrored by media portrayals. Peterson and Tanguay (2009) study media portrayals of intelligence and note a cyclical nature of this coverage – sometimes positive, sometimes negative.

<sup>2</sup> Historical discussions of American intelligence and academic interactions include: Baratz et. al. (1979); Fields (1986); Fluehr-Lobban (2008); Kaplan (2006); Miller (1997); Price (2004); Price (2008); Shulman (1980); and Tefft (1979). Specifics of American intelligence lapses include: Betts (2007) discussing the ways the intelligence infrastructure and society come into conflict, intelligence failures of predictions and of ethics and lastly the social dimensions of the conflict of secrets. Olsen (2006) discusses the techniques used in intelligence and by implication the potential for ethical violations from such actions as assignation, fabrication of evidence and other actions with moral implications.

professional codes of ethics that academics live within.<sup>3</sup> Current IC activities with the academic community rest on post-9/11 social realities, and the ever-growing need for funding to support academic endeavors, especially at research intensive institutions and increasingly at other levels of higher education like teaching intensive institutions.<sup>4</sup>

This article examines the most recent efforts to bring the academic community, in particular the social sciences,<sup>5</sup> into the discussion of social problems aligned with contemporary IC missions and associated governmental policy areas like homeland security, counteracting political violence and the “war on terrorism” (WOT).<sup>6</sup> The paper first lays out the overall structure of the

<sup>3</sup> Shulman (1980) argues that faculty ethics be considered in relationship to the work product. Conflicts of interests arise when faculty serve as consultants for agencies and increase the potential for ethical dilemmas when intelligence work is engaged in by faculty in a university setting. Shulman's article was on the heels of testimony by Baratz (1979) and others in Senate Hearings in 1979 about the relationship between universities and the IC. Price (2004, 2008) documents the historical intertwined nature of, and antagonistic relationship between, anthropology and the IC. Price's first work also lays out the role of anthropologists in WW II and in the second book how they were the target of IC scrutiny during the McCarthy era, a process he documents time and again in the post-9/11 era. Price's body of work is critical to anyone wishing to understand the current interest in social sciences by the IC and what the pitfalls are for those who engage in that relationship. All is not anti-IC in anthropology. Fluehr-Lobban (2008) notes the history of anthropological engagement with intelligence agencies and how this led to a code of ethics in 1971. Considering the current war in Iraq, this author calls for a new professional code of ethics. In this case the author makes the case that restrictions need revisiting. Interestingly, Esfandiari and Litwak (2007) document how governmental programs and funding are connected to the perception of an academic-intelligence nexus influence by other governments who see the relationship as detrimental to their national interests. In addition to professional codes of ethics by which academics may come in conflict during their interactions with the IC, universities have also enacted conduct regulations that may restrict the relationships these agencies seek with academia. Departments, colleges and the university as a whole have adopted regulations at the University of Pennsylvania, Syracuse University, Tufts, SUNY-Binghamton, Norte Dame, Michigan State, MIT and others. These policies represent codified rules, regulations and guidelines for the engagement of academics with such agencies.

<sup>4</sup> Zegart (2007) argues that the academic community should not let access to readily available data be a barrier to research on intelligence, in fact considering the importance of this subject, the academic community needs to turn its attention on this aspect of social life.

<sup>5</sup> The social sciences typically include anthropology, economics, geography, history, political sciences, psychology, and sociology. Expanding this group of disciplines, the IC may/has been interested in academic areas such as archaeology, communication studies, cultural studies, demography, linguistics, and media studies.

<sup>6</sup> The discussion on how best to bring social sciences into the fold are not always directly linked, they sometimes come as society changes its access rules to the history of intelligence agencies. For example, Fields (1986) discussed how the intelligence community was becoming more open to academic study as data became available and as institutions were starting programs to undertake such study. Such openness was justified as these institutions took on the role of teaching how intelligence was used for foreign policy and national security.

IC to demonstrate the scope of possible socio-professional interactions with academia and then focuses on exemplars of the contemporary socio-professional interactions between the IC and academic communities. The conclusion discusses how IC outreach efforts are proceeding and the question of how the academic community is embracing, tolerating, or rejecting these efforts.<sup>7</sup>

### What is the IC?

The WOT has consumed the fields of politics, government, and the social sciences since September 11, 2001.<sup>8</sup> In reaction to perceived intelligence failures associated with the attacks of 9/11, the IC sought the work products, and intellectual buy-in, of the academic community to enhance the tools, methodologies, and socio-political approaches that were necessary to fight this war.<sup>9</sup> Efforts seeking such scholarship are not always clearly labeled as to their sources and/or can be obscured by the vast bureaucratic and associational apparatus that is the IC. Hence, it is important to define the scope of the intelligence-industrial-education complex (IIEC) to more fully understand the ways an academic community could become involved in the IC's outreach efforts.<sup>10</sup>

<sup>7</sup> The author of this text has worked with IC agencies and as part of several of these outreach projects over the last four plus years. Opinions herein reflect his perspective only.

<sup>8</sup> Many books discuss the “War on Terrorism” from a variety of perspectives. See these texts for examples: Jenkins (2006), Kuypers (2006), and Chossudovsky (2005).

<sup>9</sup> The 9/11 Commission Report suggested a move towards an open source agency, but what has transpired is a move that shows differential acceptance of this form of research/analysis/data gathering depending on the agency involved. One critical way the IC sought buy in after the 9/11 attacks was in the area of “open source research” with direct use of academics and other professionals like journalists in the process of defining the issues, research questions and methodologies that can be used (Cameron, 2004). The IC has decided that the burdens of clearances on information were one barrier to their being able to address the threats that proceeded 9/11. To counteract this informational blindness, the IC has started a concerted effort to tap into open sources, those intelligence sources readily available to the public and in a variety of media forms. One such effort was the SHARP program reported on by David Kaplan in US News and World Report. This effort was not directly related to open sourcing, but rather sought to move away from the institutional blindness produced by group think in agencies.

<sup>10</sup> Klein (2007) used the term intelligence-industrial complex while noting that increasingly the mix of groups in the IC included “private contractors, academics and members of US spy agencies” (¶ 3). On the corporate/industrial side large multinational defense companies such as General Dynamics, BAE Systems, Booz Allen Hamilton, Computer Sciences, Hewlett-Packard, Lockheed Martin, ManTech Industries, Microsoft and SAIC are involved in IC related work. This paper adapts this acronym to IIEC to more specifically identify the complex interactions that are current transpiring.



The intelligence apprentices of the United States are comprised of a complex set of official agencies, private companies/corporations, think tanks, individual researchers, and (increasingly) educational partners.<sup>11</sup> Together these groups represent a vast organizational complex dedicated to the security of the nation, the IIEC. In many cases the non-governmental groups/organizations involved in such work support the individualized goals of the official agencies of the IC.<sup>12</sup> The academic side of the IIEC also interacts with such non-governmental entities but they are beyond the scope of this discussion. Suffice it to say that in some cases the interactive mechanisms are administered by these non-governmental agencies.

The IC bureaucratic connections (agency contracts, working relationships, consulting, etc.), and other related activities like congressional oversight mechanisms, comprise a formal and an informal social and professional IC network.<sup>13</sup> They also represent, by means of their myriad sets of tasks, goals, and responsibilities relative to the protection of the nation, the multiplicity of agendas that are 'national security.' Each of the components of the IIEC has some influence on the national security process, but this argument focuses on the agencies themselves for exemplars of the means by which academics can be drawn into IC work.

The various IC groups have a set of interrelated and distinct organizational missions, under one overriding managerial rubric that is embodied in the Office of the Director of National Intelligence (ODNI). The ODNI defines the IC as "a federation of executive branch agencies and organizations that work separately and together to conduct intelligence activities necessary for the conduct of foreign relations and the protection of national security of the United States" (National Intelligence Community, 2007, ¶ 1). Of particular interest should be the absence of any mention of the large

<sup>11</sup> Interestingly various articles note various parts of the IC complex – for example see Shorrock (2009) for details on SRA International, Titan Corporation, L 3 Communications, CACI International and it also has overlapping listings of large corporate players in the IC as noted in Klein (2007) – General Dynamics, BAE Systems, Booz Allen Hamilton, Computer Sciences, Hewlett-Packard, Lockheed Martin, ManTech Industries, Microsoft and SAIC.

<sup>12</sup> This would include trade groups. Klein (2007) discusses an organization of former intelligence officers – Security Affairs Support Association, members of which move freely between the highest levels of government, business and consulting groups. For example the trade group's leader, Vice Admiral McConnell, was tagged by President Bush to head the DNI in 2007.

<sup>13</sup> See Intelligence Oversight Act of 1980. This Act reduced the oversight from many House and Senate committees to two: House Permanent Select Committee on Intelligence and the Senate Select Committee on Intelligence.

multinational corporations, defense contractors and educational institutions that support these official agencies and their missions.<sup>14</sup> In fact, when discussing the IC, most researchers, authors, and critics fail to address the wider confederation of intelligence support systems that comprise the IIEC.

The ODNI, as organizational head of the American intelligence community, is a fairly recent development in the federal bureaucracy, but not one without precedent. Historically, intelligence gathering has been part of the national defense of the United States since the founding of the country (Miller 1997). The first formal confederation of defense/intelligence agencies with a singular, or lead agency, was a by-product of the National Security Act of 1947 (50 U.S.C. 401). This Act forced the reorganization of United States foreign policy and military affairs, primarily a result of WW II and lessons learned from that war. As part of the Act, the National Security Council (NSC) was created and given primacy for intelligence affairs and later become known as the Central Intelligence Agency (CIA).

In the decades since the National Security Act of 1947, additional legislation and various executive orders reordered the functional areas of the various agencies in the IC (e.g., United States Foreign Intelligence Activities, Executive Order 11905; Intelligence Reorganization Act of 1992). In 2004, and in direct response to the perceived failure of the IC to prevent the attacks of September 11, 2001, legislation was passed that created the ODNI and vested in this new agency a leadership role for the IC (Intelligence Reform and Terrorism Prevention Act of 2004).

<sup>14</sup> With research it is possible to identify the agencies and their relationships to corporate players in defense and homeland security. For example the Defense Intelligence Agency (DIA) has directions on how to contract with this agency for any numbers of services as does the National Security Agency (NSA). For news articles that help illuminate the relationship between intelligence and contractors – see the Washington Post for stories on contracting out intelligence services (Pincus, 2006; Klein, 2007). Other media sources also describe this relationship – see the National Journal's Technology Daily (New, 2003) on defense contractors moving into homeland security. Criticisms of the move to more privatization of intelligence can be found in many places: see Center for American Progress (Duggan, 2010); and watchdog websites like "Spies for Hire" at the Corp Watch website (Shorrock 2009).

Intelligence is primarily a national defense/military activity if one looks at how the IC is funded and organized.<sup>15</sup> This is not to dismiss the non-military intelligence agencies that seemed to proliferate after WW II. In recent years, many non-military specific intelligence agencies/functions came to find themselves incorporated into the Department of Homeland Security (DHS). DHS began the process of the conglomeration of agencies after a July 2002 dictate and as a result of the September 11, 2001, attacks (Homeland Security Act of 2002).<sup>16</sup> Intelligence agencies, and their individual missions, are typically based on specialized knowledge and dedicated functions within the federal bureaucracy (some of these missions also overlap the DHS).<sup>17</sup>

Intelligence is thus a highly specialized bureaucratic and professional field of endeavor. It is generally conducted in secrecy by the agencies noted above, and, in many cases, historically these agencies have been a “closed shop” when it comes to seeking outside assistance. Still when facing a national emergency like WW II or 9/11, these agencies seek outside assistance to counteract threats. They have, and still do, rely on private organizations (e.g., MITRE Corporation), defense related corporations (e.g., Lockheed Corporation) and long-standing relationships with certain academic institutions that supply the intellectual capital for these agencies (e.g., Stanford University). This collaboration process is mutually reinforcing — agencies draw

<sup>15</sup> The Department of Defense (DOD) and related defense intelligence agencies support the battlefield mission and include the Defense Intelligence Agency (DIA), Undersecretary of Defense for Intelligence, National Security Agency (NSA), National Reconnaissance Office (NRO), National Geospatial-Intelligence Agency (NGA), and those branch specific intelligence agencies—Air Force Intelligence, Army Intelligence, Coast Guard Intelligence, Defense Intelligence, Marine Corp Intelligence, and Navy Intelligence all attest to the primacy of military affairs in the intelligence business. This level of IC involvement in defense activities is true in wartime (e.g., battlefield support) but also in those times of readiness (e.g., as a preventive activity for potential military surprises like Pearl Harbor).

<sup>16</sup> DHS merged many agencies into the single largest federal organization, at the same time becoming the target of considerable socio-political criticism for an unfocused mission. Lately, DHS has begun the process of adding its own intelligence operations thus increasing its internal organizational capacity to deal with its myriad of social protection/control functions.

<sup>17</sup> According to the National Intelligence Community (2007), intelligence agencies have specific functional missions like the Department of Energy (DOE) where they focus on areas in need of expert knowledge like that associated with nuclear related activities. The Department of State likewise has intelligence functions in support of its diplomatic missions. Other federal agencies, like the Treasury Department, bring expertise in specific areas, in this case, assistance in specialized investigations of financial transactions. The Drug Enforcement Agency (DEA) is another specialized agency that has an intelligence function, and its mission recognizes the close ties between drug smuggling and terrorism threats. Finally, the Federal Bureau of Investigation (FBI) has the primary responsibility for investigations on domestic soil and in certain espionage areas.

private sector and educational institutional expertise into specific projects and the private sector absorbs the retired intelligence personnel from these agencies who then work with academics and former IC colleagues on projects — creating a never ending circle of social interaction that underlie the IIEC.<sup>18</sup>

These agencies, and the practioners within the agencies, deliberately limit outside access by use of specialized terminology, gate-keeping techniques, and other social control mechanisms. For example, the IC uses vernacular that is unique to this field as demonstrated by the “ints,” examples include: signint (signals intelligence), finint (financial intelligence), humint (human intelligence). Another critical gate keeping mechanism is security clearances — those within agencies have them, thus they make it easier for defense contractors to use these veterans of the IC as employees when government contracts are awarded — this creates a revolving door between government, academic institutions, and industry.<sup>19</sup>

Each of the intelligence agencies also has specific organizational tasks that give them unique situational and positional knowledge based on their expertise. So legalistic aspects of the “business” of intelligence need to be understood by insiders (e.g., international v. domestic agendas and specialized legal restrictions on these areas), the missions of an agency must be clearly understood without necessarily direct or public acknowledgement (e.g., counterintelligence), and the agendas of a given project need to be understood by all involved — again without necessarily overt credit to the final end product of the project (e.g., intelligence in support of battlefield missions).

In principle all of the agencies, defense contractors, and educational partners act in concert to serve the overall goal of protecting the United States. For example, some of these agencies have a primary intelligence gathering agenda (e.g., NGO and NRO) while others focus on the analysis of data (e.g., NSA and parts of the CIA). The CIA also has operational capacity to conduct field missions, a decidedly different mission from analysis. These feed one another, and, in theory, each agency supports the other.

This agency mission complexity may be because the intelligence cycle only has five steps as articulated in the academic literature, but such a simplistic characterization of what actually happens in the IC fails to address

<sup>18</sup> This is a similar argument made by Domhoff (1970) when discussing how the power elite of American society rotate in to and out of government and thus influence the public policy that agencies propagate.

<sup>19</sup> With the vast majority of those working within the IIEC having had a military background, similar social networking limitations underlie the professional interactions of these parts of the overall IIEC system.

the complexity of how these five steps are actually completed in the practice of intelligence gathering, organizing, and dissemination.<sup>20</sup>

The organizational complexity of these interrelationships goes far deeper than this short overview can delineate. Ultimately, in a post 9/11 world, questions arose about how these agencies had done their work to that point in time and how the dysfunction of those interrelationships may have contributed to the failure to stop 9/11. This challenge to the IC, a challenge to work together, led to reconceptualizations of how these agencies work with those outside the IC, like the academy. The next section will discuss what motivated the changes currently underway.

### Motivation for Change

The IC was seriously tested, and its competence questioned, by the events of 9/11.<sup>21</sup> This 'intelligence failure' was not a new thing, the history of the IC is not only convoluted with regards to who has leadership and responsibility to oversee the nation's security-intelligence complex, but also the very functions, missions, and interagency rivalries have been—and will continue to be—an everyday reality of the nation's IIEC. For some observers, these rivalries are the basis for the failure of the IC to counteract the attacks of 9/11.

The history of these agencies also shows that under different national security challenges, the IC will respond in a variety of ways. This same history is replete with misunderstandings by outsiders, such as the media and academics, of the everyday working reality of the IC, the nature of the jobs therein, and the mandated functions of the IC. Many of these misunderstandings are based on ethical problems that periodically arise in the intelligence business. Summarizing, Ballard and Bailey (2009) suggest that:

[T]he IC has endured a variety of ethical dilemmas and will in the future face similar challenges — be they legally questionable behavior, administratively invoked actions that blowback on the agency/personnel,

<sup>20</sup> The CIA has the most complete delineation of the intelligence cycle. It includes 1) planning and directions – herein the agency is directed by a client – usually a high ranking government official, to conduct an analysis of a particular topic; 2) the agency will then collect data (using one of the int's noted previously); 3) that data will then be processed to be a usable work product; 4) this data is then analyzed and a "product" or report prepared; and finally that product is disseminated to the client (thus completing the cycle). For specific details see CIA (1993).

<sup>21</sup> See Miller, 2007 and Zuhur, 2005.

analytical mistakes that result in death and destruction, moral failures where an individual sells his/her soul for a cause, civil rights related violations, actions that cause physical harm or psychological damage, and/or the ill advised usage of the intell. (p. 16).

Old challenges are not all the IC has faced in recent years. The shock to the IC system created by 9/11 was compounded by a systemic degradation in intelligence capabilities due to the "peace dividend" derived from the collapse of the former Soviet Union and subsequent downsizing of the IC community's collection, analysis and dissemination mechanisms.<sup>22</sup> The social tragedy of 9/11 provided the IC with new and, to-date, very powerful motives to change. In addition, the challenge of a non-state enemy provided the executive branch and lawmakers the motivation to support a much wider intervention of the IC infrastructure into public life, both internationally and domestically (Miller, 2007; Smist, 1990). The failure of the IC to prevent the 9/11 attacks, and the fallout and recriminations from this failure, left these agencies searching for new methodologies. They were soon searching out new ways to update their capabilities and techniques.

One thing was immediately clear: these agencies would forcefully advocate the need of funding, additional human resources and demand/get a "free hand" to meet the challenges of a "stateless" enemy. Not as immediately obvious was how such entrenched bureaucracies would retool to meet their newly "created" social responsibilities and missions. One critical mission expansion was quickly determined: The IC needed new thinking, new blood, new methodologies, and new ways of approaching the whole of the global social world, especially those counter-hegemonic forces that challenged the "one super power" hegemony of the U.S. by exposing the soft white underbelly of democracy — namely the vulnerability of those advanced capitalism-based states to low intensity, high impact political violence. One way to achieve this retooling as quickly as possible was to tap the academic knowledgebase on a range of issues. The following section will detail the ways in which one of many groups (academics) are being asked to, or actually being used to, address the IC's shortcomings.

<sup>22</sup> This "dividend" hit defense contractors also. Agencies and military contracts were downsized, and everyone started looking for new "markets." The challenge of large scale political violence did alter the downsizing fates of these agencies and multinational corporations, along with the onset of the WOT.

### Co-optation or Cooperation Mechanisms

Once the impacts of the 2001 attacks filtered into the missions of these agencies, the call for more outside help began. Corporate contractors who migrated from strictly defense work to the new paradigm of security-intelligence work saw the new homeland security missions as a call to contracting arms, despite the fact that some were working on these areas long before these horrific attacks.<sup>23</sup> This migration of corporate America into the IC field is exemplified by the co-optation of certain business-like telecommunications and money transfers made in the service of national security and the questions of civil liberties abuses such intrusions suggest.<sup>24</sup> Besides the capitalist agendas such opportunity-seeking represents, the most interesting aspect—at least for this project—of the equation was how the IC sought and found willing academic partners to assist in the transformation of the intelligence field.

