

ATTITUDINAL DIMENSIONS AND OPENNESS TO EVIDENCE-BASED
POLICING: PERSPECTIVES OF ACADEMY RECRUITS

by

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DEDICATION

“Any reviewer who expresses rage and loathing for a novel is preposterous. He or she is like a person who has put on full armor and attacked a hot fudge sundae.” –Kurt Vonnegut

Dedicated to those providing endless support and, more importantly, a constant reminder that life exists outside of this dissertation: Susan Silverstein, James Naifeh, and Emily Genung.

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TABLE OF CONTENTS

	Page
List of Tables	viii
Abstract	x
Chapter One: Introduction	1
The Current Study	6
Chapter Two.....	9
Openness to Evidence-Based Policing.....	9
Attitudes and Traits Associated with Evidence-Based Policing Practices.....	14
Critical Thinking.....	15
Proactivity.....	16
Communication Skills and Community/Citizen Relations	18
Cynicism.....	19
The Police Academy and Police Officer Attitudes	20
Summary and Research Questions	25
Chapter Three: Study Methods	28
Study Locations	28
Unit of Analysis and Sample.....	30
The Survey Instrument and Operationalization of Key Concepts.....	34
Components of Attitudinal Dimensions	39
Component Score Analysis and Regression	45
Chapter Four: Analysis and Results.....	48
Recruit Exposure to Evidence-Based Tactics	48
Existence of Attitudes Connected to Evidence-Based Policing.....	49
Recruit Attitudes at the Beginning and End of the Academy.....	49
Differences in Recruit Attitudes Between Academies	53
Regression Analysis	58

Demographic and Organizational Predictors of Attitudes at the Beginning of Training.....	58
Demographic and Organizational Predictors of Attitudes at the End of Training	62
Demographic and Organizational Predictors of Changes in Attitudes	67
Demographic Predictors of Attitudes Between Academies at the Beginning of Training.....	70
Demographic Predictors of Attitudinal Change Between Academies	75
Chapter Five: Discussion and Conclusion	80
Discussion of Results	80
Implications for Evidence-Based Policing.....	87
Study Limitations	90
Ideas for Future Research.....	93
Conclusion.....	95
Appendix A: Academy Survey	97
Appendix B: Principal Components Output	114
Appendix C: Component Correlations.....	121
Appendix D: Cohort Testing Output.....	124
Appendix E: Regression Summary Table	135
Appendix F: Reliability Scales of Component Scores.....	137
References.....	145

LIST OF TABLES

	Page
Table 1 Survey Administration	31
Table 2 Survey Cohort Matches	32
Table 3 Recruit Demographics	32
Table 4 Survey Variables and Attitudinal Dimensions	35
Table 5 Strategies Rated by Recruits to Assess Familiarity	37
Table 6 Attitudinal Components	41
Table 7 Recruit Exposure to Evidence-Based Tactics	48
Table 8 Pooled Recruit Scale Scores at Beginning and End of Academy	50
Table 9 Comparing Attitudes at the Beginning and End of Academy	52
Table 10 Comparing Change Across Academies	54
Table 11 Differences Between Academies at the Beginning of Training	55
Table 12 Differences Between Academies at the End of Training	56
Table 13 Differences Between Academies, Attitudinal Change	57
Table 14 Predictors of Research Receptivity Attitudes: Beginning of Training	59
Table 15 Predictors of Proactivity Attitudes: Beginning of Training	60
Table 16 Predictors of Communication Attitudes: Beginning of Training	60
Table 17 Predictors of Community/Citizen Relations Attitudes: Beginning of Training	61
Table 18 Predictors of Low Cynicism Attitudes: Beginning of Training	62
Table 19 Predictors of Research Receptivity Attitudes: End of Training	63
Table 20 Predictors of Proactivity Attitudes: End of Training	64
Table 21 Predictors of Communication Attitudes: End of Training	64
Table 22 Predictors of Community/Citizen Relations Attitudes: End of Training	65
Table 23 Predictors of Low Cynicism Attitudes: End of Training	66
Table 24 Predictors of Research Receptivity Attitudinal Change	67
Table 25 Predictors of Proactivity Attitudinal Change	68
Table 26 Predictors of Communication Attitudinal Change	68
Table 27 Predictors of Community/Citizen Relations Attitudinal Change	69
Table 28 Predictors of Low Cynicism Attitudinal Change	70
Table 29 Predictors of Receptivity Between Academies: Beginning of Training	70
Table 30 Predictors of Proactivity Between Academies: Beginning of Training	71
Table 31 Predictors of Communication Attitudes Between Academies: Beginning of Training	72
Table 32 Predictors of Community/Citizen Relations Between Academies: Beginning of Training	73
Table 33 Predictors of Low Cynicism Between Academies: Beginning of Training	74