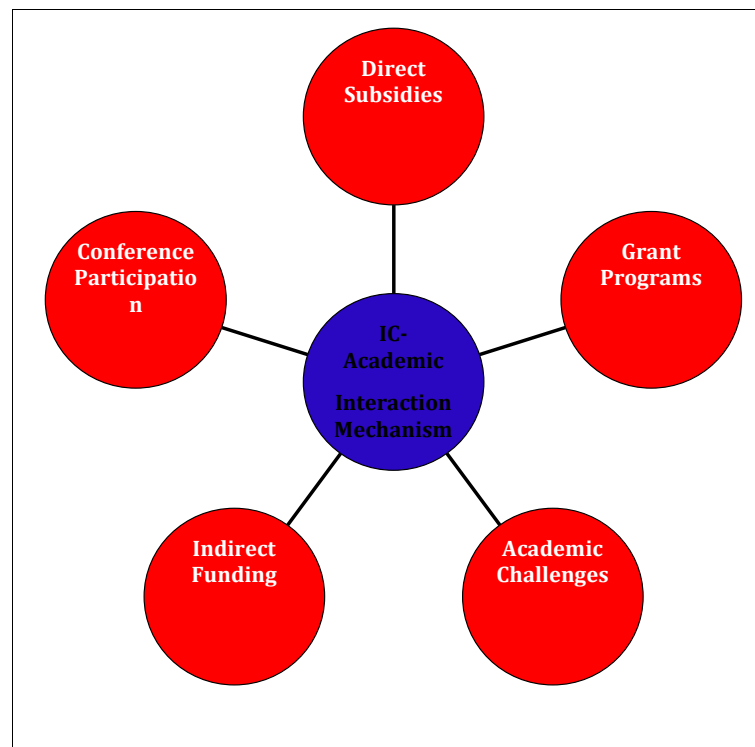
Academics have a long and troubling history of working with IC agencies.<sup>25</sup> Still, when funding is offered and/or a call to patriotism comes from on-high, some of the best and brightest, some of the greedy and attention-seeking, will gladly offer their services to the IC, sometimes without knowing how they have served the IIEC. For example, it is too easy to get involved without direct knowledge of the client for the final work product as someone requests a paper on which an academic is working, as a grant is offered in which the academic's area of expertise seemingly fits and/or a new institute is funded on campus and seeks out faculty involvement—at colloquia and so on.

Such surreptitious acquisition of knowledge is not as noticeable as the more overt ways in which academics were asked to fully engage in, and/or conceded to work with, the IC. The multitude of interaction efforts can be summarized by the following figure.

<sup>23</sup> See Trevorton, 1987, and Trevorton, 2010.

<sup>24</sup> The use of Western Union and other telecommunications infrastructure components was not a new interaction between the IC and business. See Tefft (1979) and Costigan and Gold (2007).

<sup>25</sup> One interesting example of analysis that supports this contention is the work of Johnson (2005). This author conducted an ethnographic study of the IC to better understand the strengths and weaknesses of the community, including its potential connections to academic partners. Similar critical self-examinations of the IC have found serious deficiencies in communications, information sharing, and other issues that some have suggested could be overcome by use of academic research (Papas and Simon, 2002). Here the authors discuss the loss of R and D by the IC, the outdatedness of IC systems of collection, degradation of infrastructure, and other shortcomings that would best be addressed by the reintroduction of academic knowledge and disciplines. Lastly, the longstanding battle within the discipline of anthropology is an exemplar of the struggle academics undergo when working with the IC.



#### Direct Subsidies

The first type of IC support to the academic community is what this paper will term direct subsidies to institutions of higher education. These supports include such funded programs as the University of Southern California's CREATE Homeland Security Center, the first national research center funded in response to the 9/11 terrorism threats and tied to the DHS. This academic institute notes that "CREATE has a range of educational programs that train students and professionals in an effort to develop the next

generation of homeland security leaders and enhance the knowledge of the current workforce focused on these critical issues” (CREATE, 2010).

A main focus of CREATE is “serving national interests” by providing information to the Department of Homeland Security for the purpose of counteracting possible terrorist threats as well as estimating the potential societal consequences of terrorist attacks. CREATE’s website suggests, as an institution, it is presently striving to “become the world’s leading academic program for modeling the risks and vulnerabilities of terrorism, assessing the direct and indirect consequences, gauging their economic impacts, and evaluating the effectiveness of countermeasures” (CREATE, 2010).

Since CREATE’s inception in 2004, a growing number of these types of university-based centers have increasingly appeared around the country—examples can be found at California State University, Los Angeles; University of California, San Diego; Arizona State University; University of Texas at San Antonio; University of Texas at Dallas; Texas A & M; Rand Corporation; Oakridge National Laboratories; Howard University; University of Virginia; Georgetown University; New York University and many others, both domestically and internationally. This direct-funded research network is interesting in and of itself. It also demonstrates the close alignment between universities and other examples of academic-scientific infrastructure already involved in the intelligence field (i.e., Rand Corporation and the Oak Ridge facilities). CREATE demonstrates the interrelatedness of disciplines. It commingles social science (economics, psychology, political science) with engineering (industrial and systems engineering, civil engineering, and computer science) with some interdisciplinary partners (public policy, decision science, and international relations).

#### **Grant Programs**

As previously noted, direct subsidies funded the creation of analytic centers, which in turn applied and obtained grants to study specific areas of IC interest. The grants that underlie these centers allowed them to bring in partners at other institutions. For example, the CREATE team wrote a three-quarters of a million dollar grant about responses to disasters (Moss, 2008). This grant involved professors at California State University, San Marcos and a well-known University of Oregon researcher.

Sponsoring participation by grant funding extends to many agencies. For example the conglomeration of agencies known as the Department of

Homeland Security (DHS) offers many programs that not only fund centers like CREATE but also individual projects within academic communities.<sup>26</sup> So for example the DHS has funded, and is continuing to fund, social science research on human factors as well as other behavioral sciences research in support of its various missions.<sup>27</sup>

It is important to note that such funding is never just granted, it is part of a set agenda that must be connected to a specific need somewhere in the overall IC infrastructure.<sup>28</sup> Grants are another way to sometimes mask the intentions of the funders while gaining access to cutting edge research in areas of concern.<sup>29</sup>

#### **Academic Challenges**

Another way to gain a coalition with the academic community was tried by the IC—namely challenging the academics, more importantly their students, to help solve vexing problems faced by the agencies. These problem-solving exercises can be termed challenges, contests, and/or other various ways to indicate that it is somehow a prize to solve these issues for the IC and gain fame and fortune in the process.

This attempt to privatize the art of intelligence by use of student scholars and/or their mentors is interesting because of the social actors involved. The underlying implication is that the IC is thus admitting its shortcomings. Further, the fact that the students/faculty engaged in the research, are usually given very hard problems, shows that the IC represents those in need of the latest and brightest solutions academia can provide. It is this tie-in to the basic research function of a university that makes this particular co-optation mechanism so tempting—it allows some sense of social distance from the actual work product while basically doing the job for the IC at modest cost. It is fueled by dreams of more lucrative funding sources if the program,

<sup>26</sup> See [http://www.dhs.gov/files/programs/editorial\\_0498.shtm](http://www.dhs.gov/files/programs/editorial_0498.shtm) for more detailed information on DHS programs, agendas and funding opportunities.

<sup>27</sup> See [http://www.dhs.gov/files/programs/gc\\_1218480185439.shtm](http://www.dhs.gov/files/programs/gc_1218480185439.shtm) for specific topics *de jour*. These change as missions across the agencies change – for example “IED and social factors” research during the height of the Iraq war evolving into current topics like “hostile intent” research.

<sup>28</sup> One example is the ODNI’s agenda of “Analytic Transformation.” This agency noted that in the aftermath of 9/11 America as a national security priority, needed to better incorporate various stakeholders in the IC. This agency sponsors conferences, analytic challenges and hard problem teams to address the needs of the nation. See <http://www.dni.gov>. The reasons for such transformation were best articulated by Immerman, 2011.

<sup>29</sup> Examples are numerous. One exemplar that affected CSU Northridge, the lead author, and other academic institutions, was the IC-ACE funding from the ODNI. See <http://www.dni.gov/cae/grants.htm> for details.

department or faculty member, somehow is instrumental in the solution of this particularly difficult problem.<sup>30</sup>

The most prominent, or at least publically documented, efforts were funded by the ODNI and its *Summer Hard Problem Program* (SHARP) program. SHARP was a series of annual “think tank” programs wherein IC authorities were intermixed with academics, industry representatives and law enforcement professionals. These subject matter experts assembled to tackle difficult analytical problems in a collaborative social environment. The point was to share a diversity of perspectives and thus participants would create a sharing of research, paradigms, and multidisciplinary approaches to the issues under scrutiny. One outcome of these joint efforts was the establishment of connections between academics, IC professionals and industry players that would enhance the skill set, tradecraft, of all involved.<sup>31</sup>

#### Indirect Funding

In some cases the IC could sponsor research into technology or social science that comes to a university but by means other than by a NSF grant or other federal program. Here the funding may come from a defense firm, a technology conglomerate, national laboratory or other IC related industry player. The backstage articulation of the goals, request for proposals, and other contractual means allow the real purpose of the research to be hidden in the contracting process.<sup>32</sup>

Examples of this type of surreptitious funding would be difficult to document since by their very nature they are obscured. Perhaps the agendas of several of the national laboratories, their connections to agencies like the Department of Energy and funding for collaborative research with academic institutions would be illustrative. So the Oak Ridge national Lab and its long

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<sup>30</sup> The types of challenges that the IC may sponsor could come from a variety of IC components and to the educational partners. These challenges are not always labeled as IC sponsored and may have a multiplicity of uses. Typically they would involve a long-term analytical goal of the IC, for example analysis of the political players in a foreign country in an effort to predict future power brokers, methods of smuggling between two specific countries as predicted by advanced modeling techniques and other projects that may be in a futures approach to analysis.

<sup>31</sup> The ODNI has addressed a variety of problems in such group settings. These topics include group formation, information technologies, threat evolution, biological threats, and MMORPG's. See [www.dni.gov](http://www.dni.gov) for more specific details.

<sup>32</sup> Indirect funding is often given to professors as the principle investigator or research supervisor by means of grants/awards/contracts and or support for graduate students who are working on promising areas of need for the IC. One example is the post-doctoral fellowships available in IC related work – see <http://www.icpostdoc.org/> for details on one example.

term direct linkages to basic research programs with the University of Tennessee are exemplars.

#### Conference participation

The final mechanism of note in these first few years of the cycle of how the IC is trying to quickly identify academic partners and those with research agendas that are of interest may well be the academic conference itself. As costs rise and the need for evermore current research increases, the IC has begun to sponsor topics *de jour* for conferences wherein the IC asks participants to directly address vexing issues, complex problems, and/or to provide the audience with new ideas on the subject at hand. These government sponsored conferences bring together underdeveloped or initial research with decision-makers who could identify promising research agendas and fund accordingly.

The ODNI has sponsored conferences on selected topics in the intelligence field. For example in 2008 this agency sought the best and brightest industry, technology and research on how best to harness the flood of open source information inundating intelligence agencies. Agencies typically used the ints to gather information, but the explosion of technology, the internet, and social media were changing the landscape of what would need to be monitored and what could be gleaned from the data landscape.<sup>33</sup>

#### Conclusion

The results of this preliminary investigation into the contemporary relationship between the IC and academic community may be considered startling to some and to others it may perhaps best be summarized by the old adage — *what is old will be new again*. The contemporary IC-academic relationship is not new — it has waxed and waned over the decades and is currently enjoying a resurgence of purpose. The IC has started to break out of years of self-imposed isolation to seek out a wider engagement with the academic community in general, the social sciences in particular. Still, it should not be forgotten that the IC has never truly broken ties from the academy, at least at certain elite institutions or those which have traditionally served the IC's interests in various ways (for example recruitment of intelligence officers or technological support).

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<sup>33</sup> The DNI help an open source conference on September 11-12, 2008. The conference agenda, topics, and institutional affiliations of the participants help illustrate the wishes for, and accomplishments of, this program. See: [www.dniopensource.org/conference/agenda.aspx](http://www.dniopensource.org/conference/agenda.aspx).

The results of IIEC social interactive mechanisms with various institutions, academics, and agencies are that academics may willingly go into that gentle good night or be gradually enveloped in the world of funding opportunities, grants and advanced opportunities for student engagement. IC outreach to academia is driven by an agenda — namely these agencies trying to play catch up to the new realities of the globalized social world. Over decades they have neglected to build a viable farm system wherein they would have had a ready workforce to face the challenges posed by 9/11. In response the IC has directed its efforts into building new IC participants wherein relationships are established, new ideas groomed, academic coopted and/or encouraged to participate in the national security initiative's that resulted from the 9/11 attacks.

These agencies were perceived poorly after the 9/11 attack and sought out academic partnerships to help overcome years of neglect in language training, social science research, and cultural analysis. To defend this lag in skills, these agencies noted that they had spent a decade downsizing their operations, offloading some tasks to contractors and downplaying the threats they themselves had defined for the country as their budgets and workforce shrank. Suddenly in a post-9/11 political environment these same agencies needed to show more intense efforts towards developing a modern, flexible, and scientific driven approach to the task of national security. They needed to be perceived as actively engaging in analytical transformation.

Are they succeeding in their outreach efforts? "No" would be one logical conclusion — these agencies and those who work therein are suffering staggering employee attrition within the halls of the agencies—but also because they have little experience with contemporary academic structures and organizational realities. They are spending money, but the question may well be is their funding producing work worthy and relevant, or is it just the same old thing with a new wrapper? History will tell if the various outreach activities the IC has used during these ten years since 9/11 have yielded viable results, actionable change and organizational transformation. The Office of the Director of National Intelligence is one place to look for evidence of this change, but it seems to have fallen into the same habits as the rest of the IC, camouflage its labors, limit creative thinking, and (in the end) perhaps achieving little in terms of real institutional change. These bureaucratic tendencies, reification of mission, and institutionalization of bureaucratic dogma, are not necessarily in the best interests of the country. As Max Weber (1947) would have predicted, the back-stepping tendencies were inevitable given what bureaucracies do, and how they act, in the face of social change,

and challenges to authority. The historic record of IC-academic interactions is proof of this waxing and waning relationship.<sup>34</sup>

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## The Criminal Responsibility Scale: Liberal Versus Conservative Ideology as a Predictor of Criminal Justice and Social Issues

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### Abstract

The Criminal Responsibility Scale (CRS) was developed as an alternative to Lillyquist's (1980) Locus of Responsibility for Crime scale (LRC) for measuring beliefs about the responsibility of criminal offenders and the preference for punishment as the primary response to crime. One hundred and fifty three students representing a variety of majors completed the CRS along with scales measuring Criminal Justice Issues and Social Issues. The CRS correlated well with the LRC scale:  $r = +.53$ . The CRS had a higher Cronbach's alpha than the LRC (.722 versus .438), and had better construct validity as measured by correlations with a Criminal Justice Issues scale ( $r = +.53$  versus  $+.33$ ) and a Social Issues scale ( $r = +.50$  versus  $+.42$ ). One of the specific problems that prompted this research was the weakness of the LRC scale for predicting attitudes concerning how law enforcement should deal with terrorism. Specifically, Homant and Witkowski (2011) found no significant correlation between a short-form LRC scale and the acceptability of coercion and/or torture in interrogating terrorists. To further explore this area, a four-item terrorism scale was included as part of the Criminal Justice Issues scale. For all 153 subjects, the CRS was found to have a  $+.38$  correlation with the terrorism scale (compared to  $+.28$  for the LRC). This correlation was found to be much higher for non-criminal justice undergraduates ( $+.57$ ) than for either undergraduate criminal justice students ( $+.07$ ) or graduate students in an intelligence analysis program ( $+.08$ ). It was suggested that academic study in an area may lower the effect of ideology on attitudes in that area. The CRS shows promise as a research instrument and for classroom use concerning the issue of how ideology shapes attitudes on criminal justice as well as general social issues.

In an oft-cited article, Walter Miller (1973) described a series of basic differences that separated liberal and conservative ideologies with respect to criminal justice policy and practice. He described conservatives as

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emphasizing individual responsibility and a need for a strong moral order, while liberals were concerned about an equitable distribution of power and privilege, and the need to avoid labeling, stigmatizing, and other biases in the criminal justice system. Miller characterized ideology as "the permanent hidden agenda of the criminal justice system" (p. 142). This still holds true today (Bridgmon & Bridgmon, 2010; King & Maruna, 2009). Building directly on Miller's work, Lillyquist (1980) constructed a 20-item Locus of Responsibility for Crime (LRC) scale to measure liberal versus conservative beliefs. This scale has proved useful for accounting for at least some of the variance in subjects' beliefs about various criminal justice issues (Homant & Kennedy, 1987; Jordan & Myers, 2003; Otto, 1989). In our own teaching experience, we have found the LRC scale useful for helping criminal justice students to understand the basis for their individual positions on various criminal justice issues.

Recently, however, we have encountered some problems with the LRC scale, and the primary purpose of the present research was to develop a "Criminal Responsibility Scale" that retains the strengths of the LRC while correcting some of its accrued weaknesses. Besides developing the basic scale, we also explored the relationship between the scale and attitudes toward dealing with terrorism, and how this relationship might vary with students' academic programs.

### Measuring Attitudes toward Criminal Justice Issues

Several authors have pointed out the importance of liberal versus conservative thinking for understanding attitudes toward a variety of criminal justice issues (for a review see Braswell & Whitehead, 1999). Accordingly, various scales have been developed to measure liberal versus conservative outlooks on criminal justice issues. These scales are generally developed to deal with a specific research question. For example, in order to measure Illinois State legislators' approach to criminal justice policy, Bynam, Greene, and Cullen (1986) constructed a 40-item Likert scale that measured three loosely correlated aspects pertaining to criminal justice beliefs: conservative (stiffer jail sentences), liberal (need to expand social programs to reduce crime), and rehabilitation (need for rehabilitation programs). Surprisingly, endorsement of conservative items was only slightly negatively correlated with endorsing liberal items; the authors attributed this to a (healthy) lack of ideological purity.

More recently, King and Maruna (2009) developed an eight-item scale to explore the psychological basis for subjects' degree of "punitiveness." (King and Maruna cite four previous sources as inspirations for their item content.)

Highly punitive subjects were expected to endorse items such as: “My general view towards offenders is that they should be treated harshly” (p. 156). In contrast, low punitive subjects should endorse: “Prisoners should have access to televisions or gym facilities” (p. 156). The rationale for developing this scale was somewhat different from Lillyquist’s LRC scale. King and Maruna were interested in exploring the basis for subjects’ differences in punitiveness; more specifically, they explored whether crime-related (e.g., being a victim) or expressive reasons (general anxiety or insecurity) were better predictors of punitiveness. In their survey of a large sample of the British public, King and Maruna (2009) found that punitiveness was better predicted by broad social issues (the state of the economy or society in general) than it was by victimization experiences or anxieties about crime. Although the content of the items in King and Maruna’s scale overlaps noticeably with Lillyquist’s LRC scale, their focus was more on the desirability of punishment *per se*, whereas Lillyquist’s scale focused on the perceived moral responsibility of the offender. Whether this is a difference that makes a difference is an issue that will need further research and we will return to this point in the Discussion.

### The Locus of Responsibility for Crime Scale

As the name Locus of Responsibility for Crime suggests, the scale measures whether the respondent considers crime to be the result of the informed ill will of the offender (*mens rea* is presumed), or whether social forces have in some way handicapped the offender and led him to commit his or her crime (Lillyquist, 1980). Thus, those to the “left” or liberal side of the continuum were expected to endorse items such as: “Blocked educational or job opportunities are major causes of crime” (p. 60), while those on the right or conservative should endorse items such as “Criminal behavior is largely due to lack of respect for basic moral principles” (p. 59). The items are responded to using a five-point Likert scale that is summed across all 20 items. Total scores can then be expressed on a scale of 20 to 100, with a neutral point of 60, or these scores can be divided by 20 to maintain a 1 to 5 scale with 3 as a neutral point. High scores indicate the left or liberal side of the spectrum, though this directionality could easily be reversed.

We have found this scale useful both for formal research and for classroom use. One area that we explored in some depth concerned differences in experts’ opinions in insanity defense cases. A six-item subscale of the LRC was found to be predictive of psychiatrists’ and clinical psychologists’ attitude toward the insanity defense, which in turn was

predictive of their evaluations of a particular case (Homant & Kennedy, 1987). These findings were replicated by Jordan and Myers (2003). Using a six-item subscale of the LRC, Jordan and Myers explored attitudes toward the insanity defense among attorneys, psychologists, and psychiatrists. The LRC was found to correlate +.368, meaning that more liberal subjects were more accepting of the insanity defense, presumably because they were more accepting of the idea that criminal behavior is often the result of forces beyond the control or responsibility of the individual offender.

More recently, Homant and Witkowski (2011) included a six-item subscale from the LRC within a 20-item attitude scale designed to predict support for using extreme measures to interrogate terrorists. The instigation for this research was classroom discussions about the acceptability of waterboarding and other harsh, arguably torturous treatment as a part of interrogation. Students seemed quite split on this issue, with some taking an absolutely “no torture ever” stance while others seemed highly eager to resort to torture.

Debate on the issue of torture is complicated, to say the least. For example, the well known civil liberties lawyer Alan Dershowitz (2002) has advocated the use of “torture warrants” as a means of regulating torture (and thus legitimizing it). Based on the scholarly literature, two broad positions on torture can be identified (Homant, Witkowski, & Howell, 2008). According to the deontology argument (McCoy, 2006; Perry, 2005), torture is intrinsically morally wrong and should never be used, regardless of circumstances. Consequentialists, on the other hand, recommend a balancing test, and suggest that there are times, such as the “ticking bomb scenario,” when it would be morally wrong not to use torture to get vital information (Bagaric & Clarke, 2005; Posner & Vermeule, 2006). In rebuttal, deontologists generally deny that the ticking bomb scenario ever occurs in real life (Rumney, 2006).

The argument over the acceptability of torture to obtain information was especially relevant to our Intelligence Analysis master’s students; central to this program is the study of terrorism, counter-terrorism, and the use of information from a variety of sources in order to anticipate and respond to risk. Graduates of this program are likely to be in a position where they must evaluate the usefulness of information obtained through coercive interrogation methods, up to and including what most observers would consider torture.

In order to investigate students’ beliefs about torture, Homant and Witkowski (2011) constructed a series of six scenarios in which getting information from an uncooperative suspect was critical to some law enforcement goal. These situations included locating an armed robber (in one

scenario a brother, in a second scenario an accomplice of the interrogatee); stopping a kidnapper likely to hurt a child; uncovering a terrorist cell, and two versions of a ticking bomb scenario: in scenario 5 the interrogatee clearly knew where he himself had planted a deadly bomb; in scenario 6 a terrorist's wife **probably** knew where a bomb had been set to go off. Subjects were then asked which of six levels of coercion they would be willing to resort to in each situation, if necessary to get the desired information. The fifth and sixth levels were clearly torture; the fifth level authorized a great deal of pain but no permanent injury, while the sixth level authorized extreme pain and permanent injury. Two hundred and fifty-two students responded to the questionnaire, including 36 students from the Master's in Intelligence Analysis program of studies, 27 undergraduate criminal justice students, and 189 students from introduction to sociology courses. Sixty-one percent of students recommended torture in scenario 5 and 44% recommended it in scenario 6. The intelligence analysis students were significantly more likely to recommend torture than were the other two categories of students.

Other than students' program, no other demographic variable was predictive of their attitudes toward torture (Homant & Witkowski, 2011). The six-item LRC scale showed only a very weak and non-significant correlation with torture ( $r = +.06$ ). Of the other 14 items included in the attitude section, there were four that had significant (though low) correlations. Two of the attitude items showed significant negative correlations with being pro-torture: a belief that Muslims have been unfairly targeted in the war on terrorism ( $r = -.266$ ), and a belief that any information gained by torture is unreliable ( $r = -.194$ ). Significant positive correlations were found with two items: torture has on occasion yielded useful information ( $r = +.171$ ) and sometimes we must choose the lesser of two evils ( $r = +.151$ ).

We then looked at the LRC items individually and found one that was predictive: "The United States should get rid of capital punishment" ( $r = -.187$ ). The correlation is low, however, reaching statistical significance only because of the large N. Five other LRC items had very low and non-significant correlations. For example, "Criminals need more punishment and less rehabilitation" had an  $r = +.05$ .

The failure of most LRC and other attitude items to predict support for coercive interrogation of terrorists raised the question of whether this issue simply falls outside the normal liberal-conservative breakdown. One possibility was that liberals (like Dershowitz, 2002) are sometimes open to torture because they are less likely to be moral absolutists (they are pragmatists, or consequentialists), while many conservatives, especially if they are religious

fundamentalists, are more likely to take a moral absolutist position (they are deontologists). In all the scenarios, the person being interrogated would be tortured not for punishment but in order to extract information. Still, most of the pro-torture students emphasized the guilt of the interrogatee as justifying the torture (Homant et al., 2008).

The failure of LRC items to predict views on coercive interrogation of terrorists (and other offenders) was only one factor that led to a closer scrutiny of the LRC. A variety of other problems have been encountered. First, a 20-item scale is generally too long to embed in a questionnaire where several other variables also need to be measured. While we have our own preferred six-item subscale, there is no standard short form of the scale. Second, over the years we have used the LRC regularly in the classroom in order to provide a basis for examining a variety of criminal justice and social issues. While regrettably we did not save our data from year to year, it seemed that the predictive power of the LRC was gradually declining. Third, in looking for possible reasons for the decline in predictiveness, we found that certain items especially did not work well. A case in point is the item: "The public perpetuates the crime problem by allocating too little money to correctional institutions." (Lillyquist, 1980, p. 60) While intended as a liberal item (we should spend more money on rehabilitation programs), now it tends to be interpreted conservatively (as meaning that we should build more prisons). Another item, "Labeling a person criminal makes it more likely that he or she will be criminal" (p. 59), was often confusing to students as yet unfamiliar with labeling theory.

Finally, some items seemed to unfairly represent the conservative view. For example, the item, "Minorities have little respect for established authorities" (p. 59), now seems like a parody of a conservative position and does not correlate well with the total score. The LRC scale's capital punishment item, "Those convicted of first degree murder should be promptly put to death" (p. 60), seemed too extremely worded, although the item generally had a high item-total correlation. This item had already been re-worded for the study of attitudes toward torture, as given above.

To circumvent these problems with the LRC, our initial preference was to revise the LRC into a shorter, more consistent and contemporary scale. We encountered a number of problems, however. The scale remains under copyright, we were unable to contact Michael Lillyquist (who no longer works as a social psychologist), and efforts to negotiate with the publisher proved too complicated. This also accounts for us not simply reproducing the entire LRC scale here for the reader to do his or her own evaluation of item content.

It is our belief that there is a need for such a scale to be in the public domain, or at least freely available to academic researchers, as is the case with the CRS presented here.

### Development of the Criminal Responsibility Scale

Based on extensive classroom and pilot work, we determined that the best aspects of the LRC scale involved those questions that focused on the need to help the disadvantaged offender (liberal) and the desirability of punishment, especially with incarceration (conservative). We generated a pool of 20 items to measure these constructs. After a series of pilot studies, we reduced this pool down to ten items, which make up the Crime Responsibility Scale (CRS) shown in Figure 1 below.

A belief that treatment programs are helpful (implying that a lack of help or a set of unmet needs is responsible for the offender's behavior) underlies items 1, 3, and 6. A belief that offenders voluntarily break the law for their own unacceptable motives underlies item 2. Four of the items (4, 5, and 9 and 10) have to do with the extent to which prisons are needed. Item 7 taps a core conservative belief identified by Miller (1973) to the effect that society is often misguided in its excusing of criminals. This is a critical belief for a coherent conservative viewpoint, because it can explain correlations between race or class and criminal behavior as being due to unintended consequences of liberal approaches to help those less well off (Conley, 2011). The final item, 8, taps a core liberal belief that society's use of prison is misguided in that it usually falls on the disadvantaged criminal (whose behavior indicates a need or even a cry for help) as opposed to holding white collar criminals accountable for their behavior, which is actually more harmful (compare Menninger, 1966, with Menninger, 1973).

In contrast Lillyquist's LRC (1980), as well as King and Maruna's (2009) punishment scale, we decided not to include a capital punishment item. Such an item was included in our original pool, and performed well statistically. However, we found some conservatives who were clearly pro punishment but rejected capital punishment on religious (sanctity of life) grounds. Also, it is often important to study the issue of capital punishment separately from the issue of punitiveness, as in the case of conviction-prone juries (Green & Heilbrun, 2011).

**Figure 1: Criminal Responsibility Scale**

Use a number from 1 to 5 to indicate your degree of agreement/disagreement with each of the following statements. The higher the number, the more you agree.

5 = strongly agree    4 = agree somewhat    3 = uncertain;  
2 = disagree somewhat    1 = strongly disagree

- \_\_\_ 1. Most of the money that we spend to lock up criminals should be spent on education and treatment programs that help them improve themselves.
- \_\_\_ 2. The vast majority of criminals are simply people who have knowingly chosen to break the law for their own selfish motives. **R**
- \_\_\_ 3. The best way to reduce crime in America is to expand social programs that will give disadvantaged people better education, job training, and equal employment opportunities.
- \_\_\_ 4. Given the current level of crime in the United States, the number of people in prison should be increased rather than decreased. **R**
- \_\_\_ 5. Most prison sentences are too long.
- \_\_\_ 6. We should spend less money on prisons and more money on programs that create real jobs.
- \_\_\_ 7. If society is responsible for criminals' actions, it is only because we have failed to hold them accountable for their crimes. **R**
- \_\_\_ 8. The crimes of the rich—such as blatant corruption, price fixing, profit gouging, and maintaining unsafe working conditions—are far more harmful to society than are the crimes committed by the poor.
- \_\_\_ 9. A large number of people currently in prison in the U.S. are non-violent offenders who would be better placed in a community setting, such as a halfway house or some type of probation.
- \_\_\_ 10. Even though prisons may be expensive to maintain, in the long run they save money by reducing crime. **R**

Note: **R** indicates the item is to be reversed in scoring; it should not appear in the scale itself.

Having developed this CRS, the next step was to see if it compared favorably with the LRC scale. To do this we developed a pool of 24 items to measure attitudes toward a number of criminal justice issues, and a second pool of 32 items to measure attitudes toward various social issues not directly related to criminal justice but thought to have a liberal-conservative dimension to them. A choice that was made in developing a set of items for criminal justice issues was whether to replicate Homant and Witkowski's (2011) use of scenarios to measure attitudes about rights for terrorists. Considerations of length meant that we could either limit our survey to an in-depth measure of terrorism—using scenarios—or imbed the measure of terrorism within a broader array of

criminal justice issues. Because we were developing a new scale, it seemed important that we examine how well this scale predicted a variety of issues, and therefore we selected five issues to measure along with terrorism, with each issue being measured by a four-item scale. Although issues were selected based on our classroom experience, they correspond well to a set of issues identified by Bridgmon and Bridgmon (2010). The specific issues selected and the exact wording of the terrorism subscale items are given in the Results section, below.

We also constructed a general social issues scale, consisting of eight four-item subscales, each focusing on a social issue that was not obviously related to criminal justice. These issues were selected from our Introduction to Sociology course, which focuses on issues found in Conley (2011). The specific issues are also identified in the Results section, below. This social issues scale was included in the research not only for further construct validation of the CRS, but also in the hope that it would provide some clues as to the underlying assumptions and worldview that cause seemingly unrelated issues to correlate (such as beliefs about global warming with beliefs about drug policy).

### Survey Methodology

Combining the ten best LRC items, the ten-item CRS, a 24-item scale measuring seven general criminal justice issues, a 32-item scale measuring eight social issues, and items measuring assorted demographic variables resulted in a seven-page questionnaire. The specific content of these scales will be described in the Results section, below.

This questionnaire was distributed to students in six different sociology and criminal justice courses, both graduate and undergraduate. Two factors guided our sample selection. First, we wanted to look for a correlation between the CRS and terrorism in a sample that was similar to that used by Homant and Witkowski (2011). Second, the sample was also appropriate because the students were all in courses in which the relationship between beliefs about individual responsibility for crime and other social issues was to be discussed (classes were taught either by the authors of this study or a colleague). Thus, students were informed that the attitudes measured in the questionnaire would be the basis for later class discussion. Students were told that we preferred the questionnaires to be filled out anonymously in order to avoid any social desirability bias. Furthermore, the anonymity also meant that any student could choose not to participate without the instructor knowing

who that was. Students later received group feedback about how the various classes responded to the questionnaire and how the variables correlated.

A total of 153 students filled out the questionnaire, which took about 20 minutes to complete. Use of this questionnaire in these classes was standard practice, in the sense that discussing the results was part of normal classroom procedure. Questionnaires were filled out anonymously and students had the option of not participating. Participation was close to 100% (as far as we could determine), but eight questionnaires were discarded for being incomplete.

### Results

#### Sample Characteristics

The final sample was 54% male and ranged in age from 17 to 57 with a mean of 22 (*sd* 6.52); 75% were between the ages of 18 and 22. Subjects were 65% white, 17% black, 7% Asian, 6% Hispanic, and 5% biracial and other. Thirty-three percent were in their sophomore year, with the rest about equally divided among freshmen, juniors, seniors, and graduate students. Thirty-two percent of the students were in a cluster of health, nursing, pre-medical and pre-dental areas, with 26% in criminal justice and an additional 16% in the Intelligence Analysis Master's program. The remaining students represented 17 other majors as well as "undecided." Political party was measured on a 7-point scale, with three levels of identification on each side of a neutral point; 46% identified themselves as Democrat, 31% as "no preference," and 23% as Republican.

#### Reliability of Criminal Responsibility Scale

The CRS had a reliability of .722, as measured by Cronbach's alpha. The mean score was 3.27, with a standard deviation of 0.44, indicating that our subjects were slightly to the liberal side of the spectrum. By way of comparison, the LRC items were less internally consistent, with a Cronbach's alpha of .438. The LRC had a mean score of 3.35 and a standard deviation of 0.43: not significantly different from the CRS values. The two scales correlated +.53 ( $p < .001$ ), indicating that they measure similar constructs.

#### Demographic Correlations

For the entire sample, there was a non-significant trend for older students to score higher (more liberal) on the CRS ( $r = +.11$ ; *ns*). There was virtually no difference based on age, gender, race, or program. In exploring the trend for age we examined the correlations for the non-criminal justice

undergraduates ( $n = 78$ ). In this group, age and academic level (freshman through senior) were highly correlated ( $r = +.77$ ). In turn, both age and academic level correlated with the CRS: Age correlated  $+.30$  ( $p = .008$ ) and academic level correlated  $+.36$  ( $p = .001$ ) with the CRS. Older students were more likely to be liberal arts majors as opposed to science majors, so this finding does not necessarily mean that students became more liberal on the CRS with exposure to our college curriculum, though this would be worth exploring in future research.

### Validity of CRS

The validity of the CRS was based on how well it correlated with liberal versus conservative positions on a number of criminal justice and social issues. To measure criminal justice issues we developed a 24-item scale, with four items measuring each of the following: use of surveillance (tethering sex offenders; public cameras), drug policy (legalizing marijuana), zero tolerance policing (strict enforcement of nuisance crimes), victimless crimes (legalize prostitution), terrorism (strict ban on torture), and offender rights (strict application of exclusionary rule). As indicated above, these areas had all been identified through classroom teaching as having a liberal-conservative dimension to them, and this is confirmed by the work of Braswell and Whitehead (1999). An additional issue—identified by Braswell and Whitehead and part of our pilot research—was gun control. This issue was not included in the current study because our pilot research found that it did not correlate well with other criminal justice issues. (Tentatively, we believe that this is a local phenomenon.) The 24-item criminal justice scale had a mean score of 2.89 and a standard deviation of 0.48. Cronbach's alpha was .77.

To measure social issues, we developed a 32-item scale, with four items measuring each of the following subscales: family life (traditional versus egalitarian family), taxation (require more of rich versus minimize for all), military (reduce budget versus keep strong), science (concern about global warming; teach intelligent design), immigration (protect borders versus provide a route to citizenship), religion (prayer in schools, abortion law), and safety net (health care, guaranteed jobs). The social issues scale had a mean of 3.23 and a standard deviation of 0.45. Cronbach's alpha was .82.

One of our specific concerns with Lillyquist's LRC scale had been its poor predictiveness with regard to attitudes about dealing with terrorists. In this research, therefore, we looked specifically at the terrorism subscale of the criminal justice scale. The four items in this subscale read as follows (item

means and standard deviations in parentheses; high score is in the liberal direction):

1. The United States should make it clear that it is **always** wrong and illegal to torture someone, no matter what information we might think the person has. (3.85; 1.23)
2. In the war on terror the government needs more authority to engage in wire tapping and other forms of covert surveillance. **R** (3.11; 1.23)
3. If the police capture a known terrorist, they should be allowed to use harsh interrogation methods to get critical information. **R** (2.83; 1.32)
4. It is important that anyone arrested for or suspected of terrorism receive full due process rights, whether or not they are a citizen. (3.54; 1.18)

The word "always" was bolded in the original; the **R** did not appear in the original and indicates that scores are reversed so that high scores indicate the liberal position. The 4-item scale had a mean of 3.33 and a standard deviation of 0.84. Cronbach's alpha was .60 for this subscale.

Table 1 below shows the correlation of the CRS with the criminal justice scale, the social issues scale, and specifically with the terrorism subscale. For sake of comparison we also show the correlation with the LRC and with political party. As can be seen in Table 1, both the CRS and the LRC are good predictors of other issues, though CRS is substantially stronger.

**Table 1.**  
**Correlation of Criminal Responsibility Scale with Various Liberal-Conservative Measures.**

Scale	Criminal Justice		Terrorism		Social Issues	
	r	p	r	p	r	p
CRS	.530	.001	.375	.001	.499	.001
LRC	.334	.001	.278	.001	.417	.001
Party	.200	.013	.175	.031	.466	.001

CRS = ten item Crime Responsibility Scale; LRC = ten item Locus of Responsibility for Crime Scale (Lillyquist, 1980). Party is subjects' self identification as Democrat (high) versus Republican (low) on a seven-point graphic scale.  $N = 153$  throughout.

The LRC was a modest predictor of terrorism attitudes—somewhat stronger than it had been in the Homant and Witkowski (2011) research (but with a 10-item as opposed to a 6-item scale). CRS was even better than political party at

predicting social issues. (Not shown in Table 1, party correlated +.358 with the CRS and +.287 with the LRC, both  $p < .001$ .)

To further explore the ability of the CRS to predict non-criminal justice issues we looked at its correlation with the eight subscales of the social issues scale. The highest correlation was with the safety net subscale ( $r = +.495$ ,  $p < .001$ ). A typical item for this scale reads: "The government should directly create and fund minimum wage jobs for all in periods of high unemployment." (Party also had its highest correlation with this subscale:  $r = +.519$ .) The logic of these correlations seems evident, in that a high scorer (liberal) on the CRS is likely to minimize criminal responsibility, in part because of lack of opportunity, while a low scorer (conservative) is likely to see all individuals as capable of rising above limited opportunity.

We also found it interesting that the CRS was a good predictor of the science subscale, where a typical item reads: "Alarms about 'global warming' are a wrong-headed attempt to provide an excuse for more government intervention into the free enterprise system." The CRS correlated with this subscale +.343, compared to +.374 for global warming with party:  $p < .001$  for both. For the single global warming item given above, CRS had a correlation of +.252, compared to +.246 for party,  $p = .002$  for both. The connection between holding criminal offenders accountable and denial of the problem of global warming seems a bit remote, but probably involves the view that individuals are responsible for their own behavior and government intervention (except to punish criminals) is not warranted (Heath & Gifford, 2006; Gifford, 2011).

Correlations with other subscales ranged from +.477 (strong military) to +.143 (family life); all were significant at the .05 level or beyond, except family life with a  $p$  of .08, one-tailed.

### CRS, Terrorism, and Student Background

Whether or not a consistent liberal or conservative ideology across different issues is a good or a bad thing is debatable. On the one hand, one could argue that education should help the student become aware of inconsistencies in his or her thinking and develop a more overall coherent position on things. Thus, we might expect that undergraduate criminal justice students might develop a more consistent position on issues of responsibility and punishment, and this might be reflected in higher correlations with other areas. On the other hand, a specialized program, such as an Intelligence Analysis Master's program, has the goal of teaching students to go beyond ideology and to look for a more objective basis for forming an opinion. Thus, many commentators see ideology as something to be overcome (Braswell &

Whitehead, 1999; Ruth & Reitz, 2005). With this in mind, we conducted separate analyses for general undergraduate, criminal justice majors, and graduate students in intelligence analysis. The results of this comparison are shown in Table 2 below.

**Table 2.**  
**Correlations with the Criminal Responsibility Scale (CRS) as a Function of Program**

Program	C J Issues		Terrorism		Social Issues		Science	
	r	p	r	p	r	p	r	p
Intelligence Analysis (master's) (n = 24)	.16	.47	.08	.72	.00	.99	-.18	.40
Criminal Justice (undergrad) (n = 40)	.39	.01	.07	.69	.45	.00	.28	.08
Non-criminal Justice (undergrad) (n = 78)	.61	.001	.57	.001	.60	.001	.45	.001

Correlations show the relationship between the CRS and each of the liberal/conservative scales broken down by the program that the subjects were enrolled in. Thus, the first correlation in the Table, .16, is the correlation between the CRS and Criminal Justice Issues for the 24 Intelligence Analysis students.

The data in Table 2 show that for the non-criminal justice undergraduate students the LRC scale was a very strong predictor of their attitudes on a wide range of criminal justice and social issues. For criminal justice undergraduates, however, these correlations declined to a more modest level and the correlation with the terrorism subscale was especially low. For the Intelligence Analysis Master's students, all of the correlations were low, and the correlation with the science subscale was actually negative. All in all, the trend supports the hypothesis that the more one is familiar with criminal justice theories and issues, the lower the correlation between one's attitude about criminal responsibility and one's outlook on a wide variety of issues that generally have a liberal-conservative dimension to them. We are aware that sample sizes are small and that this conclusion must be considered tentative and in need of further research.

One final point that was of interest to us in this respect was whether the correlations with the CRS differed by group because of differences in subjects' mean scale scores. Using analysis of variance, we compared the three groups'

mean scores on the variables from Table 2: the CRS scale, criminal justice issues, social issues, terrorism, and science. For four of these variables there was virtually no difference among the three groups. The exception was terrorism, where a significant difference was found ( $F = 3.29$ ,  $df\ 2/139$ ,  $p = .04$ ). Post hoc comparisons showed that this difference was due mainly to a marginally significant difference ( $p = .06$ ) between the Intelligence Analysis group (mean = 2.99) versus the general undergraduates (mean = 3.45). The Criminal Justice undergraduates had a mean score of 3.20. This parallels the finding of Homant and Witkowski (2011) that the intelligence analysis students were more accepting of harsh interrogation. We cannot rule out that the Intelligence Analysis program may have attracted students who already had a somewhat more conservative view of terrorism; this seems unlikely, however, in that the Intelligence Analysis students were somewhat more liberal than the general students on the social issues scale (3.28 versus 3.21; ns). It seems more likely to us, then, that it was involvement in the program that shifted this group toward the theoretical neutral point of 3.0 and also reduced the correlation between the CRS and various criminal justice and social issues.