Table 34 Predictors of Receptivity Attitudinal Change Between Academies	75
Table 35 Predictors of Proactivity Attitudinal Change Between Academies	76
Table 36 Predictors of Communication Attitudinal Change Between Academies	76
Table 37 Predictors of Community/Citizen Relations Attitudinal Change Between Academies	77
Table 38 Predictors of Low Cynicism Attitudinal Change Between Academies	78

ABSTRACT

ATTITUDINAL DIMENSIONS AND OPENNESS TO EVIDENCE-BASED POLICING: PERSPECTIVES OF ACADEMY RECRUITS

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George Mason University, 2016

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Evidence-based policing is a relatively new movement in policing encouraging law enforcement agencies and officers to pay more attention to information derived from systematic study, analysis, and research. While evidence-based policing holds a great deal of promise for law enforcement agencies, what is less clear is whether it is practiced regularly by officers, how it is implemented, what officers know about it, and what types of mindsets are needed by officers to be receptive to it. One arena of policing which might present some clues to these questions is training academies, which is explored in this study. Research shows that police academies are where recruits first acquire attitudes and assumptions about the field of policing, and that individuals may be more likely to be open to change and new ideas during their educational or transitional period. However, research has yet to examine what attitudes may contribute to evidence-based policing, and whether these attitudes are fostered or discouraged during a police officer's initial

academy training experience. These questions are explored in this dissertation, by surveying 415 recruits in two police academies, across four cohorts, before and after their training experience.

Findings indicate that recruits begin their training with relatively positive attitudes that might be connected to evidence-based policing, but that most of these attitudes change in a negative direction by the end of their training. Factors contributing to variations in these changes are explored, including recruit officers' education levels, race and ethnicity, and academy location. This dissertation highlights the need for the evidence-based policing movement to create and test specific scales measuring attitudinal openness for certain desired mindsets, as well as the importance of training organizations and their relation to promoting (or undermining) attitudes relating to evidence-based policing.

CHAPTER ONE: INTRODUCTION

Evidence-based policing is a relatively new movement in policing encouraging law enforcement agencies and officers to pay more attention to information derived from systematic study, analysis, and research (Lum, 2009; Sherman, 1998). Sherman first advocated evidence-based policing as “the use of the best available research on the outcomes of police work to implement guidelines and evaluate agencies, units, and officers” (1998, p. 3). While some have interpreted Sherman’s definition to mean that police need to know “what works” in police crime control interventions, Lum and Koper (2013) define it more broadly (see also Willis & Mastrofski, 2014), arguing that evidence-based policing is “a law-enforcement perspective and philosophy that implicates the use of research, evaluation, analysis, and scientific processes in law-enforcement decision-making. This research could cover a broad range of subject matters, from evaluations on interventions and tactics to analysis of police behavior, activities, and internal management.” (Lum & Koper, 2013, pp. 1426–27). They assert three points about evidence-based policing:

- Evidence-based policing is a decision-making perspective, not a panacea.
- It is grounded in the idea that policies and practices should be supported by research evidence and analytics, not blindly determined by them.

- It suggests that research is not ignored and that it at least becomes a part of the conversation on what to do about reducing crime, increasing legitimacy, or addressing internal problems.

(Lum and Koper, 2013: 1430)

To achieve evidence-based policing, many efforts by both researchers and practitioners have been undertaken, which also reflect its growth in the field. For example, some have tried to increase the use of research in policing by making it more easily accessible, such as online resources like the Evidence-Based Policing Matrix (Lum et al., 2011; see <http://cebc.org/evidence-based-policing/the-matrix/>) or the U.S. Department of Justice website CrimeSolutions.gov. The SmartPolicing Initiative (SPI)¹ is a collaborative consortium that awards grants to support research-practitioner partnerships and offers training and technical assistance resources related to evidence-based policing. Another resource has been the Campbell Collaboration's Crime and Justice Coordinating Group,² which provides systematic reviews that cover a broad range of policing research, including strategies, stress management, and legitimacy. These reviews not only synthesize research; they are attempts at translating research into practice, a core component of the evidence-based movement (Lum, 2009; Lum, Telep, Koper, & Grieco, 2012; Nutley, Walter, & Davies, 2007).