## Discussion

This research developed a Criminal Responsibility Scale (CRS) to update Lillyquist's (1980) Locus of Responsibility for Crime scale, which in turn was based on Miller's (1973) analysis of the role of ideology in shaping positions on a wide variety of criminal justice issues. The CRS was found to be a good predictor of scales measuring a variety of criminal justice and social issues. Attitudes toward terrorism, as measured by a four-item subscale of the criminal justice scale, were found to correlate relatively well (.38) with the CRS. There were large differences, however, in the degree to which terrorism scores could be predicted in three subsamples. With students in the Intelligence Analysis Master's program and criminal justice undergraduates the correlations were only +.08 and +.07 respectively; in contrast, for non-criminal justice undergraduates, representing a variety of majors, the correlation was +.57. Although relatively small sample sizes, especially for intelligence analysis students, make any interpretation quite tentative, these results are consistent with the idea that classroom study of an area may reduce the effect of ideology as a determinant of one's position.

## Liberal versus Conservative?

We have assumed that there is a common understanding on what the terms "liberal" and "conservative" mean, as if these terms denoted some more or less well defined set of beliefs. The issue, of course, is much more complicated than that. Miller's (1973) seminal article on ideology identified **ten** ideological positions that he located on a left-right continuum—and this was without using a "middle of the road" position. We would agree that at the very least a full understanding of positions on criminal justice issues needs to distinguish between radical left and (medical model) liberal on the left side of the political spectrum and conservative and libertarian on the political right. As we write, the current difficulty in defining the "true conservative" in the Republican primaries well illustrates this, and in some of our earlier research we were able to distinguish radical left from liberal attitudes toward the insanity defense (Homant, Kennedy, Kelley, & Williams, 1986). The inconsistency of how the concepts liberal and conservative are used has been well pointed out (Luttbeg & Gant, 1985), and Braswell and Whitehead (1999) have argued for the need to seek objective answers unaffected by ideology. Nevertheless, debates about criminal justice issues continue to be structured along liberal/conservative lines (Ruth & Reitz, 2005) and we believe that belief about individual responsibility for one's own behavior remains an important unifying principle for both criminal justice and for more general sociological issues. To get a bit philosophical, the seeming impossibility of ever proving or disproving freedom of the will—the core requirement for responsibility—would seem to guarantee that our understanding of human behavior will always be split on this issue (Metzinger, 2009).

It is also generally acknowledged that in terms of party affiliation within the United States, Republicans represent the political right and Democrats the political left (cf. Von Drehle, 2012). This is generally acknowledged to be more true now than in elections from, say the 1960s when there was a liberal wing of the Republican Party—especially linked with Nelson Rockefeller—and a conservative wing of the Democratic Party, before Goldwater and later Nixon pulled this group into the GOP. In this regard, it seems likely to us that some of the consistency that was found concerning the issues used in this research may be due to somewhat intellectually artificial coalitions caused by party politics (especially the linkage of economic and cultural conservatives within the Republican party). Our data, however, show that belief about criminal responsibility is at least as good a predictor of positions on social issues as is political party identification, and party identification is only a weak predictor of



criminal justice issues, especially the issue of the rights of arrested terrorists (see Table 1).

### Refining the CRS

At this point the Criminal Responsibility Scale should be considered to be in the developmental stage. Besides needing norms derived from larger and more diverse samples, there are two possible weaknesses in the current scale that should be pointed out. One concerns the direction of the items. Lillyquist's LRC scale is balanced in that ten items are worded in a liberal direction and ten in a conservative direction. We worked from an initial pool of items with the goal of creating a scale with five liberal and five conservative items. In a series of pilot studies we narrowed down our item pool to those that worked best (in terms of both internal consistency and predicting responses to other scales). In the future we will try to reverse the wording of one or more items to see if they do just as well. Thus item 5 could become: "Most prison sentences are too short." Some care has to be taken, however, to be sure that conservative items fairly represent conservative thinking.

A second problem concerns item 8 (see Figure 1), which compares the seriousness of white collar crime to that of street crime. This item is similar to an LRC item: "True crime is the behavior of those who use their business or political power to exploit others" (Lillyquist, 1980, p. 60). The problem that we see with the item (both our CRS version and the LRC version) is that it is not really a direct measure of criminal responsibility, except in the sense that white collar offenders may be seen as more despicable by liberals because their crimes have a seemingly voluntary aspect to them (Menninger, 1973). In any event, this item had one of the highest item-total correlations for the CRS and deleting it would have significantly lowered the internal consistency as well as the predictiveness of the scale. In further research we will continue trying to expand the item pool and thus to create a balanced and even more homogeneous scale. This need not deter other researchers who may wish to use the scale, either as is or adapted to fit their particular purpose.

Finally, there is certainly some overlap in content between the CRS and King and Maruna's (2009) eight-item punitiveness scale. In future research we intend to use that scale along with the CRS with a view towards establishing convergent and discriminant validity. The underlying issue here is whether there is a meaningful difference in the concepts of punitiveness and the concept of criminal responsibility. King and Maruna (2009) conceptually define punitiveness as: "a person's level of support for harsher sanctions and/or crime policies" (p. 156). By way of comparison, we suggest that

offender responsibility can be defined as "considering crime to be the result of the knowing and ultimately inexcusable ill will of the offender." While we think that perceiving the offender as responsible always leads to punitiveness, in agreement with King and Maruna, we would point out that one can be punitive simply because one is angry about having been a crime victim or, instrumentally, one might simply think it is the most effective way of changing behavior (like a pet owner using purely instrumental aggression). In any event, it would be interesting to us to see if there is any practical difference between the CRS scale and the punitiveness scale.

### Research Directions

Besides further refining the CRS scale, our research agenda has two priorities. First, we would like to further investigate the effects of program involvement in such counter-terrorism curricula as Intelligence Analysis on the relationship between students' political ideology and their positions on various criminal justice issues. A second agenda item is to try to better identify the underlying causes for the correlation between such diverse liberal-conservative positions as criminal responsibility (as measured by the CRS), acceptance or rejection of harsh interrogation methods with suspected terrorists (our terrorism subscale given above), and concern about global warming. For example, is the commonality in these areas due to some underlying belief about human responsibility or is it more the result of current political coalitions and the rhetoric that holds them together?

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## Multinational Homeland Security Terrorism Response Training For Clinical and Forensic Psychology PTSD Issues: Risk Assessment Heuristic

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### Abstract

*Terrorism fuels the need for homeland security personnel systems to include a comprehensive psychological perspective. Clinical and forensic considerations for Post-traumatic Stress Disorder (PTSD) should be systematically integrated into policies and decisions affecting risk and threat assessments operations related to terrorism preparation. Not everyone exposed to terrorism develops PTSD. However, individuals exposed to acts of terrorism are disproportionately more vulnerable to developing PTSD. These acts have long-term biopsychosocial and economic consequences for homeland security on a multinational basis. Research has demonstrated that PTSD develops in response to pre-existing vulnerabilities, absence of resiliency factors, and ethnoracial transactional influences among various biopsychosocial domains. As the main cog in the wheel of preparedness, homeland security personnel must be sensitized to the need for working collaboratively with other intervention disciplines in assessing for PTSD. Didactic courses, practica, and internships in homeland security (HS) must include a culturally-responsive review of PTSD as an integral component of HS curricula. The objective is to build multinational PTSD-terrorism response capacity through the training of HS personnel.*

### Review of the Literature

The persistent threat from terrorism presents an unrelenting demand on HS resources on a multinational basis (Davis, Mariano, Pace, Cotton & Steinberg, 2006; Marks & Sun, 2007; Patton & Violanti, 2006, as cited by Bailey & Cree, 2011). An appreciation of the psychological impact of terrorism is best recognized by the complicated and layered redundancy factors required for HS preparedness. Psychological injury may be less visible to first-responders than physical injury. Education on how the onset of PTSD symptoms affects terrorism response systems should be incorporated into every HS training curriculum. Thus,

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both the provisions for developing interventions and the allocation of resources to improve competencies of HS personnel must address the psychological trajectories stemming from terrorism (Salguero, Cano-Vindel, Iruarrizaga, Fernandez-Berrocá, & Galea, 2011).

There is clear and convincing evidence to merit a response to the psychological impact of terrorism. HS personnel must operate within an ethical and professional framework designed to minimize risks for harm, increase consistency in responses to terrorism, and continually improve response systems that address PTSD. Acts of terror are likely to have an immediate effect on the prevalence and severity of psychological issues observed in targeted communities. These consequences can be evaluated in the context of the subsequent disruptions to social and economic functioning where acts of terrorism have occurred (Costello et al., 2009; Few, 2007; Fritze et al., 2008; Page & Howard, 2010; as cited by Doherty & Clayton, 2011). Recent research suggests that “impacts of natural disasters include acute and posttraumatic stress disorder (Galea, Nandi, & Vlahov, 2005); somatic disorders (van den Berg, Grievink, Yzermans, & Lebrecht, 2005); major depression (Marshall et al., 2007); and other problems such as drug and alcohol abuse, higher rates of suicide, and elevated risk of child abuse (Fritze et al., 2008; Doherty & Clayton, 2011, p. 268).

The globalization of terrorism has fueled a worldwide need for HS personnel to be trained in how to recognize, evaluate, and report issues relevant to PTSD. To date, little attention has been devoted to preparing HS personnel to assess psychological risks for these consequences during the regular course of their duties. This article will focus on examining the case for including PTSD in the training of HS personnel. The article is also crafted to highlight issues specifically relevant for expanding the curriculum to include more information on the clinical and forensic roles that homeland security personnel can play in PTSD-related responses following an act of terrorism.

### DSM-5 and ICD-10 Role in Homeland Security Risk Assessments

The International Classification of Diseases’ (ICD) classification of PTSD has been recognized internationally since 1994, when it was adopted by the World Health Organization (WHO). The ICD has become the international standard diagnostic classification tool used for most general epidemiological purposes. The ICD-10 Classification of Mental and Behavioral Disorders: Clinical Descriptions and Diagnostic Guidelines provides international guidelines for the diagnosis of PTSD. The DSM-IV-TR and anticipated DSM-5 are American PTSD diagnostic resources used by licensed mental health professionals. The DSM and ICD-10 criteria can

play a major role in the training of HS personnel with regards to PTSD and risk assessment. The DSM-IV-TR and ICD-10 criteria for diagnosis of PTSD are similar, but not identical. Both references contain diagnostic criteria for PTSD that include a history of exposure to a traumatic event and symptoms from each of three symptom clusters. The symptom clusters include intrusive recollections, avoidant symptoms, and hyper-arousal symptoms. Both diagnostic resources also include a criterion concerning duration of symptoms. The ICD-10 does not specify a criterion for disturbance in areas of functioning, while the DSM-IV-TR Criterion F assesses functional significance of the symptoms in social, occupational, or other significant areas of functioning (APA, 2000).

While PTSD may be an internationally recognized disorder, there are disparities in the capacities of countries to respond to it in the aftermath of an act of terrorism. One might easily speculate that these conditions are considered extreme in many non-European, Middle East, and Asian countries. The construct of mental health itself is also likely to be a foreign idea in these countries. Nonetheless, research shows PTSD symptoms do occur on an international basis, despite denial in local cultures (Hafstad, Kilmer, Ryan, & Gil-Rivas, 2011; Dimitry, 2011; Scrimin, Moscardino, Capello, Altoe, Steinberg, & Pynoos 2011; Besser & Neria, 2009).

Acts of terror have no age, national, or religious boundaries. For example, Israel was involved in an ongoing extended period of terrorism during the Al Aqsa Intifada. The attacks resulted in the deaths of about 736 Jews and Arab civilians in Israel from September 2000 until 2006, mostly as a product of suicide bombings. These small-scale attacks, often by a single perpetrator, were especially stressful because they targeted places with heavy civilian traffic such as buses, restaurants, and nightclubs; and led to suspicion of the Arab population within Israel (Berrebi & Klor, 2008; Intelligence & Terrorism Information Center, 2005). Although most individuals demonstrate resilience in the face of terrorist attacks, a noteworthy study shows ongoing terrorism and war can lead to severe psychological distress in some, decreasing the portion of individuals remaining resilient (Bonanno, Galea, Bucciarelli, & Vlahov, 2006; Hobfoll et al., 2009).

Homeland security personnel and first responders are themselves at greater risk for psychological reactions, e.g. PTSD, than the general population (Robinson, Sigman, & Wilson, 1997). Approximately 13% of first responders develop PTSD according to studies conducted with convenience samples using DSM-IV TR structured interviews measuring lifetime PTSD (APA, 2000; North et al., 2002). The same prevalence of PTSD was also identified 32 months after a disaster (Jehel, Paterniti, Brunet, Duchet, Guelfi, & Julien, 2003). Of particular concern to clinical mental health professionals was the significant percentage of

first responders' children that were traumatized following the September 11th, 2001 terrorist attacks (Hoven et. al, 2009).

### Risk Assessment, PTSD, and the Facilitative Three R Model.

The terrorist attacks of 2001 forced policy risk assessment methods to change across several countries (May & Workman, 2009). Several preparedness-related efforts have been developed to address risks associated with food safety, public health emergencies, information security, transportation safety, and other public risks. Each of these efforts have developed into distinctive areas of policymaking for disaster and extreme event preparedness and response (May, P. J., Jochim, A. E., & Sapotichne, J., 2011). For example, to evaluate terrorism risks and to assess the effectiveness of actions to counter terrorism, it is now fairly standard within the Department of HS to define risk using the following model:

$$R(\text{Terrorist Attack}) \\ = p(\text{Attempted Attack}) \times q(\text{Success} | \text{Attempt}) \\ \times [-u(\text{Consequences})].$$

An act of terror does not have to be carried out in order to achieve a psychological objective (e.g., chaos and fear). Even a botched act or disclosure of an act that was prevented can lead to observable clinical consequences. The examination of PTSD within this context is therefore quite useful in the calculus of risk assessment for consequences of terrorism acts or attempts (DHS, 2010; Rosoff & von Winterfeldt, 2007). The decisions necessary to manage terrorism are extremely complicated. By default the homeland security training in risk assessment must contain information about the anticipated PTSD by-products which have clinical and forensic implications.

### Clinical and Forensic Transdiagnostic-Related PTSD Issues for Homeland Security

Homeland security personnel must be trained how to recognize, record, and report; i.e. the Three R Model, PTSD-related behavior. Encouraging self-reporting of PTSD symptoms in the aftermath of a terrorism incident will facilitate early intervention for better outcomes (Del Vecchio et al., 2011). A PTSD HS assessment checklist tool uses what is referred to as the Three R Model (i.e. recognize, record, and report). In practice, it would allow HS personnel to

recognize signs of PTSD, record it (e.g., location, time, affected individuals), and report it to a centralized homeland security entity responsible for dispatching resources during such situations. This tripartite system is the lowest cost and most culturally responsive way of conducting a PTSD risk assessment in the wake of an act of terror, allowing strategic disbursement of limited resources. The Three R model also offers an internationally adaptable conceptual framework for understanding the clinical and forensic effects of terrorism acts for homeland security personnel. It allows for an efficient, less ethically-intrusive, rapid, research-oriented means of intervening, as well as prevention in the aftermath of acts of terror (Monahan, 2011; Brandon, 2011). It permits risk metrics to be used on the data HS personnel are trained to provide based on level of risk. It needs to be stated that HS personnel are not expected to function in lieu of trained mental health professionals. Their clinical and forensic PTSD roles are secondary to their primary HS responsibilities. Nonetheless, they can assess and report signs of PTSD while carrying out their other duties.

Forensically, the introduction of the diagnosis of PTSD into the Diagnostic and Statistical Manual of Mental Disorders (DSM-III) of the American Psychiatric Association (APA) was initially "made to order for personal injury and worker compensation claimants because the diagnostic criteria explicitly include an etiological stressor" (APA, 1980; Melton, Petrila, Poythress, & Slobogin, 1997, p. 376). The DSM history of PTSD reveals that it can also be an anticipated diagnosis for claimants in the aftermath of an act of terror. Moreover, the proof of such a legally compensable injury may depend largely upon psychological evidence (e.g. see discussion by Douglas, Huss, Murdoch, Washington, & Koch, 1999) that may be observed or reported by homeland security personnel. American courts have recognized the existence of traumatically induced psychological distress since at least the 19th century (Harrington, 1996). Children with PTSD are significantly more likely to have medical (e.g. chronic immune and neurological diseases such as asthma, allergies, headache, and gastrointestinal problems and psychological problems like ADHD than children without PTSD (Seng, Graham-Bermann, Clark, McCarthy, & Ronis, 2005). Homeland security personnel must remain ever aware that the information observed and recorded during their work via assessment forms and interviews can have forensic psychological implications (Kane, 2007). A multinational curriculum-based question is "What do HS programs need to do to be prepared today for a PTSD-related terrorism reaction?" To answer this practical question, the homeland security curriculum (theory, science, and practice) must be reviewed with an eye towards reporting to a central coordinating HS authority. This reporting function demands the development of a

culturally-relevant PTSD assessment that can lead to more timely interventions with mental health services.

Curricular changes should include a more clinically and forensically-oriented practicum program in which training would include recognizing, recording, and reporting mental health concerns. A clinically-oriented practicum would have at its root the goal of expanding the number of professionals adequately prepared to contribute at least to the initial risk assessment vital to the practice of homeland security and subsequent treatment. The practicum would start with a review of the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2000). The DSM is a primary clinical reference assessment tool used in the psycho-diagnostic process with patients from diverse racial and cultural groups (Johnson, 2005). The DSM includes information and diagnostic criteria needed for HS personnel to understand the types of psychological injury, including injury from experiencing traumatic events. Diagnosis of PTSD by a qualified mental health professional is shaped by the validity and organization of the criteria in the DSM-IV-TR, soon to be modified in the DSM-5 as outlined in the DSM-5 draft (American Psychiatric Association, 2010). HS programs incorporating PTSD diagnostic awareness training within their basic terrorism preparedness strategies are expected to be in an evidenced-based position for the evaluation of risks. However, some key PTSD-related maxims have not yet been articulated within the above HS curriculum (Trunkey, 2009; Brandon, 2011).

#### **Framework for International Homeland Security Maxims for PTSD Related to Terrorism**

To be effective, a training framework for homeland security responses to acts of terrorism must be informed by principles relevant to PTSD. Homeland security approaches vary from country to country based on political, economic, resources, and social systems. Accordingly, various health associations throughout the world have crafted methods of PTSD service delivery for their specific populations. The diversity observed from country to country precludes a single set of practices that functions as a best match for all cultures (Vecchi & Dover, 2010). Nonetheless, there are some fundamental maxims that must be integrated within the HS training efforts (Nickerson, 2011).

In crafting these maxims, more than one hundred relevant PTSD sources from homeland security and mental health associations around the world were reviewed, as well as related materials from other health care organizations. The references reviewed included, but were not limited to the following: Doctors without Borders publications on trauma-related psychological disorders among

Palestinian children and adults in Gaza and West Bank, 2005-2008 the United Nations' (2008); UNESCO documents on terrorism; and the World Health Organization's (WHO 2005), International Health Regulations, American Red Cross, International Federation of Red Cross and Red Crescent Societies, governmental organizations (e.g., Department of Homeland Security), American Psychological Association publications, and American Psychiatric Association publications. The seven maxims listed below are offered as a recommended theoretical framework for countries to use while crafting their homeland security responses (i.e. education and training) for terrorism-related PTSD.

- Maxim 1: Acts of terror are not uncommon and PTSD is a frequent psychological reaction to such an event (Breslau et al., 1998). The reactions can have strong cultural factors that must be considered in assessment and intervention (Sue and Sue, 2008).
- Maxim 2: PTSD can occur in a relatively short period of time, and may result in substantial impairment in survivors as well as the homeland security personnel (Galea, Nandi, & Vlahov, 2005).
- Maxim 3: In terms of risk assessment, a higher number of negative life events during the year before a major trauma can be associated with PTSD within a year after such an event (Adams & Boscarino, 2006).
- Maxim 4: Almost similar to radiation, immediacy and proximity to the terroristic act can lead to increased risk for PTSD (Chiu, et al., 2011; Perrin et al., 2007).
- Maxim 5: Resilient individuals do evidence some emotionally-based reaction, usually of short duration, and that reaction does not often significantly interfere with continued functioning (Bonnano, Galea, Bucciarelli, & Vlahov, 2007).
- Maxim 6: A terrorist has to be successful only once, and even a failed attempt can create PTSD symptoms. Risk assessment leads to the conclusion that being prepared to minimize the psychological impact of terrorism is an advisable investment (Nickerson, 2011).
- Maxim 7: The mindset and motivations of a terrorist's indiscriminate use of violence for cultural, ethno-racial, personal, political, social or religious purposes cannot be conceptualized completely within the discipline or traditional methods used in mainstream psychology. A transdiagnostic model may be more useful.

### International Facilitative Partnerships for Terrorism-Based PTSD

Countries can function in a facilitative role with regards to PTSD-related terrorism preparations and trainings. American and European countries can assume a facilitative role for under-resourced countries in areas specifically related to PTSD and terrorism. Unstable areas such as Afghanistan, Chechnya Republic, Iraq, and Kosovo require facilitative assistance in order to redefine national security threats, as well as the way they organize their national security apparatuses (Cohen, 2010; Tierney, 2009). The experience of observing the economic, physical, and biopsychosocial impacts of terrorism has stimulated a growing impetus for a worldwide homeland security response.

There are three relevant homeland security factors that can be instructive in internationalizing a PTSD-sensitive response to terrorism: Military-plan oriented, communication hub, and facilitative (Wickrama & Wickrama, 2011; Powell & Rosner, 2005; Su, et al., 2010). The first facilitative factor is a change to a military-oriented homeland security approach that is akin to preparing for battle. This approach would probably be more helpful than a civilian commitment of resources in reversing unwanted consequences. The PTSD response must be tailored to the unique makeup of each country (Dyb, Jensen, & Nygaard, 2011; Little & Akin-Little, 2011; Hinton & Lewis-Fernandez, 2011).

The second facilitative factor, although a challenge, is for the hub for homeland security communications to become PTSD-sensitive. A best practice would be to use pre-existing communication links through organizations like the United Nations, International Red Cross, Doctors without Borders, International Association of Chiefs of Police, and NATO. Authoritative and timely communication has the potential to thwart the intended economic and psychological fear objectives of terrorists, reducing PTSD incidence (Fischhoff, 2011). For example, during the fall of 2011, an electrical power accident in the San Diego area resulted in a loss of electricity for several hours. For those outside the power outage area, there was awareness of the likely non-terrorist cause. However, for many residents in the affected areas, the psychological risks increased due in large part to an absence of information. A sizable number of people filled the information void with their own explanation—terrorism. In the end, a homeland security pre/post analysis of information acquired during such an incident may prove to be a vital tool in building some measure of PTSD resiliency (Spokane, Inman, Weatherford, Davidson, & Straw, 2011; Schubert & Punamaki, 2011).

The third facilitative factor in the internationalization of homeland security terrorism responses requires more expertise with PTSD intervention research.

The interoperability of this facilitative role involves a research framework, learning and teaching, as well as culturally responsive engagement of the involved countries (Kelly, 2011). One of the PTSD lessons learned from 9/11 is the identification of barriers to assessing trauma in the aftermath of an act of terror. Two of these potential obstacles in this assessment process are retrospective recall bias and the appropriateness of ethically conducting such trauma-related assessment on the heels of a terrorist attack. In countries with fewer resources it may take years before clinical and forensic information related to PTSD surfaces in tangible ways (Greiger, Fullerton, & Ursano, 2003).

Despite limited resources, terrorism and PTSD are a shared international reality. Under-resourced regions' approaches to homeland security must implement PTSD training policies that translate across response systems and subsystems within these countries. Thoughtfully apportioning resources for training and early intervention can reduce the costs of PTSD. To achieve this task, it is strongly recommended to develop a comprehensive set of homeland security countermeasures crafted with training in mind (Keeney & von Winterfeldt, 2011).

As a result of their histories, many countries have pre-existing clinical and forensic psychological PTSD costs due to repeated acts of terrorism. The WHO and APA, through the ICD and DSM respectively, have recognized several of the universal psychological symptoms consistent with PTSD. Despite much criticism, the DSM and ICD are the most common mental health diagnostic resources used across cultures to understand diverse expressions of PTSD (Asukai, Saito, Tsuruta, Kishimoto, & Nishikawa, 2010; Johnson, 2005).

Countries should consider whether their homeland security teams are prepared to address situations of repeated attacks in a short period of time. Few under-resourced countries have mental health professionals available on a broad basis or even recognize the costs of PTSD, even though they may have observed it firsthand. Due to this challenge, HS personnel trained to recognize PTSD symptoms may help those affected access skilled mental health services faster.

One recommended homeland security risk reduction investment includes the use of a brief PTSD assessment checklist tool based on the ICD-11 and projected DSM-5 criteria. The checklist should coincide with an approved PTSD sensitivity training for existing HS personnel (Bowman & Roysircar, 2011). There are advantages and disadvantages to using existing available PTSD support.

### Advantages and Disadvantages of Using Pre-existing Homeland Security PTSD Resources

1. The timely proximity and possession by HS personnel of regional knowledge of how to operate in challenging recognized systems-subsystems, onerous regulations, political instability or discontinuity in the country.
2. HS personnel are aware of unique cultural or ethnoracial factors operating.
3. HS personnel have developed at least adaptive expertise in managing, or overcoming, cultural and system obstacles.
4. HS personnel have some established cultural credibility (negative or positive) or recognition by individuals in their country.
5. Pre-existing HS personnel may be unconsciously compromised because they have been personally impacted in some tangible way by the act of terrorism or past acts (e.g. Katrina first responders).

For all the above reasons, pre-existing homeland security personnel are less likely to experience xenophobic perceptions that could function as a liability while operating in response to acts of terrorism. At the same time, they are likely to manage and probably overcome preconceptions with faster and more efficient culturally-responsive learning, despite their typically smaller staffing size, and less sophisticated expertise in these PTSD-related matters (Kaczorowski, et. al., 2011). Mental health professionals who have responded to acts of terror locally have insights which could be integrated with PTSD response experts who have unique assets, skills, or successes from other areas or countries. The resulting curriculum and training could become cross-cultural to strengthen future responses to terrorism (Hobfoll, et al., 2011; Hinton & Lewis-Fernandez, 2011).

The multinational homeland security data resulting from the Three R Model can help fill the dearth of research regarding the actual reporting practices related to PTSD. Given that homeland security personnel come into contact with people in unique ways following a terrorist attack, it is essential to examine their immediate firsthand perceptions. Instead of dealing with delayed psychological reactions sometime later, the data represents realistic accounts of what has actually taken place. In this case, the answer to the question of how to facilitate PTSD terrorism response in less-resourced countries is by building capacity through the assessment, leading to a clinically-forensically informed approach.

## Conclusions, Implications for HS Academic Programs, Practice, and Research

Homeland security across the world is a complex undertaking of risk assessment on a multinational basis. The clinical as well as forensic aspects of PTSD are salient to all homeland security professionals and disciplines as they prepare to respond to acts of terrorism (Newman, 2011). While homeland security strategies vary, some fundamental international PTSD maxims can be applied (Marsella, 2010). The purpose of this article is to initiate a discussion for a set of universally applicable international approaches for terrorism responses that include PTSD training for homeland security personnel. The article highlighted that attitudes toward terrorism in a given culture and country change over time. Nonetheless, non-European countries can adopt culturally responsive approaches to address any miscommunication that may occur in the aftermath of terrorism. From a homeland security training perspective, this article indicated that preventing, limiting, or redressing resource loss due to PTSD may be a key therapeutic means of intervention. PTSD in the aftermath of disasters or war has been extensively discussed in the literature, and has been featured in many academic, military, and mental health organizations. What has not been examined nearly as much, however, are empirically assessed outcomes of the many homeland security training efforts related to HS PTSD responses that may cut across various disciplines (Jobson & O'Kearney, 2008).

This lack of scholarly attention has also prevented theory development and hypothesis testing of variables that could progressively lead to more rigorous homeland terrorism response training. The absence of rigorous research has prevented nations from systematically evaluating comprehensive response strengths and weaknesses, and thus blocking improved terrorism responses.

This article has attempted to identify the knowledge gap in this particular area of homeland security training. It should be noted that although this article is advocating that homeland security personnel be trained or sensitized PTSD, it is not suggesting that they forego consideration of working with qualified professionals in managing these complex cases. This being said, the important topic of cultural, racial, ethnic, and minority differences pertaining to PTSD in the wake of terrorism is just beginning to be addressed adequately by the scientific community. Much further research will be needed in order to establish responses that will meet the unique international homeland security needs particularly as it relates to counterterrorism efforts they may function as a form of stress inoculation for civilians and public safety personnel.

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## Eastern Kentucky University and the Model Undergraduate Homeland Security Curriculum

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### ABSTRACT

*This report summarizes the development of the EKU homeland security program. The EKU College of Justice & Safety, with a 40-year history offering nationally recognized programs in criminal justice, police studies, security management, fire science, arson and explosives investigation and emergency medical care, saw homeland security as a natural extension of their existing expertise. The curriculum planners worked closely with Center for Homeland Defense and Security, benchmarked other undergraduate homeland security programs, and became involved early with the Homeland Security and Defense Education Consortium Association. As the only homeland security 4-year bachelor's program at a public university in Kentucky, and also within large areas of the surrounding U.S. Southeast and Mid-West, the program draws students from a wide geographic area.*

One of the biggest challenges in developing a new academic program is balancing the curriculum content with the expertise of existing and anticipated new faculty. Eastern Kentucky University (EKU) faced this challenge when it decided to offer a new undergraduate homeland security degree program starting in academic year 2007-2008. Now in its fifth year, the EKU program continues to see growing enrollments. The purpose of this report is to summarize the development of the EKU homeland security program in the hope others starting or revising their programs can learn from EKU's experiences.

Few people in the United States had heard the words "homeland security" prior to the September 11, 2001 (9/11), terrorist attacks on the New York World Trade Center and Pentagon. This was the situation despite the

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1998-2001 Hart-Rudman Commission report highlighting the lack of planning and direction in U.S. domestic security and its recommendation to create a National Homeland Security Agency to address these problems (U.S. Commission on National Security/21<sup>st</sup> Century, 1998-2001, p. i). In the 10 years following 9/11, several hundred homeland security academic programs ranging from certificates to doctoral degrees became available. This meteoric rise in a new academic discipline was completely ad hoc with no academic, professional or government organization issuing curriculum guidance.

The EKU College of Justice & Safety, with a 40 year history offering nationally recognized programs in criminal justice, police studies, security management, fire science, arson and explosives investigation and emergency medical care, saw homeland security as a natural extension of their existing expertise. By the time EKU started its homeland security curriculum development, the U.S. Naval Postgraduate School and its Center for Homeland Defense and Security (CHDS) had developed a reputation for offering one of the leading Master's degree programs in the discipline. The EKU homeland security curriculum planners worked closely with CHDS, benchmarked other undergraduate homeland security programs, and became involved early with the new Homeland Security and Defense Education Consortium Association (HSDECA) as it worked to become the specialized accrediting body for homeland security academic programs. In academic year 2007-2008, EKU rolled out its Bachelors of Science in Homeland Security program that balanced its curriculum with the capabilities of its existing faculty. The program grew to over 150 enrolled majors in its first two years.

A group of 32 academics, professionals, and government officials met in June 2009 in Monterey, California, during a conference sponsored by CHDS to outline a model undergraduate homeland security curriculum. Using a draft of the HSDECA homeland security specialized accreditation standards as a starting point, the group developed consensus on an outline of a model undergraduate curriculum (see CHDS, 2009). The group used an interdisciplinary "umbrella" approach in defining homeland security based on the many responsibilities of the U.S. Department of Homeland Security. It was assumed the graduates of homeland security undergraduate programs would be future program managers, project officers, action officers, intelligence analysts, etc., in the homeland security community encompassing both the public and private sectors. Emergency management was assumed to be a vital part of homeland security. As developed the model curriculum also assumed students with specific homeland security interests could select a minor in that area, for example those wanting to work in Customs and Border Protection,

Immigration and Custom Enforcement or Secret Service could minor in criminal justice or police studies—thus homeland security field agency missions needed to be introduced but not covered in-depth in the core curriculum. With these assumptions in hand, the Monterey group developed a model curriculum outline expanding on the following key areas identified in Table I (see CHDS, 2009 for details):

**Table I. Homeland Security Model Curriculum Key Areas**

Homeland Security Administration	Intelligence
Research & Analysis	Critical Infrastructure Protection
Emergency Management	Strategic Planning
Technology	Law and Policy
Strategic Communications	Terrorism/Counterterrorism
The Private Sector and Homeland Security	

With two years of experience teaching the ECU undergraduate curriculum, the program faculty took the CHDS model curriculum outline into account as they considered curriculum changes in fall 2009. In the first two years of the ECU program, new faculty members with national security policy/intelligence and state/federal emergency management backgrounds were hired and provided fresh perspectives to the curriculum review. These new hires joined the existing faculty already strong in the areas of critical infrastructure protection, security management, and first responder activities. In addition to the CHDS model curriculum, the faculty had their own recommendations for improvement to the existing curriculum based on teaching the program over its first two years. For example, they suggested more math, science and technology be required in the bachelor of science program. In the original curriculum, both physical security and vulnerability and risk assessment were planned to be taught in one sophomore level course. The faculty found the advanced vulnerability and risk assessment material was too difficult for sophomores and required a more in-depth standalone course later in the curriculum. Additionally, the original ECU curriculum lacked a course on disaster planning and response.

With the CHDS model curriculum and the faculty input, ECU added four new courses to the program core and seven new supporting courses (meaning courses taught outside the Homeland Security program). The new core courses included Vulnerability and Risk Assessment (for juniors), Homeland Security Technology (moved from being an elective to a required core course),

Disaster Preparedness and Response and a capstone course entitled Homeland Security Colloquium. The seven new supporting courses included Geographic Information Systems, U.S. History from 1877, American Government, Earth Science, Statistics, Psychology and either Principles of Management or Introduction to Public Administration. The revised curriculum requires a minimum of 120 total credits with 39 credits of homeland security core courses (6 of those credits electives), 33 credits of supporting courses, 34 credits of general education and 14 free elective credits. The resulting homeland security core and supporting curriculum can be summarized using the following topics and underlying 3-credit course titles (see (ECU, 2012a) for details):

**Table II EKU Homeland Security Curriculum**

Homeland Security Policy/Legal/Management
Introduction to Homeland Security
Legal and Ethical Issues in Homeland Security
Homeland Security Colloquium (Capstone)
U.S. History from 1877*
American Government*
Psychology*
Principles of Management* or Introduction to Public Administration*
Border & Immigration Control (Special Topics elective)
Homeland Defense (Special Topics elective)
Maritime Security (Special Topics elective)
Critical Infrastructure Protection
Physical Security*
Critical Infrastructure Protection
Vulnerability and Risk Assessment
HLS Technology
Cyber Security (elective)
Several Special Topics (electives) on CI sectors/subsectors
Research/Analysis/Intelligence
Critical Problem Analysis
Statistics*
Intelligence Process
Geographic Information Systems*
Terrorism/Counterterrorism*
Counterintelligence (elective)
Domestic Terrorism (elective)
Emergency Management
Emergency Management (Introduction)
Disaster Preparedness and Response
Mitigation and Disaster Recovery
WMD/Hazardous Materials*
Disaster Medical Operations*
Introduction to Physical Geography* or Earth Science*
Emergency Planning (elective)
Business Continuity and Emergency Management (elective)
Modern Natural Disasters (elective)
Miscellaneous Electives
Cooperative Education/Internships
Field Experience
Independent Study

\* Supporting courses taught by programs outside homeland security

The above revised undergraduate curriculum can be considered a success based on two years of experience. Total on-campus enrollments in the homeland security major have leveled off at approximately 250 students. As the only homeland security 4-year bachelor's program at a public university in Kentucky, and also within large areas of the surrounding U.S. Southeast and Mid-West, the program draws students from a wide geographic area. With the increased difficulty of the above revised curriculum over its predecessor, an unintended consequence of the changes has been substantial improvement in the high school grades and college entrance examinations of new students. Rated one of the top "Veteran Friendly" institutions of higher education in the United States, many of the students are veterans, active duty military and National Guard. The EKU U.S. Army ROTC program also provides a large number of homeland security students. While the poor state of the U.S. economy affected the job placement of initial EKU homeland security graduates, with recent improvements in the U.S. economy graduates are finding jobs readily in both the public and private sectors.

The reasons for including some of the supporting courses may seem less obvious. Even though U.S. History and American Government are taught in high school and are elective options in the EKU general education program, weaknesses in these areas of student knowledge required these courses be included as supporting courses in the homeland security curriculum. It is important students have solid current U.S. History and American Government backgrounds to assist in their comprehension of the evolution of the homeland security community and its legal structure. As homeland security is largely a social science, Psychology was included as a supporting course due to its importance to the theoretical tenets of other social science disciplines. While there is no specific All Hazards course, the concepts of All Hazards are infused throughout the curriculum and there are specific supporting courses on WMD/Hazardous Materials, Disaster Medical Operations, Terrorism/Counterterrorism and Earth Science. The homeland security curriculum can include such a wide array of supporting courses from other disciplines as EKU is rated one of the "Best Places to Work in Academia" due, in part, to strong inter-departmental coordination and cooperation.

Another area of instruction not obvious in the EKU curriculum is critical and creative thinking. Before the fall 2007 beginning of the EKU homeland security program, EKU instituted a university-wide Quality Enhancement Program (QEP) with a goal that "EKU will develop informed, critical and creative thinkers who communicate effectively" (EKU, 2012b). As the result of the QEP efforts, all students are introduced to the critical and creative thinking

framework adopted from the Foundation for Critical Thinking (see Foundation for Critical Thinking, 2012) in the required Academic Orientation course taken in their first semester. Skill in using the critical thinking framework is then reinforced in two general education English Composition courses and in the remainder of the courses in the ECU general education program. Students also take a required Writing Intensive course after completing their English Composition requirements that focuses on expanding critical thinking skills within their major discipline. Lower-division homeland security courses also reinforce the use of the critical thinking framework. In their first semester of junior year, homeland security students receive even more in-depth instruction in critical and creative thinking in their Critical Problem Analysis course. This is then reinforced in their homeland security upper-division courses. Finally, ECU university requirements call for an applied critical and creative thinking course, which is met through the Homeland Security Colloquium (capstone) course. As a result, employers can be assured ECU graduates have mastered the knowledge and skills of critical and creative thinking.

A robust cooperative education and internship program is offered to support the homeland security curriculum. Making a cooperative education or internship experience a mandatory part of the homeland security curriculum was considered, but student focus groups on the new curriculum indicated a larger number of students had to work to afford college or support their families, which meant a mandatory, non-paid, cooperative education or internship experience would not be realistic for them. In addition to being selected for many national-level internship opportunities, ECU homeland security majors obtain professional experience within the Kentucky Emergency Management (KYEM) system, Kentucky Office of Homeland Security (KOHS), state and federal law enforcement intelligence offices in Kentucky and in private sector security and disaster preparedness positions. Within KYEM students work at the state emergency operation center (EOC) and augment many county emergency management offices. ECU students also regularly assist with logistics at the annual KYEM Governor's Conference. KOHS provides internships in its Frankfort offices and in the Kentucky Fusion Center. State and federal law enforcement agencies use ECU students as junior intelligence analysts. Within the private sector, students work in the security offices of key critical infrastructure sites and also augment private disaster assistance agencies such as the Red Cross. There are actually more opportunities for student cooperative education and internship positions than we have students to place—again because most of these experiences are not paid and the vast majority of students must work.

The ECU homeland security program engages the community in a number of other ways. The homeland security student club, working with the local county EOC, developed a qualification program for students to augment EOCs across the state during exercises or actual disasters. ECU, located in Madison County, Kentucky, is near one of the last U.S. Army chemical weapon storage sites. The corresponding local CSEPP (Chemical Stockpile Emergency Preparedness Program) provides numerous opportunities for students to participate in disaster exercises and obtain internships and permanent employment at the local U.S. Army Depot. KOHS has coordinated a program where ECU student research and class projects in the ECU Physical Security, Critical Infrastructure Protection (CIP), and Vulnerability and Risk Assessment courses are briefed to KOHS officials and the student papers become part of the KOHS CIP analysis library. KOHS also uses ECU interns to help maintain the nationwide Automated Critical Asset Management System (ACAMS). Finally, once a year a service-learning Emergency Planning course is offered where the instructor picks a local public or private agency and the class provides the agency detailed disaster planning assistance.

Starting in fall 2011, the homeland security curriculum was offered fully online, allowing ECU to reach a larger national audience and to provide instruction to non-traditional students whose work or family situation does not allow them to move to Richmond, Kentucky, for on-campus instruction. The online program curriculum is identical to the on-campus curriculum, taught by the same instructors, and offered in an 8-week course format. While there are a number of existing online homeland security undergraduate degree programs, research confirmed a market for quality online instruction at a reasonable cost. Many educators feel the best online programs are those backed by respected on-campus programs. That was the ECU approach. To ensure the quality of the online courses, ECU adopted the Quality Matters Program (see Quality Matters Program, 2012). All online courses must pass the Quality Matters rubric before they are offered. To ensure quality delivery of online courses, a combination of student end-of-course evaluations and instructor peer reviews are used. With only one semester of experience, the online homeland security undergraduate degree program is growing much as expected.

ECU does not seek to compete with U.S. homeland security or emergency management programs with hundreds or thousands of students. Instead the goal is to grow the on-campus and online homeland security undergraduate degree programs to reach a balance with approximately 250 students both on-campus and online. The on-campus goal has already been

reached. The online goal should be reached within another two to three years. These enrollment numbers will allow the offering of quality instruction without the need for significant additional teaching resources. Once HSDECA or another institution becomes the specialized homeland security accrediting body, ECU will be one of the first in line to seek that accreditation. Until then, offering quality instruction will remain the first priority.