However, while the movement of evidence-based policing is growing in areas such as research and funding, in practice it is not the norm. Police activities are still primarily driven based on responding to 911 calls and reactionary methods involving

¹ <http://www.smartpolicinginitiative.com/>

² http://www.campbellcollaboration.org/crime_and_justice/index.php

standard procedures, culture, and best guesses (Lum, 2009; National Research Council, 2004). Barriers to getting the police to pay attention to and use research evidence include administrative constraints, a lack of resources, failure of researchers to translate research for practice, and individual resistance to change. Some argue that the values of researchers and practitioners differ so widely that translation and implementation of research must overcome a cultural gap (see Buerger, 2010; Hirschkorn & Geelan, 2008). Some of the more rigorous forms of research, namely randomized controlled experiments, bring with them practical, ethical, and funding challenges of their own (Pawson & Tilley, 1997). There are also barriers filtering scientific knowledge from policy, such as prevailing paradigms, prevailing ideology, short-term political considerations, and short-term bureaucratic inertia (Tonry & Green, 2003). Lastly, an obstacle toward the evidence-based policing movement stems from the research itself, as conventional research approaches in policing may address the concerns of management or policy-makers more so than police practitioners on the front line (Thacher, 2008).

Despite these barriers, evidence-based policing holds a sizable amount of promise for policing and has become a dominant paradigm in federal funding and research-practitioner partnerships (see Grieco, Vovak, & Lum, 2014). What is less clear is whether evidence-based policing is practiced regularly by officers, how it is implemented, what officers know about it, and what types of mindsets are needed by officers to be receptive to it (Lum et al., 2012). One arena of policing which might present some clues to these questions is training academies. For example, are police academies teaching recruits about research findings, the importance of analysis in policing, or incorporating

knowledge about problem solving or community relations into their training modules? Are officers trained to view and approach policing with a mindset that ensures their receptivity to innovations and reforms within evidence-based policing? Research shows that police academies are where recruits first acquire attitudes and assumptions about the field of policing (Chan, Devery, & Doran, 2003), and that individuals may be more likely to be open to change and new ideas during their educational or transitional period (Aarons, 2004; Bercovitz & Feldman, 2008; Clarke, 1996; Garland, Kruse, & Aarons, 2003; Ogborne, Wild, Braun, & Newton-Taylor, 1998). Perhaps the lessons of the police academy might also apply to understanding how recruits evidence-based policing is being implemented in law enforcement agencies.

Research has yet to examine what attitudes may contribute to evidence-based policing, and whether these attitudes are fostered or discouraged during a police officer's initial academy training experience. However, the police academy offers a useful place to understand how police may come to learn and accept the notions of evidence-based policing. Academies are training recruits in skills and knowledge deemed essential by a governing board. Nevertheless, academies do more than train recruits about procedures. The academy is where socialization of officers first occurs, in which recruits acquire not only legal and procedural knowledge but also attitudes and assumptions compatible with the field of policing (Chan, Devery, & Doran, 2003). The academy lays the groundwork for overall expectations of police officers about their profession. Existing research on academy recruits mainly examines individual predictors of police academy performance (Detrick, Chibnall, & Luebbert, 2004; Hirsh, Northrop, & Schmidt, 1986; White, 2008).

However, this line of research focuses solely on classroom outcomes- how recruits perform on the tests and exercises they are taught and trained in the classroom and their simulations. This dissertation examines possible attitudes related to openness to evidence-based policing, as well as openness toward current policing tactics that are supported by research.

Because the atmosphere generated by a police academy is the first introduction to policing for most cadets, the academy can be an important place to understand police openness to proactivity, problem solving, and the incorporation of research into daily practices, all of which arguably contribute to their attitudinal openness to the philosophy of evidence-based policing. Individuals may be more open to change and new ideas during their educational or transitional period (Garland et al., 2003; Ogborne et al., 1998). Additionally, field training, essentially the first year of a police officer's career, can lead to an "ethical shift" in a negative direction regarding legal standards and societal values (Ford, 2003). Thus, the assessment of receptivity at the earliest stage of an officer's career offers a base level to which additional learning and training may (or may not) influence. It has been argued that while policing itself has been ever-changing since the move toward a more community-oriented paradigm, the police academy and its curriculum has barely budged (Bradford & Pynes, 1999). A strong focus on a traditional syllabus, despite a pendulum swing toward a more community-oriented frame in practice, may create resentment or even hostility toward the more innovative techniques introduced once outside of the academy.

Thus, the academy is a valuable area to examine attitudes and values related to evidence-based policing (and what those views may look like), as well as how a shift in these attitudes might be achieved, if desired. The academy may also be an institution where the possibility to promote evidence-based approaches is blocked, if officers gain attitudes and values that are not conducive to methods reflected by research knowledge, such as proactive or problem-solving approaches.