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## Extending Information Studies to the Education of Open Source Information Analysts

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### ABSTRACT

*After identifying some of the major historical links between information studies and security and intelligence work, the present paper addresses a specific curricular innovation at the School of Information (iSchool) at the University of Texas at Austin: The Certificate of Advanced Study in Global Media and Research Analysis. The development of these links clearly demonstrate that, for many decades, national defense and information retrieval and analysis have been even more closely allied than previously. This history infuses many of the courses at the Texas School of Information (iSchool) and is an explicit object of study in many of them, making the development of an intelligence certificate a logical extension of the iSchool's curricular planning. The program emphasizes the application of information science and policy studies to the analysis of open source information as one important educational innovation to advance the preparation of new intelligence professionals*

### Introduction

The educational response to the security threats facing western societies has taken many forms. In the U.S., the National Institute of Standards and Technology led the development of National Initiative for Cybersecurity Education (NICE) aimed mainly at providing training for federal officers and departments responsible for national security efforts. The U.S. Department of Homeland Security, through its Emergency Management Institute, offers online education in emergency preparedness that is a requirement for leaders in many state and federal agencies, including public university administrators. In the academic sector, universities have partnered with the National Science Foundation through the Cybersecurity Education Forum to create centers of

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excellence that develop and share curricula on issues such as forensics and information assurance. Along with these major initiatives funded at the federal level, many universities have added coursework on national security as noted by the *Washington Post* (2005), which described “terror as the hottest new major” on campuses across the nation. Ranging from courses on the Taliban to modeling explosions, the coverage of topics related to homeland security is perhaps wider than deeper in most university course catalogues, but it reflects a rapid addressing of new subject material in the last decade as a direct result of homeland security concerns.

While one might consider these developments as a direct response to 9/11, some academic initiatives in the intelligence arena might be viewed as a revisiting of themes and research areas of long-standing concern in the field of information studies. After identifying some of the major historical links between information studies and security and intelligence work, the present paper addresses a specific curricular innovation at the School of Information (iSchool) at the University of Texas at Austin: The Certificate of Advanced Study in Global Media and Research Analysis. The authors of this paper are dean and associate dean respectively and faculty members at the iSchool and have helped develop the advanced specialization at the school in conjunction with the full faculty.

### Intelligence Work in the Context of Information Studies

Lowenthal (2009) defines intelligence as “the process by which specific types of information important to national security are requested, collected, analyzed and provided to policy makers; the products of that process; the safeguarding of these processes and this information by counterintelligence activities; and the carrying out of operations as requested by lawful authorities” (p.8). This definition, while adopting a particular national-security focus, speaks directly to the information collection and analysis emphasis of our initiative as well as the importance of the organizational elements of intelligence, i.e., the process of intelligence (Warner, 2005). The intelligence initiative builds on the decades-long history of the field of information science, some of which we explore below.

Broadly conceived, information follows a life cycle from creation, through organization, access and use, to preservation. Without skilled professionals managing and designing the systems and services that provide people and groups with information, this valuable resource can be lost, remain hidden, and be rendered useless or inaccessible. This concept of an information



lifecycle has provided a foundation for many curricular developments in academic programs in information studies, and reflects the interrelated nature of activities ranging from user behavior analysis to records management to digital system design and evaluation in preparing information professionals for careers. There has been a growing interest in interdisciplinary academic studies of information which is manifest now in the emerging international group of information schools known as the “iSchools movement” ([www.ischools.org](http://www.ischools.org)), which is committed to advancing our understanding of the relationships among people, information, and technology.

Intelligence work tends to follow its own cyclical process involving the identification of requirements, collection, processing and exploitation of information, analysis and production, consumption, and feedback. Like information, intelligence has been described as a process aimed at reducing uncertainty (Clark, 2010), and, indeed, the same author has argued that the most important change in intelligence work that resulted from 9/11 was the recognition that such work needed to move more toward a process rather than functional orientation. In this light, information studies and intelligence work have many similarities that suggest education for intelligence might fit well within information studies curricula. Similarly, the impressive growth of the field of information science, an important component of the field of information studies, immediately before, during, and after World War II further demonstrates the close relationship of the discipline and intelligence work.

### Historical Interfaces between Information Science and Intelligence Work

There is a particularly close relationship between information science and security studies in the United States that is rarely made explicit but merits attention here (see, e.g., Williams & Lipetz, 2005; Chen & Xu, 2006). Three elements of the story involve Vannevar Bush, Franklin Roosevelt’s chief science advisor during WW II. First, Roosevelt sought Bush’s help in mobilizing the entire science and technology research and teaching community to support the U.S. and its Allies during the war. As part of that national mobilization, Roosevelt, Bush, and others in Roosevelt’s inner circle were especially concerned with making science and technology research and productivity important elements of the U.S. defense posture by enhancing several parts of the research cycle: The speed of the research process, the depth of the research process, the governmental role as a catalyst and primary customer of the results of research, and important defense and economic advantages that good research provides. Many of the accomplishments made during and just

after the war related to information-intensive technologies, such as computing, sonar, radar, cryptography, and other fields, were results of research communities and research programs supported by Bush and his team. Since scientific and technical information (STI) was the initial and an on-going focus of information science, these technologies were some of the catalysts for the information explosion after the war.

The second element of Bush’s contribution to information science and national security affairs are organizations such as the Office of Naval Research founded in 1945, and the National Science Foundation, established by the Congress in 1950. These and related research organizations with responsibility for the production, management, and distribution of scientific and technical information and the systems in the information life-cycle are a direct result of Bush’s influential monograph, *Science, The Endless Frontier*, published in July 1945 just before the end of the war in the Pacific theater.

The third element in the intersection of Bush’s activities and the history of information science of interest here is his paper in *The Atlantic Monthly* entitled “As We May Think,” also published in 1945 but originally conceived before the war. In this widely cited paper, Bush described a robust thought experiment involving a system he called MEMEX, a conflation of “memory” and “index,” to serve as an integrated information retrieval system that would sit on the desks of scientists and engineers. This automated system, using what are now called keyword, reader-assigned metadata such as topical links, as well as full text search and retrieval methods, would be able to retrieve any papers, monographs, research reports, government documents, publications in publicly available and open media, laboratory notebooks, data sets, and other information resources that the researcher had loaded onto the device and would match an input query. The work of Paul Otlet, Suzanne Briet, and other early 20<sup>th</sup> century documentalists and Bush’s MEMEX “system,” although highly personalized and therefore difficult to share, are often cited as the direct precursors of hypertext developed by Ted Nelson and the WorldWideWeb (Buckland, 1992; Farkas-Conn, 1990, especially chapter 3; Hahn & Buckland, 1998, *passim*; Rayward, 1998). These three examples illustrate how tightly the post-WW II information, security, and intelligence operations of the U.S. government are tied to information science.

Another major element of the story of this very close relationship involves information retrieval, like STI, a major focus of information science. Intelligence and security efforts in the U.S. and elsewhere today depend upon very sophisticated methods of information retrieval (IR), information analysis, capture of all kinds of data through overt and covert surveillance technologies,

encryption and decryption, comparison, integration, and holistic attempts to “connect the dots.” These are all information-intensive activities that involve complex information systems developed throughout the last 70 years of information science research, examples of which include:

- Document systems including integrated platforms such as the Web and stand-alone databases
- Performance criteria such as relevance, recall, precision, and more sophisticated metrics that initially emerged from information science research such as the Cranfield Experiments in the UK in the decades after the war
- Mathematically and algorithmic-intensive research to optimize the performance of IR systems, much of which is done by information scientists funded by direct and indirect U.S. federal subsidies
- Complex methods of cross-indexing disparate documents and corpora of documents
- Some of these methods of cross-indexing are automatic (machine-generated), e.g., simple character string matching, and some involve complex intellectual judgments made by subject experts, e.g., using U.S. Library of Congress and discipline-specific subject headers to identify documents
- Increasingly complex and sophisticated methods of displaying retrieved information and document sets that match complex queries expressed in natural language, e.g., dynamic information spaces displaying documents’ intellectual distance by using color, relative position in space, and the like.

All of these efforts have roots that go deep into the history of information science, related to World War II. Tens of thousands of documents captured from the Axis powers during and immediately after the war were shipped to the U.S., and Wright Field near Dayton, Ohio, was the epicenter of research related to these documents. The U.S. Central Air Documents Office (CADO) sponsored a number of ambitious intellectual and technological research initiatives related to these documents and efforts to retrieve them. CADO produced a number of systems, established a number of information retrieval research methods, helped set the IR research agenda for decades, and published catalogues and other document management tools soon after the war.

These efforts clearly demonstrate that, for many decades, national defense and information retrieval and analysis have been even more closely allied than previously (e.g., Farkas-Conn, 1990; Strickland, 2005; Williams, 2005). This history infuses many of the courses at the Texas School of Information (iSchool) and is an explicit object of study in many of them, making the development of an intelligence certificate a logical extension of the iSchool’s curricular planning. Further, the iSchool’s focus on human-centered information systems and interactions and its complementary expertise in information policy and legal informatics are other important parts of the story of the study of intelligence and security studies at the University of Texas at Austin.

### The information Studies Approach to Intelligence at Texas

There is a pervasive focus on the evaluation and analysis of information throughout the curriculum of the iSchool which emphasizes the primacy of context, whether that context is cultural, related to small groups, based on communities of practice, or individual. Information is never just an object with no social or historical moorings, and this realization is essential to security and intelligence studies, both in the academy and in the practice of the craft of intelligence.

But there are further characteristics of study at the iSchool important to the CAS in Global Media and Research Analysis. Several faculty members study information and communication policy, producing scholarly books and papers, making conference presentations, involving students in their research, and consulting with federal, state, and local governments. Two ways these efforts are useful to the CAS are worthy of particular mention. The first is the self-conscious consideration of the complexity of intelligence work and its historical roots in U.S. history (see, e.g., Dearstyne, 2005; Relyea, 2002 and 2003). In western culture generally, there is what one might call a temptation to certainty, what Seifert (2004, p. 463) calls an “implicit belief in the power of information.” One of the most important contributions to intelligence and security studies made by information schools is an emphasis on the evaluation and assessment of information, recognition of the inherent difficulty of that evaluation and assessment, and a healthy respect for ignorance, doubt, and the contingency of judgment. Information is never perfect, and certainty is simply not a characteristic of human affairs. Yet individuals and nations must act. The iSchool embraces that fundamental paradox of information without falling prey to simplistic beliefs in risk analysis or that doubt can be

unproblematically addressed through reductive models of decisions under uncertainty (e.g., Beckert, 1996, is a useful critique). One of the most valuable (if controversial) studies of intelligence work in the western democracies was the UK's 2004 Butler Commission report that also warned about the inherent limitations of intelligence and analysis that are often ignored as intelligence is molded by political expediency to "reinforce a mystique of omniscience" (cited in Dearstyne, 2005, p. 172). While there is no silver bullet, there are techniques, modes of analysis, and organizational processes that increase the odds of making good decisions and protecting ourselves in an increasingly dangerous world. A fundamental question remains, however, especially for the mature democracies: Can we protect ourselves without compromising important political and social traditions?

This question points to the second characteristic of study at the iSchool that provided a touchstone in the faculty's development of the new certificate program. As Strickland notes (2005, p. 154), "the intelligence process, however rigorous, does not remove the obligations for difficult decision-making by the national leadership." The UT program takes both a wide and a deep look at policy studies in American and in international affairs to further contextualize security and intelligence decisions, to respect the rule of law, and to protect hard-won civil liberties guaranteed in the U.S. Constitution, case law, and beyond. Intelligence and security professionals who have this wider lens and who have practice in addressing this fundamental difficulty in intelligence and security work provide political leaders a more robust and more contextualized array of choices and recommendations. While one of the characteristics of American political life is the sharing of power and the distinction between operational decision-making made by politicians and those made by professional civil servants and soldiers, these worlds are never fully disjointed. For example, there is absolute adherence to the chain of command in the military and absolute respect of even the highest-ranking soldiers, sailors, and marines for civilian control of the military. At the same time, there is a concomitant respect for the rule of law and the need to disobey an unlawful order. Intelligence and security studies needs animation by similar principles, and study at the iSchool embraces this controversial but essential element of education of such professionals.

### Turning Open Data into Actionable Intelligence

A defining characteristic of the Texas approach to intelligence studies lies in the recognition that much information can be gleaned from openly

accessible material around the globe. Increasingly, intelligence analysts understand that the Web provides a rich source of data that can be aggregated, mined, and analyzed, and, consequently, tools and techniques have emerged over the last decade to help locate and monitor data found in Web sites, blogs, online fora, and international media. The potential to monitor massive amounts of data, regardless of language, geographical location, or time constraints, has opened new possibilities for intelligence work that exploit material that is openly and easily obtainable. This material was recognized early after 9/11 as an area of strategic importance for the U.S. military amid calls for the creation of a global intelligence community to address the threats of terrorism (Steele, 2002).

Exploiting these resources requires both technological sophistication and analytical skill. Research in computational linguistics is yielding insights into patterns of expression and language use that can guide and improve searching, but tools alone will not yield actionable intelligence. Analysts must recognize and interpret the contextual and human aspects of data sources in order to estimate the value and utility of data. Only such a combination can advance the intelligence process. The educational preparation for intelligence work thus needs to reflect the interplay of tools and analytics appropriately.

### The Academic Program: A Certificate of Advanced Study

The University of Texas iSchool's Master of Science in Information Studies (MSIS) degree is a professional requirement for many positions within the information field. Many professionals choose to pursue further specialist education in the information field beyond the minimum professional credential. The Certificate of Advanced Study (CAS) program at the iSchool is tailored to meet the individual needs of experienced information professionals who (1) want to extend their study beyond the required 40 semester credit hours of the MSIS or (2) who already hold a master's degree in cognate fields, and wish to update and augment their education, significantly expand their skills, and/or develop proficiencies in preparation for specialized positions and activities. As a step toward bridging information and intelligence education, the faculty developed a unique specialization in Global Media Studies and Research Analysis, requiring a minimum of 18 semester hours or six three-credit courses. More semester hours may be necessary depending on the student's academic background and professional goals. This specialization can be summarized thus:

- **Students** in the CAS can be members of the intelligence or security communities but need not be; the Texas program has already established a special relationship with an active member of the U.S. federal intelligence community to send some of its analysts to the program and, in turn, to accept student interns from the school and sponsor faculty visits.
- The CAS helps students develop particular **skill** in information retrieval, information evaluation and analysis, data mining, behavioral analysis, policy studies, and other activities.
- The particular **objects of that skill** are materials from countries other than the United States and in multiple languages on the open Web, especially on social media such as Twitter and Facebook as well as on blogs; in newspapers, magazines, and other print and digital venues; in radio and television broadcasts; in government reports; in books; and in other sources.

The Certificate of Advanced Study (CAS) enables a student to take courses from various departments and schools of the University as part of the program, and, given the strengths of its various academic programs related to information, security, and intelligence studies, the University of Texas at Austin is an ideal venue for this kind of academic preparation. Each CAS program is highly individualized, with students designing their programs of study with a faculty academic advisor. Ordinarily, more than half of the course hours are taken in the School of Information and must include an Individual Study or a Professional Experience & Project course, designed to integrate the total CAS experience. See Table 1 for courses particularly suited to the Global Media and Research Analysis CAS from the School of Information and other UT units with strong information, security, policy, and intelligence programs and faculties. These units include, e.g., the Departments of Radio-TV-Film and Communication Studies in the College of Communication, the LBJ School of Public Affairs, the Department of Community and Regional Planning, and elsewhere. An asterisk in the table indicates courses of particular value to the CAS.

Table 1: ILLUSTRATIVE COURSES FOR CAS IN GLOBAL MEDIA AND RESEARCH ANALYSIS

<b>School of Information</b>	We Like to Watch: Surveillance and Society Internet Applications Understanding and Serving Users * Competitive Intelligence Resources and Strategies Introduction to Scientific and Technical Data Collections Information Architecture and Design Database Management * Interpreting Implicit Information on the Web Digital Libraries * iSpy: LIS, Espionage, and World of Intelligence Gathering * Social Media for Information Specialists * Security Informatics History of Privacy * Crowdsourcing: Theory and Methods * Federal Information Policy Copyright: Legal and Cultural Perspectives Problems in Permanent Retention of Electronic Records Understanding Research
<b>Department of Radio-TV-Film</b>	Technology and Culture Information Society Telecommunications and Information Policy Communication Policy Communication, Law, and Power * Global and Regional Media Digital Divide * Communication and Public Opinion * Global Television: Issues and Problems
<b>LBJ School of Public Affairs</b>	* Analytical Methods for Global Policy Studies * Public Policy and the Internet Political Economy Emerging Issues in National Security Law Strategy and Decision-Making in Global Policy Nuclear History, Strategy and Statecraft
<b>Department of Community and Regional Planning</b>	* Introduction to Geographic Information Systems

\* Indicates a course especially useful for students pursuing the Certificate of Advanced Study in Global Media and Research Analysis

### Outcomes of the Program

The aim of the Certificate in Advanced Studies in Global Media and Research Analysis is to produce intelligence and security professionals with special skill in information search and analysis coupled with policy and cultural expertise. As such, they are prepared for many kinds of professional positions. These positions include the following:

- Intelligence analysts in federal, state, and local governments
- Media analysts in the security apparatus of the federal and state governments
- Competitive intelligence analysts in private sector firms
- Information professionals in non-profit and other organizations with special interests in intelligence, national security, information policy, freedom of information, First Amendment affairs, and the like
- Private consultants and contractors to security and intelligence enterprises.

The first cohort of students in this new certificate program entered in Fall 2011 and will complete their studies by Summer 2012. The certificate, however, has rolling admission, and students are able to start their studies in any semester, proceeding at a pace that makes most sense for them. The initial graduates are already employed within the federal government, but this will not necessarily be true of all future graduates. The iSchool and the University of Texas envisage the skills developed by students in the Certificate of Advanced Study will prove to be in high demand in the business sector also. Ongoing monitoring of graduate placement and subsequent feedback from graduates on their career development will inform future curricular planning for this certificate program. It is reasonable to anticipate similar curricular developments in other information programs both in the U.S. (the interested reader might examine programs at the University of Maryland and Catholic University in the District of Columbia) and internationally in the near future.

## Conclusion

Of the many educational responses to 9/11, the extension of information studies curricula to intelligence work is an important and necessary contribution. As the paper has argued, there are historical ties between information studies and intelligence and security work that make such an extension logical, but, to date, few formal security and intelligence programs within information science have emerged. The Texas program emphasizes the application of information science and policy studies to the analysis of open source information as one important educational innovation to advance the preparation of new intelligence professionals.

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## A New Development in Sensory Enhancing Technology: Scientific Developments, Operational Challenges, and Legal Questions

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### Abstract

*This report begins with a comparison of the various forms of sensory enhancing hardware and describes the most recent development in the area of radar. It also addresses newly identified operational challenges as well as the relevant litigation that provides guidance for proper usage. Through the use of case histories of significant events in the fields of tactical conflict resolution and rescue operations, the authors describe the current state of the art, and make recommendations for future incidents where the outcome will be largely dependent on the information generated through the use of the newly developed technology and a call for students involved in this research to be knowledgeable of the science and legal context.*

### Introduction

One of the most important needs in any critical incident requiring a tactical response by law enforcement is the development of tools for gathering and analyzing real-time information to be used immediately in situations involving hostile, armed, and barricaded suspects. These scenarios could range from escalated domestic disputes where a perpetrator may even take family members as hostages to emotionally disturbed persons who may start shooting randomly from an apartment window without reason or provocation

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similar to Mark Essex in New Orleans in 1973. They may also include aborted criminal activity, such as the North Hollywood bank incident of 1997. These acts could be perpetrated on an international scale and could include acts that violate homeland security such as the Iranian embassy crisis in 1980 or the Moscow theater incident of 2002. The common factor in the incidents under study is the inability of responding personnel to ascertain the exact activities of the perpetrators or the conditions of the victims through normal unaided human sensory perception.

In most circumstances the unaided human senses of vision and hearing are not sufficient to identify and locate suspects or victims and to determine the extent to which criminal activities are being perpetrated because the acts are conducted behind the cover of opaque walls (Perkins & Mijares, 2004). The hostage seizure at the Tarrant County (Texas) Court House, the Branch Davidian Incident, and the Columbine High School massacre are significant domestic examples of how reliance solely on human senses is insufficient in the neutralization of extreme criminal behavior. Even with detailed information of floor plans and the location of inanimate objects, the rescue forces in these incidents could not determine the exact location and condition of the perpetrators and their victims.

By keeping their precise position and their specific criminal activities away from direct observation, barricaded suspects can place limits on the tactical options available to responding law enforcement personnel. However, by adapting existing technologies, the human senses of the police or military responders can be augmented enough to allow the collection and analysis of relevant information, formulation of a plan of immediate action, and execution of that plan while minimizing the risks to all concerned. Accordingly, the purposes of this report are to (a) describe the utility and efficiency of currently employed sensory enhancing technologies, (b) describe a relatively recent development in the technology, (c) identify the legal and constitutional issues associated with the use of these technologies, and (d) draw appropriate conclusions and make recommendations for continued development of these technologies.

### Currently Employed Technologies during Barricaded Hostage Seizures

The most likely time in which a hostage is killed is within the first few minutes of an incident, usually before the police are notified. It is at this time that the hostage taker is most agitated and hostages are most confused and vulnerable. Once the first responders are on scene and the existence of a

barricaded hostage taker is confirmed, the SWAT team and hostage negotiators are requested to the scene. Until their arrival it is the responsibility of the first responders to control and contain the situation by decreasing the options available to the criminal suspect.

Once the situation is contained, the American standard is to negotiate for the release of the hostages and the surrender of the perpetrator unless the perpetrator initiates injury to any of the hostages. Only when the available evidence indicates that the hostage taker is in the process of escalating the situation will the tactical unit make entry. Such entries are often conducted with various forms of less lethal munitions, usually referred to as “distraction devices,” to cause temporary flash blinding, deafness, and vertigo among both hostage taker and victim (Mijares & Perkins, 1995). These conditions cause a transitory (8-22 seconds) effect of disorientation among everybody exposed whereby the entry team can safely arrest the perpetrator and rescue the victims. While tear-gas, which is actually not a gas but is a particulate, might be used in some barricaded suspect situations, it is usually used to force perpetrators to move in a channeled direction. Most often tear-gas is used for crowd control.

During the negotiation process the police negotiators endeavor to be cognizant of signs of fatigue on the part of the perpetrator. Mental and physical exhaustion usually begin after approximately nine hours of negotiation when the perpetrator’s likelihood of an irrational act increases. With relatively infrequent exceptions, the tactics used by the police are predicated by the actions of the perpetrator. In all instances, the correct use of sensory enhancing technologies will enhance the ability of the police to de-escalate the situation safely.

#### **Ambient Light Magnification**

The oldest and most basic form of sensory enhancing technology is based on the refraction of visible light waves through a combination of convex optical lenses. When used in the form of telescopes or binoculars, the observer is able to view objects and persons from a distance, safely and undetected. However, this technology requires an unobstructed line of sight to be effective<sup>35</sup>

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<sup>35</sup>To defeat an opaque surface that obstructs the view, a plastic optical fiber approximately the size of a ball-point pen re-fill can be ground into a lens and inserted through the wall to send an image to a digital camera and monitor where investigators can view the situation safely. However, the likelihood of discovery and the subsequent danger to the individual boring the hole and placing an intrusive optical fiber in the wall are readily apparent.

During World War Two the ability to see at night was developed through the use of projected infrared beams and corresponding electronic telescopes. However, this equipment was heavy and bulky and could be easily detected by enemy personnel equipped with the proper eyewear. Night vision capability was later improved by the development of telescopes that could electronically magnify light cast by the moon and stars, buildings, lamp posts and campfires. Even the glow of a cigarette could provide enough light to allow observation in a radius of approximately five-feet (Perkins & Mijares, 1998).

#### **Audio Amplification**

When sounds are too faint to be heard without being in immediate proximity of the source, various devices are available. These devices can be simple and inexpensive such as a medical stethoscope that can be placed against a contiguous wall. They can become more complex and costly with a parabolic microphone such as the devices seen on the sidelines of athletic events. By themselves, most audio amplification devices also magnify background sounds. Consequently, the human operator may not always be able to differentiate accurately among the sources of the sounds and could even be subjected to transmitter feedback (squealing).

Current experimentation is being conducted to use laser reflection and computerized filters to hear conversations from a great distance using windows as a diaphragm in the same manner as that of a microphone. Regardless of the medium of transmission and capture, these conversations can be integrated into a voice-stress analyzer which can measure variances in tone, pitch, and volume to determine the anxiety level of all persons in the targeted area (Perkins & Mijares, 1998).

#### **Olfactory Magnification**

Some officers have claimed that simply using their noses has resulted in the discovery of criminal activity (Bender, 1984). However, the human olfactory sense is very limited compared to other organisms. For example, canine units have been used for several years to investigate drug and human trafficking, bomb threats, and missing persons. Although the utility of this sense to gather intelligence during a tactical situation is limited, canine units have been used to locate both hostages and suspects. Canine units have been particularly useful in searches of large buildings where time is of the utmost importance and the area is too large to be searched by humans effectively and efficiently.

#### **Thermal Imagery**



Modern thermal imagery technology allows the observation of temperature variation from a distance safe from the source of heat or detection by a criminal perpetrator. Originally designed to detect heat leaks emanating from machinery, the technology translates infrared input into digitized images that can be viewed on a video monitor (Corsi, 2010). It has also been used in home and building construction to detect heating and cooling leaks and to identify the subsequent need for insulation. In law enforcement it has been used to locate missing and lost persons covered by foliage, and it has been used to detect the presence of humans being smuggled and transported in cargo containers. Because it detects only heat variation and is not dependent on light waves, it can be readily used in daylight or at night. Infrared technology has been used to detect the presence of sunlamps used to dry marijuana leaves when temperature anomalies are detected in dwellings (United States v. Cusumano, 1995). This form of technology can even be made sensitive enough to identify the heat generated by the decomposition of mammalian carcasses, including humans, through several inches of soil.

#### Recent Developments in Through-Wall Radar

Radar is another sensory enhancing technology that can potentially be used to aid law enforcement. Radar usually operates as an active sensor, i.e., it irradiates a scene using microwave energy, and receives the resulting reflections from various objects in the scene. By properly processing and interpreting the received signal, information on the distance, velocity and angular position of objects in the scene can be determined. The most desirable attribute of radar is that microwaves can penetrate through typical wall materials, thus allowing building interior information to be revealed. This is a key advantage of radar in comparison to optical-based technologies, for which walls are essentially opaque. There is, however, a tradeoff between the ability of microwaves to penetrate through walls and the ability of radar to resolve objects in the scene. This is dictated by the operating frequency of the radar – the higher the frequency, the harder it is for the radar wave to penetrate through walls, but the better the resolving power of the radar. Through-wall radar typically operates anywhere between hundreds of MHz (UHF band) to 10GHz (X-band) (Ram, 2009). The choice is always a compromise between signal penetration and object resolution.

In the past decade, there has been an intense interest in the military community to develop see-through-the-wall (STTW) radar technology. Programs such as the STTW (see through the wall) Program of the United

States Army, DARPA's VisiBuilding and the Navy's Transparent Urban Structures were launched with the goal of gaining situational awareness for soldiers in urban environments. Such techniques, if properly tailored, may also find great use for law enforcement. For example, it can help law enforcement personnel locate suspects who have taken hostages and are hiding behind the walls of a building. Similarly it can be used by police narcotics units, prior to execution of a search warrant to locate criminal suspects, who have been placed tactically to secure the premises of an illegal drug operation.

Through-wall radar technology can be broadly grouped into two categories. The first type of radar transmits a signal that contains a wide bandwidth of frequencies in order to gain accurate information in the down-range direction (i.e., the distance away from the radar). The second category utilizes Doppler processing to sense moving targets. They are discussed separately below. First, let us consider wideband radars. The wider the bandwidth of the transmitted signal, the better resolution the radar can see objects in the down-range dimension. For instance, Time Domain Corporation's Radar Vision and Soldier Vision radars (Nag, Fluhler, & Barnes, 2001) and (Nag, Barnes, Payment, & Halladay, 2002) transmit ultra-wideband (UWB) signals and determine the range of an object based on the time delay of the reflected echo from the object. In addition, an array of transmitter and receiver elements is used to obtain the bearing information of objects. The ability for generating three-dimensional (3-D) volumetric images of a scene has also been reported by Cambridge Consultant's Prism 200 (2011) and Camero's Xaver 800 radars (2010). These radars combine the ranging capabilities of UWB signals with 2-D bearing information that can be obtained from a 2-D array.

However, wideband radars do have limitations. First, the cost and complexity of these systems are usually quite high. Second, the operations of wideband radars over certain frequency bands may conflict with existing communication equipment and require a license from the Federal Communications Commission (FCC). Also, building wall effects such as multipath, transmission delay and diffraction considerably distort the high range-resolution signatures of objects behind walls. Hence, additional signal processing is often required to filter out wall effects from the received signals. This can be quite challenging when the wall characteristics are not known.

To reduce the cost of wideband radar systems, a new concept is being researched at the University of Texas at Austin. The concept entails use of a simple antenna structure, called a micro-strip leaky-wave antenna (Yang & Ling, 2011), as the front-end of the radar. The unique aspect to this antenna is that by changing the frequency of operation, the beam of this antenna scans

automatically in the azimuth direction. During the time the beam stays on an object, the standard wideband processing can still be used to generate the down-range information of the object. As a result, a 2-D range-azimuth image of the scene can be readily generated after one frequency (or beam) sweep. Figure 1(a) shows a photo of the prototype leaky-wave antenna that has been designed to operate from 4 to 8 GHz. Figure 1(b) shows a snapshot range-azimuth image of a scene with two human subjects in the room. The radar is able to track the movement of the two subjects in real time. Through-wall testing is still ongoing to fully demonstrate this concept.

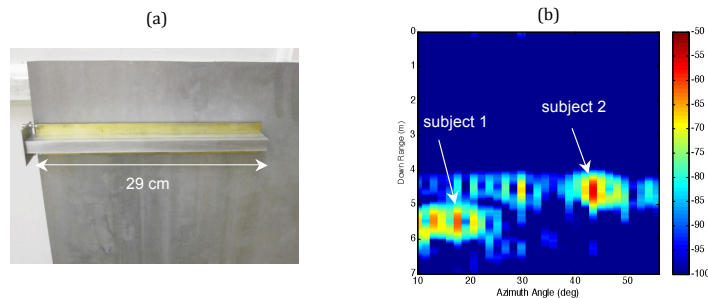


Fig. 1. Wideband radar for tracking humans. (a) Photo of the microstrip leaky-wave antenna. (b) A snapshot radar image from the human tracking experiment with two human subjects moving in an indoor environment.

Doppler radar systems offer an alternate approach to wideband radar for tracking humans behind walls. When the transmitted radar signal reflects off a moving object, the frequency of the reflected signal is shifted slightly with respect to that of the transmitted signal. The amount of this “Doppler shift” is proportional to the radial velocity of the object relative to the radar, with the frequency shifted upwards if the object is moving toward the radar and downwards if the object is moving away. Doppler radar systems try to measure such small Doppler frequency shifts from humans to detect human

movements. The early work of Frazier is a simple motion detector developed specifically for law enforcement (Frazier, 1996). This radar transmits a low-power continuous-wave (CW) signal from a single transmitter unit. Since the Doppler shift can be used to discriminate movers from stationary room clutters, Doppler radars can be very sensitive even when operated with low power. The design architecture is also quite simple and very low-cost sensors can be readily implemented. Most interestingly, since a human is a non-rigid object when undergoing motion, the Doppler returns from various human body parts form very revealing and unique “microDoppler” features (Geisheimer, Grenaker, & Marshall, 2002; Chen & Ling, 2002; Van Dorp & Groen, 2003). For example, the Radar Flashlight system developed by the Georgia Tech Research Institute uses this effect to detect respiration through walls (Grenaker, 1998; and, Grenaker, et. al., 2000). A number of researchers have tried to exploit microDopplers for recognition (Otero, 2005, Anderson & Rogers, 2007; Thayaparen, Stankovic, & Djurovic, 2008; and, Kim & Ling, 2009).

Figure 2 shows the microDoppler signatures from a human subject measured using a low-cost radar testbed developed by the University of Texas research team. The radar frequency is 2.4 GHz. Figure 2(b) shows the microDoppler when the person is walking indoors under the line-of-sight condition. The strongest return is due to the torso while the periodic modulations about the torso return come from movements from the two legs. Figures 2(c) and 2(d) show respectively human data for running and crawling motions. The microDoppler signatures are quite different from those due to walking motion. It has also been found that these unique microDoppler features are not very susceptible to wall distortions (Ram, et. al., 2010). This is one of the main advantages of a Doppler radar in comparison to a wideband radar.

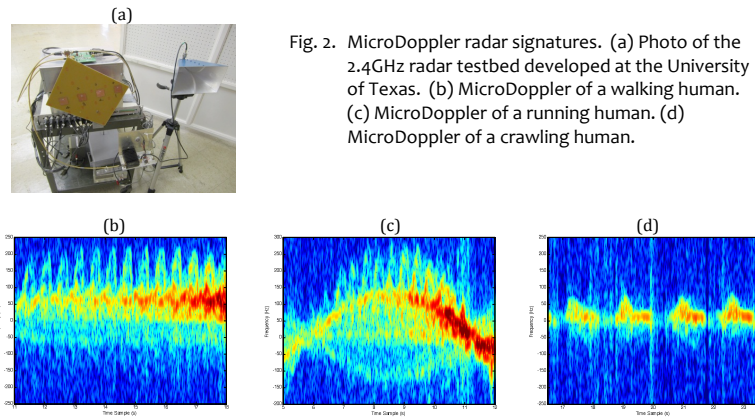


Fig. 2. MicroDoppler radar signatures. (a) Photo of the 2.4GHz radar testbed developed at the University of Texas. (b) MicroDoppler of a walking human. (c) MicroDoppler of a running human. (d) MicroDoppler of a crawling human.

Doppler radar does have its unique set of problems. First, the Doppler information, while quite revealing, is difficult to interpret for human operators without special training. Therefore, sophisticated machine learning algorithms are needed to translate the raw Doppler data into useful information that can be easily understood by the operator. Second, Doppler systems are susceptible to false alarms from other movers such as mechanical vibration or rotation, as well as the radar operator. Furthermore, stationary humans cannot be easily detected. Despite these issues, several low-cost Doppler trackers for multiple humans have been demonstrated by the University of Texas at Austin (Lin, 2006; Kim, 2008; Anderson, 2008; and, Ram, 2009). For instance, a low-complexity CW radar concept that performs Doppler-based location tracking of multiple movers was developed in Lin, (2006). The concept combined the Doppler discrimination offered by human movements with the bearing information that can be collected using a small antenna array to provide the necessary input for multiple human tracking. Efforts are currently ongoing to extend the idea by combining microDoppler information with array processing to produce high-resolution imagery of a human through a wall. These images may enable law enforcement personnel to more easily determine the activity and intent of the targeted individuals. By providing the responding officers with more specific information than what is currently available, the

officers will be able to differentiate among the various human subjects being scanned, thus allowing a more accurate assessment of the rescue measures to be employed. This ability is of particular importance when the situation is time-critical.

The research activities described here had been supported through funding provided by the National Science Foundation (NSF) and the Defense Advanced Research Projects Agency (DARPA). These grants provided for the purchase of lab facilities, assembly materials and tools. Most importantly they provided stipends to graduate students who assisted the principal investigator (PI). These grants were later supplemented by funds provided by the Texas Higher Education Coordinating Board, which allowed more graduate lab assistants and also allowed the participation of students from Texas State University who worked under the supervision of a professor of criminal justice as Co-PI. The Texas State University research team exposed the micro-Doppler technology to law enforcement personnel from several SWAT teams and crisis negotiation units to obtain the insight and input of police operators who would be the ultimate users of the technology. The Texas State students also conducted the legal research to identify issues associated with potential violations of the Fourth Amendment of the United States Constitution.

#### A Summary of Legal Issues Associated with the Use of Sensory Enhancing Technology

Any technology designed for surveillance purposes can pose questions about its potential connection and the historic and legal expectation to be free from unreasonable government intrusion. In *United States v. Porco* (1994) and *United States v. Cusumano* (1995) two lower federal courts stated that law enforcement personnel cannot use sensory enhancing technology (thermal imagery equipment) solely to investigate on the mere hope of discovering information and that the technology could only be used to corroborate other evidence. In *Kyllo v. United States* (2001) the United States Supreme Court indicated that a warrantless use of sensory enhancing technology (also thermal imagery equipment) to aid in the discovery of marijuana plantations in homes was improper and that any evidence found as a result is inadmissible. While these cases may restrict the police in the collection of evidence for the prosecution of drug crimes taking place in the perpetrator's home, they are materially different for the applications associated with hostage seizures, barricaded suspects and tactical responses pertaining to homeland security for a number of reasons. First, the *Kyllo* case is fact-specific to the home of the

perpetrator. Many, if not most, of the cases involving hostages, crisis negotiations, and rescue operations take place where a public forum is purposefully sought by the perpetrator and generally do not take place in the perpetrator's home. In such circumstances, the information gathered will not be recognized as legally protectable in terms of Constitutional safeguards and protections. In many situations the location of the incident may be the property of a hostage or other victim. In such a circumstance the accused criminal perpetrator is actually a trespasser and possesses no legal standing to complain about any manner of search. Thus, there is no legal expectation of privacy.

Second, the pivotal law case on this matter is *Katz v. United States* (1967). In this case agents of the Federal Bureau of Investigation placed a listening device in a public telephone booth without a warrant to investigate an unlawful gaming operation. Since the rule of the case was intended to protect people, not places (Pochurek, 1994), the *Katz* case established a now famous two-pronged test to judge to reasonableness of a police search: Did the criminal suspect display an individual subjective expectation of privacy in the area being searched and does society recognize this expectation to be reasonable? If either of these prerequisites is found to be absent, there is no privacy interest that is protected by the Fourth Amendment. Simply put, is the legal expectation of privacy demanded during a search for evidence one that the average American citizen will accept and expect the police to honor during a hostage seizure? In most tactical scenarios the criminal suspect is not likely to possess a subjective and reasonable expectation of privacy nor would the average American deem that expectation to be reasonable. For example, the terrorist who takes over a public building and demands a ransom for the release of prisoners would not meet the two-pronged *Katz* test. Similarly, if the event is taking place on property owned by a third party (i.e. a hostage victim), the two-pronged test favors law-enforcement's use of any sensory enhancing property because the perpetrator, not legally owning or leasing the property, cannot expect privacy and it would be highly doubtful that the victim would object to any means of rescue. If the property is owned by the perpetrator and the police have been called to the scene (most often by the hostage-taker), it would be relatively easy to obtain a warrant authorizing a search using the sensory enhancing equipment. As long as the technology is not used in the "fishing expedition" condemned in *Porco* and *Cusumano*, the use of this radar system would fall within the parameters already established by existing case law.

Finally, there exists the reality that police tactical operations *per se* involve exigent circumstances. Regardless of the manner and means by which intelligence is gathered, if collected only for purposes leading to the rescue of hostages, it ought to be considered a reasonable discovery and not an unreasonable search. This principle should apply even when the criminal perpetrator is situated in his own home and on the surface does possess the legal standing to assert the protection of the Fourth Amendment. Recent cases citing the language of *Kyllo* state that "with few exceptions, the question whether a warrantless arrest or seizure inside a home is reasonable and hence Constitutional must be answered 'no'" and in the very next breath recognize exigency as being exceptional in *United States v. Long Huang You*, 2002, p. 402). Ultimately, the essential question in determining whether law enforcement agents are confronted by "urgent need" must be defined by asking if the mission is to conduct a rescue, render aid, and protect other potential victims or to take investigative action. These legal principles are in effect regardless of the form of the sensory enhancing technology.

## Concluding Remarks

### Limitations of the New Technology

After the technology was built and demonstrated to a sample of police officers under laboratory conditions, field simulations were developed to address the unique set of operational problems associated with the through-wall technology. First, the current micro-Doppler information is difficult to interpret. Therefore, sophisticated machine learning algorithms are needed to translate the raw data into useful, real-time data that can be easily understood by the operator and immediately presented to the law enforcement or military tactical personnel conducting any sort of rescue.

Second, because radar technology is both silent and not visible from within the environment being monitored, it is virtually undetectable by the criminal when employed. However, a major challenge is to get the equipment close enough to the exterior walls to be effective and to conceal it upon placement. In addition, the size of the transceiver needs to be significantly reduced from its current state to become operational for deployment. The system also needs to be operated on battery power.

Third, much like what the human eye can see, a frontal image of the human targets provide the most useful and natural appearing information for the operator. At the present stage of development, the radar sensors are not capable of providing imagery at sufficient resolution. While the human targets

can be differentiated from each other, the image currently projected on the monitor resembles a very blurry blob. The images projected in the motion picture *Eraser* are still a figment of Hollywood's imagination. This 1996 movie features Arnold Schwarzenegger as a United States Marshal assigned to protect a witness portrayed by Vanessa Williams. However, the real "star" of the show is a hand-held rifle that shoots sound pulses through solid walls at human targets whose images appear as skeletons with a pumping heart through a wall-penetrating electronic telescope. There is literally nowhere to hide for anyone caught in the cross-hairs.

Finally, despite the apprehension of some skeptics who raise a legitimate concern about undue intrusiveness to non-criminal citizens, it would be technically impossible to scan residences from the undetected security of a moving patrol car in a "fishing expedition" scenario prohibited by the *Kyllo*, *Porco* and *Cusumano* court cases. Since the device measures targeted movement, the radar unit must be operated from a fixed position closer than what would be available from the street. Thus, any trepidation concerning the use of through-wall radar as a means of going on a law enforcement "fishing expedition" for criminal activity or a personal vendetta is unfounded.

#### **Recommendations for Becoming Operational**

In a series of police professional conferences of SWAT personnel and hostage negotiators the research team gave briefings to over 400 law enforcement personnel throughout several states on the micro-Doppler technology to gain their insight regarding its effectiveness as a rescue tool. The authors summarized their comments and determined that it will be necessary for the technology to be modified to meet the following requirements:

1. It should be portable enough to be carried in one hand by a single operator to be placed in a variety of environments where space is a critical factor. It should be approximately the same size and weight as a video camera.
2. It should be battery powered and capable of immediate operation with minimal setup functions.
3. It should be enclosed in a water-resistant, dust-resistant and shockproof housing.
4. It should be able to transmit the necessary data to a command post for analysis and recording as evidence in court proceedings. The data should be immediately available to the rescue personnel.

5. Instruments and adjustment controls should be kept to a minimum.
6. It should be immediately useable when the operator arrives at the scene.