The Current Study

This study explores the attitudinal dimensions that may be related to evidence-based policing, and whether they change over the course of the academy. Such a study presents a unique challenge: currently, there are only a few clues offered regarding what attitudes an “evidence-based policing officer” might have. Hints are provided in the literature on the philosophy of evidence-based policing (i.e. Sherman, 1998; Lum & Koper, 2014), the evidence stemming from the policing research itself (i.e., tactics and strategies that have been deemed ‘evidence-based’), and knowledge about the use of scientific research in other fields. Toward this end, this dissertation pulls from a variety of literature to explore possible attitudes and characteristics that may lead to an officer being more open to an evidence-based approach. These attitudes and characteristics may include traits such as openness, proactivity, critical thinking, good communication skills, and positive beliefs about community relations, among others. The goal in exploring these attitudes in academy recruits is to hypothesize about characteristics that may be linked to an officer’s receptivity towards evidence-based policing, and to see if they

change during a police recruit's academy experience. More specifically, questions explored in this study are:

1. What might be some attitudinal dimensions of someone amenable to adopting an evidence-based approach to policing?
 - a. Can we identify these attitudes in police recruits, and do their viewpoints change over the course of the academy?
2. Are there particular characteristics that might predict individual attitudes in recruits, or changes in these attitudes after completing the police academy?

To explore these questions, this study surveys a large number of academy recruits from two different police academies, before and after their training. I administered the surveys to four cohorts of recruits in each academy, yielding 415 recruits surveyed. Given the literature reviewed in Chapter 2, this study measures changes in attitudes regarding research receptivity, proactivity, communication skills, cynicism toward and relations with the community, and effectiveness of policing strategies. Thus, the dependent variables include both attitudes that may be related to engaging in evidence-based policing, receptivity to the use of research in practice, and receptivity to policing practices supported by evidence. While all of these types of attitudes are of interest, overall openness to the philosophies of evidence-based policing holds the most water, as research could change what tactics are considered evidence-based over time. This study closes with a discussion of whether these attitudes can build the base for an 'attitudinal openness to evidence-based policing' construct that may more accurately assess these

characteristics. Because these attitudes have not been directly tested regarding their connection to police engagement in evidence-based practices, this study does require the reader to take a leap of faith with the literature provided.

CHAPTER TWO

As introduced in Chapter 1, this study explores what characteristics might make a police officer more receptive to the philosophy and practice of evidence-based policing and whether these attitudes change over the course of academy training. This effort creates a unique challenge, as no empirical data exists providing attitudinal dimensions that would encourage an officer to be more open to evidence-based policing. However, literature provides what evidence-based policing is (as a philosophy), as well as information on receptivity to evidence-based policing and the use of research more generally. These sources provide clues about the characteristics and attitudes an individual open to such ideas may have. In this chapter, I examine psychological and educational literature to explore what types of attitudes and characteristics may facilitate openness to innovation and new ideas, both which could correlate to evidence-based policing. Then I discuss the police academy as an important area in which such attitudes (and changes in attitudes) can be measured. As with this study, this chapter is exploratory: the ultimate goal being the development of more appropriate measures of attitudinal openness to evidence-based policing.

Openness to Evidence-Based Policing

Evidence-based policing falls under a larger movement, one that aims to implement the use of research across multiple fields. The push for the use of evidence in practice has been seen in medicine (Davidoff, Haynes, Sackett, & Smith, 1995), nursing

(Mulhall, 1998), education (Slavin, 2002), and social work (Rosen, 2003). The evidence-based movement also exists within the larger realm of criminal justice, to include evidence-based corrections (MacKenzie, 2000), policy (Mears, 2007), drug treatments (Friedmann, Taxman, & Henderson, 2007), and policing.

Evidence-based policing is a philosophical approach to police operations that suggests research should be a “part of the conversation” of police practices (Lum & Koper, 2013). This requires that officers are receptive not only to this philosophy, but to ideas supported by research evidence (which may differ substantially from their existing practices), and perhaps to innovation more generally. A few studies have given us some indication of police receptivity to evidence-based policing and innovation. For example, the National Police Research Platform examined the receptivity of police officers to innovation in policing more generally (Mastrofski & Rosenbaum, 2011). However, these surveys focused on attitudes toward their own organization’s capacity to foster innovation, as opposed to personal views toward adopting innovative practices.

Only one survey exists on the receptivity and use of research in policing, which has been developed by Lum and Telep and has been administered and also modified in several different departments (Lum et al., 2012; Telep & Lum, 2014a). Their survey assesses officer knowledge about evidence-based policing, officer views on a variety of tactics and strategies supported by research evidence, officer perceptions and views of scientific knowledge versus experiential knowledge, as well as questions regarding opinions of innovation, new ideas, and also the importance of education to policing.