#### **Conclusion**

As mentioned earlier, much of the research done on the development of the technology was conducted by doctoral students from the Department of Electrical Engineering at the University of Texas at Austin. Similarly, a large share of the research done on the Fourth Amendment issues and legal guidelines was conducted by a doctoral student in Criminal Justice at Texas State University|San Marcos. By including students so deeply in the research process, the continuity of the research, as a work in progress to ensure perpetual refinement, is assured. Students pursuing this particular field of research and study should be Ph.D. candidates who are intellectually equipped with more than a passing knowledge of criminal justice and of the scientific principles in electrical engineering. Students from each discipline should possess at least an understanding of the basic premises of the other and be familiar with the vocabulary, legal and practical limitations, and realistic expectations of the abilities of both areas of study. Most importantly students wishing to explore this area should be thoroughly familiar with all forms of quantitative and qualitative research methods and should be conversant in the language of scientific inquiry, i.e., statistics. This level of expertise is attainable only through study at the graduate level, preferably at the doctoral level.

Through-wall radar will ultimately become part of the normal equipment of law enforcement and military tactical teams just as hand-held radar guns are in the inventory of traffic control officers to detect drivers exceeding speed limits. From the perspective of scientific development, through-wall technology is on the cusp of becoming fully operational. What remains is the downsizing of the equipment, the refinement of the images, the simplification of the operation, the commercialization process, publication in the appropriate academic and professional media, demonstrations to law enforcement agencies, and final adoption.

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## Changing the Security Culture: Graduate Education in Homeland Security

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### Abstract

*Since September 11, 2001, Americans have been examining how best to respond to terrorist threats. One strategy to address this problem has been to develop an academic discipline around a new field called homeland security. Universities, employers, and textbook publishers have all jumped in to fill this void. This article is an examination and reflection of factors that were addressed by one University in developing and offering its Master of Arts in Management for Public Safety and Homeland Security degree program. Challenges encountered include establishing a title for the degree and selecting courses for a discipline that is still in a formative stage. In recognition of the lack of clarity of what homeland security is, deciding on to whom to market the degree was also a factor to consider. Pace University concluded that the most likely audience would be those in the existing field of public safety, such as law enforcement, fire, emergency management, private security and public health. This recognition included a need for an educational program that would meet the needs of working adults and those with a family lifestyle. Toward this end, Pace University developed a blended learning degree program that combines the best of face-to-face classroom environment with both synchronous and asynchronous online teaching strategies. This teaching effort focuses on andragogy, in recognition that adults learn differently than children, who generally learn through the traditional pedagogy model.*

The United States, through a concerted national effort that galvanizes the strengths and capabilities of Federal, State, local, and Tribal governments; the private and nonprofit sectors; and regions, communities, and individual citizens – along with our partners in the international community – will work to achieve a secure Homeland that sustains our way of life as a free, prosperous, and welcoming America (United States Homeland Security Council [USHSC], 2007, p. 13).

### Background

The September 11, 2001 attacks on American targets focused attention on a number of topics related to security of the nation, such as what the

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country was not doing to prevent the tragedy, and what can be done to prevent another in the future. The 9/11 Commission Report (Kean & Hamilton, 2004) addressed the first issue and an evolving discussion around a new phrase, homeland security, and began a debate on what Americans need to do secure their way of life. This paper examines and reflects on the efforts of one university that undertook the task of securing the country by developing a master's degree in homeland security.

The phrase homeland security moved the nation to establish a government agency with this title, the Department of Homeland Security (DHS) (Bush, 2001). A little more than a year later, DHS developed the Center for Homeland Defense and Security (CHDS) that began offering the nation's first master's degree in homeland security, in spite of the fact that until then, it had not been an academic discipline.

An evaluation of the master's degree in homeland security at CHDS for its first five years revealed that they were only able to graduate 152 students, all of whom worked at some level within various levels of government (Ryan, 2009). To change the culture of homeland security in this country, DHS recognized that the number of graduates would have to be drastically increased. Unofficial estimates claim the need for a million students to be educated in this discipline. To address this need, DHS established the University Agency Partnership Initiative (UAPI).

Under the UAPI effort, colleges and universities were invited to examine the CHDS curriculum and incorporate all, or some of their course offerings. To date, there are more than 100 universities in the USA that offer some level of graduate education relating to homeland security (Naval Postgraduate School, Center for Homeland Defense and Security [NPS, CHDS], 2011). In August 2010, Pace University became a member of the UAPI and began offering a Master of Arts in Management for Public Safety and Homeland Security Professionals.

Pace University recognized the key steps involved in developing a new master's degree program, such as creating an appropriate title for the program, a marketing strategy and a method for delivering the degree. To accomplish this task Pace University saw the need to develop the program from two perspectives: Criminal justice and instructional technology. From the criminal justice perspective, one of the authors has a 25-year history with the New York City police department, the US Justice Department, as well as 20 years as an academic. The second author has 15 years' experience as an instructional technologist and faculty member. The following is an examination and reflection upon some of the issues Pace University took into consideration in developing its accredited graduate degree program.

## Factors Addressed in Developing Pace University's Master's in Homeland Security

### *Title and Marketing of the Degree*

Marketing and selling a degree program is similar to selling a product; that is, a customer knows what he/she is looking for, and will look for familiarity, in this instance, key words. Pace University chose three key terms to be included in the title of its degree: management, public safety and homeland security.

Choosing management in the title was a key differentiating factor for Pace because of its legacy as a leader in the business world. When one looks back to September 11, recalling the chaos, the need for leadership and management clearly stood out as an area for educational enrichment. The discipline of management also serves as a thread to each of Pace master's course offerings.

With the introduction of the key phrase, homeland security, everyone interested in capitalizing on the need to provide education for this new field (e.g., trade schools, colleges, universities, book editors, etc.), quickly latched onto the phrase and labeled their efforts as related to homeland security, although from a strictly academic perspective, homeland security was not a clearly defined academic discipline (Bellavita, 2008). What most will agree upon is that those who are the likely first responders to an event that would impact the security of their community are those in public safety, thus the second key phrase in Pace's degree title: Master of Arts in Management for Public Safety and Homeland Security Professionals.

The use of the phrase homeland security was a simple recognition of the need to market the degree. Potential students looking for a degree in homeland security are more likely to search (e.g., using Google) using this key phrase, rather than just public safety.

The target audience identified for marketing was professionals working in the field of public safety, including law enforcement, fire, public health, and emergency medical responders. The second group that Pace decided to recruit was traditional undergraduate students wanting to continue their education before seeking a career. The rationale supporting this decision is contained in one of the findings of the 9/11 Commission Report wherein it was cited that Americans lacked imagination in developing responses to such tragedies (Kean & Hamilton, 2004). A supporting argument for this choice is the belief that once an individual works in a government agency, within six months he/she

takes on the perspective that nothing can change. By giving pre-career individuals an opportunity to examine and develop imaginative approaches to securing the nation, it is envisioned that a more well-rounded discussion will emerge.

### *Identifying Course Offerings*

Pace University's efforts to develop its homeland security master's degree program started in 2008 and took two years to complete. To guide its decision on which courses Pace would select from the CHDS offerings, the list of the courses was given to approximately 40 local police departments in the surrounding community, asking for their input on the relevancy of the courses to their working needs. The response was unanimous – they did not understand how CHDS's course offerings would either help or hinder their current public safety strategies.

In retrospect, this finding was not surprising. The discipline of homeland security is new, and obviously the need for education on this topic did not include academic input from existing fields of study such as criminal justice, political science, and public administration.

Recognizing that homeland security is not yet a discipline, Pace's decision to focus its approach on leadership development led to a selection of courses that would strengthen and enrich critical thinking by a public safety or homeland security leader. Pace differentiated its offerings from those at CHDS by including courses not offered in their curriculum, such as U.S. Constitutional and Ethical Issues, and International Human Rights.

The significance of this difference is the simple fact that since CHDS is funded by DHS, a government agency, if they did offer and teach these courses, the program would inevitably face the reality of having its faculty focus on emerging legal issues. This in turn would lead to the appearance of having the government answer uncomfortable questions, which most assume would be addressed by the U.S. Supreme Court.

One such legal question arose during the writing of this article when *The New York Times* reported the killing of Anwar al-Awlaki, an American born cleric, who had been labeled a radical jihadist, by the CIA (Mazzetti, Schmitt, & Worth, 2011). The American Civil Liberties Union (ACLU) and others have "questioned how the (USA) government could take an American citizen's life based on secret intelligence and without a trial." The ACLU was quoted as saying this action "violated United States and international law" (Shane, 2011).

Pace also added a topics course to its offerings with the goal that the master's students would choose the subject. Students were given two choices:



Religion and Cultures of the Globe or Public Health/Pandemic Issues. While students clearly understood the nature of the first course offering, they were not sure what public health/pandemic issues they may confront as professionals.

To provide an understanding of what a course on public health would cover, Pace University hosted a lecture by a physician with expertise in emergency medicine and homeland security (an alum of CHDS). Her lecture contrasted the earthquake/tsunami in Japan with the earthquake in Haiti, focusing on the multiple factors that affect response and rebuilding, such as culture, climate, and government structure. Responses from the students who attended the lecture indicated that they saw the need to have the topics course focus on an area for which they felt they needed a better understanding.

Pace's degree program consists of 12 courses, which is 36 credits hours as defined by the New York State Higher Education Department (NYSHEd). Students can complete the degree within two years, taking two courses at a time on a trimester basis.

#### **Method of Educational Delivery**

Before launching the master's degree program there were a number of issues that needed to be addressed in how Pace University would deliver its new graduate degree. One of the concerns was determining the best method of delivering the education.

The first item addressed was the need to have students at the start of the program attend a required orientation session. This time is used to provide an overview of some of the following topics: The goals and expectations of students in the master's degree program; instruction on how to use Blackboard, the learning management system; how to access information technology services; how to utilize social media tools such as Facebook, Twitter, etc.; introduction to Pace University's library collection, which is the state-of-art in terms of its digital collection; and, most importantly, to introduce faculty and students to each other, sharing their professional experiences and what each hopes to get from their graduate education.

The decision about how to deliver the course is one of the major factors to which Pace gave special attention. In deciding to focus its approach on recruiting primarily working professionals, the traditional approach of offering a master's degree in a face-to-face classroom format was rejected because of the professional and personal time commitments of its audience. Another

option that Pace could have chosen was the quick, but impersonal delivery of an online degree program, which many of Pace's competitors had chosen.

Utilizing Pace University's instructional technology expertise, a decision was made to offer this master's degree via a blended learning (Garrison, 2009) approach. Blended learning involves a strategy of combining the best of the face-to-face and online experiences, along with the students' professional experiences.

Pace's blended format requires that for each course, students will be in a classroom setting for four hours, with the remaining portion offered synchronously and asynchronously online for a 12 week period. During this four-hour session the professor provides an overview of the expected learning outcomes and provides information on how the online session will be conducted. Using the trimester approach, the program is designed to deliver two four-hour sessions in one day, thus twelve courses consist of a total of six days in a physical classroom over the two-year period.

The synchronous sessions have evolved since the start of the program. To have additional face-to-face discussions beyond the classroom, faculty initially used web conferencing tools such as Skype and WebEx. Pace recently adopted Blackboard's Collaborate, which is a robust, academically oriented web conferencing system.

One of the major efforts in Pace University's master's program was the need to shift from a traditional pedagogy; that is, from the professor lecturing to the students, with the concomitant assumption that the professor knew all there was to know about the assigned topic. The shift was to an emerging strategy called andragogy (Klingner, 2003, p. 44; Bellavita & Gordon, 2006), which is an educational strategy that starts with the expectation that the student, especially a working professional, comes to the classroom with a variety of expertise, sometimes more than that of the professor on selected topics.

To facilitate this teaching style, Pace's brick and mortar classroom setting was redesigned. Students sit in a u-shaped classroom, with the professor standing and walking within the u-shape. Students are given name tents with their first names listed to enable students to refer to each other by name, which facilitates discussions that goes beyond the fact that each person might have some distinctive career title, such as director, etc. This helps personalize the educational experience, build community among the cohort and promote learning from each other – the essence of andragogy.

#### **Assessment and Graduate Student Cumulative Learning Strategy**

One of the major innovations that Pace University incorporated into the master's degree program is a strategy for institutional assessment to fulfill the NYSHED requirement that students complete some product that is viewed as a culmination of their learning experience, such as the traditional master's thesis or a comprehensive examination. Pace's Masters in Public Safety and Homeland Security strategy is called the Master's Project.

The Master's Project is an assessment of the student's overall learning experience. It consists of 12 chapters, one for each of the courses that are part of the degree program. It is a collection of lessons learned during their master's degree experience and reflects their new knowledge as it relates to leading/managing in all aspects of their professional work environment.

The strategy for building the Master's Project begins in the first course, Introduction to Homeland Security. This course becomes Chapter 1. In this course/chapter the students will be expected to grasp the essence of public safety and homeland security from an all hazards approach and develop a strategy they believe appropriate to one or more professions within the broad range of agencies that could be used to secure their community or country. The profession(s) can be the one the students are working in, or one that they aspire to become part of, or one that does not yet exist.

Documentation of the strategy begins in chapter 1, with a minimum requirement that each chapter be approximately 15-20 pages, and contain an introduction to the problem they are attempting to address. It will include the myriad of issues involved in such a strategy and a conclusion as to what the students intend to accomplish. If they are using an existing institution, they need to include whatever information is available pertaining to the agencies' goals, such as documented strategies and mission statements.

Each subsequent chapter/course builds upon this strategy by incorporating a leadership/managerial perspective. The academic discipline of management is the thread that links each course/chapter in the Master's Project.

The design of the master's degree program is to have students enter as a cohort group and stay together through the two years it will take to complete their learning experience. Using this cohort strategy builds upon the principles of andragogy that enables students to get to know and interact with their colleagues, as well as their professors, and learn from each other's life experiences.

A key learning approach that is used in this master's degree is the need to interact with all in the class; that is, students are encouraged to use the

online discussion to push their strategy to others in order to receive feedback from their colleagues.

The Master's Project is designed to be part of their professional portfolio to secure a job or promotion in the field of public safety and homeland security, as well as for their own self-realization of their life's goal. The goal for this master's degree strategy is that it will be the students' unique proposal to describe how best to secure the nation and/or their local community.

Because the Master's Project is also the students' own marketing strategy to promote themselves, it is imperative that they ensure that it is a credible document. They are told to provide data and facts to support their argument. To help them achieve this end, students are encouraged to use two strategies: Turnitin.com and Pace's Writing Center.

Using Turnitin.com [<http://turnitin.com>] enables a student to present a project that is academically documented; that is, having all requisite citations for sources used. To use this tool, they simply go to Turnitin.com, found in their Blackboard course shell.

Students are also instructed to recognize that it is imperative that their Master's Project is well written. Students are told that submitting one's Master's Project with glaring errors gives an unprofessional appearance. Pace University, in its effort to help students present their Master's Project as a strategy for their professional benefit, also gives them free access to another tool called ePortfolio, which is their professional electronic portfolio.

#### **ePortfolio as an Assessment and Reflection Tool**

ePortfolio [<http://eportfolio.pace.edu>] is a tool for collecting, selecting, and reflecting on one's academic accomplishments and other materials that will be useful in their professional lives. It enables individuals to post resumes, files, images of degrees/certificates, videos and blogs that reflect their success and progress as a student.

Students can use their ePortfolio to enhance their course experience by interacting with classmates and easily sharing and discussing information. This does not replace the functions of the learning management system (Blackboard); rather it enhances them by encouraging reflection, blogging, and saving individual files. Also, unlike Blackboard, students will have access to all their work posted in their ePortfolio account after the course has ended and after graduation.

As noted above, each course concludes with the learning experiences being compiled in the context of a chapter. These chapters are uploaded at the end of each course to the student's ePortfolio. Upon completion of their

master's degree, each student will have a Master's Project that will be a product approximately 180 to 240 pages in length, describing their management perspective/strategy as it relates to homeland security. This ePortfolio is their online collection of work that can be designed for selected audiences (e.g. family, friends, employers, etc.). They can use this tool as a strategy to enhance their career and/or increase their employment potential.

The ePortfolio will stay with the students after they complete their educational experience and can be amended to reflect their ever-evolving knowledge base. It is best described as a work in progress and students will be able to add to it and extend it throughout and beyond their university learning experience. As their wisdom increases through their career experiences, they can amend their original product by adding a new Forward, reflecting upon how their understanding of homeland security is evolving, staying the same, or changing. They can make full use of their ePortfolio as a professional resume, and add items such as curriculum vitae, goals, skills and professional interests.

Additionally, when students finish their last course, they are required as part of the Master's Project to include an abstract, an executive summary, and a conclusion. The goal of this final reflective strategy is to refine their ePortfolio to make it more likely to be read and appreciated by their prospective audience. Upon completion of the master's degree, the student's Master's Project will be posted in Pace University Library's Digital Commons [<http://www.pace.edu/digitalcommons>] for others to read.

#### **Faculty Selection**

One of the unique challenges in developing a graduate level degree for a discipline that is emerging is the lack of faculty who have the credentials to teach on the subject matter of homeland security. To be precise, there is no one in the U.S.A. that has a specific doctoral level degree in this field of homeland security.

To address this concern, Pace University was fortunate to recruit faculty who are experts in fields related to the course offerings of its management degree, such as in management, the U.S. Constitution, and international human rights. Three of its faculty are graduates of CHDS, one of whom is a physician, who also has her Master's in Business Administration (MBA). Pace faculty also reflect experiences in related disciplines, such as police, emergency medicine, military, and disaster management.

#### **Advisory Board**

In recognition that homeland security is an emerging discipline, Pace University established an Advisory Board for this Master's degree program that is called upon for advice on academic and practical issues. The Board consists of security leaders in hotel, utilities, transportation, finance, shopping malls, and emergency medical response.

One example of how the Board proved valuable was related to the course on Intelligence Gathering. The assigned faculty member viewed intelligence in the narrowest scope (e.g., serving only an agency such as the CIA), whereas another faculty saw intelligence as all information related to separate disciplines. For example, in the latter situation, the professor viewed intelligence from a disciplinary perspective, such as if the student were a fire person, then information/data that supports related decision making in that field, would be considered intelligence. The Advisory Board reconciled the two perspectives by deciding to let the students define intelligence from their perspective, yet also be aware that they needed to understand the value of intelligence as it related to terrorism.

#### **Academic Reading Materials**

The cost of higher education in the USA is a major obstacle for many to achieve advanced education and Pace University has been successful in not increasing the cost of tuition. However, Pace has been extremely successful in minimizing the cost for textbooks.

Currently only four courses require students to purchase traditional textbooks that average about \$150 (110 Euro) per book. In the other courses, required readings are available in an electronic format via Pace University's library, such as the 9/11 Commission Report, The National Security Strategy, and related journal articles. The library has also established a blog where new government publications are constantly posted for students to access. Additionally, since Pace is a member of CHDS's UAPI effort, students are given access to its *Homeland Security Digital Library*, which has over 93,000 policy and strategy documents, such as Presidential Directives and Executive Orders.

#### **Lessons Learned to-date**

Pace University is now completing its second year with its first group of students and has learned several lessons that are extremely valuable to the emerging discipline of homeland security. The first lesson learned is that strategies to secure the nation need to involve everyone. Class discussions

constantly included the questioning of what discipline(s) should be included. Students saw the need to recruit future individuals in fields such as forest management, American Red Cross, or food industry.

This sentiment was also implicitly raised in The National Security Strategy (Obama, 2010) wherein it cited the need to achieve resilience through public private partnerships, recognizing that the large share of the critical infrastructure is in the private sector. One expert cited the number to be as high as 90 percent. Yet, beyond suggesting that resilience be achieved through public private partnerships, no insight was provided on how this would be accomplished, especially in view of regulatory issues that would hinder such relationships.

To address this need, Pace University hosted the first in a series entitled *Summit on Resilience: Securing Our Future Through Public Private Partnerships* (11 January 2012). The Summit brought together chief executive officers and public sector leaders, including Tom Ridge as a keynote speaker (<http://pace.edu/resilience>), and others in the fields of finance, communication, transportation, utilities, and supply lines/logistics, to discuss how best to develop meaningful working relationships.

In terms of andragogy, the blended learning model adopted for the master's degree is now attracting the attention of other faculty within the University. What is emerging from the blended learning strategy is a unique way to enable working professionals to achieve a high level educational experience. The blended model, with the cohort strategy, enables students to get to know one another, develop a sense of community, but minimize the amount of time they would need to be away from home and family. The key to individual success cited by students is time management.

Time management means that students recognize that to achieve a high level educational experience, they need to set a regular study schedule. As one student noted, "I set a half hour a day aside just to go on to Blackboard to post my comments and view my colleagues' posting. If I fail to do so, then tomorrow I have to give an hour. You need to stay with it, or otherwise you will fall behind quickly."

## Conclusion

The first two years of Pace University's experience with offering its Masters in Management for Public Safety and Homeland Security highlights the evolving nature of the discipline of homeland security. While some have argued that it is a passing phase, the recognition of the learning experiences by

students and faculty in the master's degree program reveal that homeland security education is here to stay. For the United States, this is a discipline that will evolve and is an asset to help Americans "achieve a secure Homeland that sustains our way of life as a free, prosperous, and welcoming America" (USHSC, 2007, p. 13).

Pace University's experiment with a blended learning format is proving to be a meaningful strategy to deliver a competitive academic experience. Student satisfaction is high, and while students did note that the amount of required readings is rigorous, the learning experience is what they expected to achieve from Pace University.

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