The receptivity survey finds that less than half (48.4%) of officers were not familiar with the term “evidence-based policing.” When asked about the usefulness of information from research regarding police tactics, responses varied by department. In one department, 21.5% of officers said information from research is very useful, whereas in the other two departments only 7.7% and 6.1% of respondents agreed that research could be very useful (Telep & Lum, 2014a). Officers in all three agencies examined overwhelmingly believe that experience should play a greater role than research in day-to-day decision-making (over 70% of responding officers in all three agencies). Palmer (2011) modified the Lum and Telep survey for supervisors in the United Kingdom, and found that slightly more than half of both Inspectors and Chief Inspectors also agree that experience is more important than ‘expert opinion’ (Palmer, 2011). Criminal justice agencies often have a tendency to reject outsider knowledge, because the intuitive appeal of certain practices may be more highly valued than actual effectiveness (Cullen, Myer, & Latessa, 2009). Openness to evidence-based policing first means accepting a more even balance of using research to inform police practices, which also means being more open to what is currently thought of as outsider knowledge.

Age has shown to be significant in one study of receptivity. A study of 560 officers in 2 departments found that the older an officer, the less positive view of the environmental readiness for innovation in that department (Mastrofski & Rosenbaum, 2011), although the evidence on age and receptivity to innovation is unclear (see Rogers, 2003). However, the department itself and the effectiveness of the department’s communication system had 3-4 times more predictive power in this view than the age of

officers. Contradictorily, length of service has been negatively related to the perception of the effectiveness of community-oriented policing; those with greater length of service were most likely to believe it was not effective (Lord & Friday, 2008; Novak, Alarid, & Lucas, 2003). Organizational contexts aside, it would appear that time served, as opposed to age, may play a stronger role in openness to change.

Non-policing research also provides clues as to attitudes and characteristics that may indicate openness to evidence-based practices. For example, Aarons (2004) developed an Evidence-Based Practice Attitude Scale to explore mental health provider attitudes toward the adoption of evidence-based practices. He summarizes four domains of provider attitudes that facilitate the adoption of evidence-based practices: appeal, requirements, openness, and divergence. Appeal is the intuitive appeal of the innovation, including the appeal of the source introducing the innovation. Organizational requirements may affect providers' compliance with providing services: the more complicated the requirements, the less likely the amenability. Aarons also examined how individual differences in openness can influence innovation adoption. Here he found that interns (rather than professional mental health providers) and those with higher educational attainment endorsed attitudes that are more positive toward adopting evidence-based practices. Finally, the divergence domain points to perceived deviation in a research-based practice with current practices; the greater the divergence, the less receptive providers were to any particular innovation. Although Aarons' findings do not relate attitudes to performing evidence-based practices, the findings do suggest that receptivity to evidence-based approaches can depend a great deal on aspects of

implementing an innovation. Additionally, many items in this measurement scale could be adapted for policing, asking about openness to new tactics and the balance between experience and manualized tactics.

Another area of literature that may provide clues on attitudes conducive to evidence-based policing is research on barriers to the use of research in practice, which has been studied in several fields. A study of 228 social work field instructors found that a vast majority of respondents (84%) indicated that a lack of time is their greatest obstacle to using research findings (Edmond, Megivern, Williams, Rochman, & Howard, 2006). Perhaps those most amenable to evidence-based approaches, then, are those with the patience to learn and understand how research-driven initiatives may better assist them.

The traits of individuals more likely to use research have also been examined in a variety of fields (Nutley et al., 2007). Individual attitudes may lead practitioners to be unwilling to experiment with new ideas stemming from research (Funk, Tornquist, & Champagne, 1995) – additionally, this aversion may extend beyond the use of research findings to research more generally. Nutley et al. (2007) also discuss the possibility that education may increase familiarity and understanding of research, but in all the studies looking for individual characteristics shaping the use of research is quite limited.

Organizational culture may also impede the use of research in practice: a study of 301 mental health service providers found that providers working in organizations with more constructive cultures (those with organizational norms of achievement and motivation) endorsed more positive attitudes toward adopting evidence-based practices

(Aarons & Sawitzky, 2006). Additionally, many criminal justice agencies consider academic experts as “outsiders” (Cullen et al., 2009), skeptical of any new ideas that are not stemming from within. Thus, someone more open to evidence-based policing may be someone who is more open to a variety of attitudes and opinions.

Attitudes and Traits Associated with Evidence-Based Policing Practices

Perhaps hints about attitudes most conducive to openness to evidence-based policing can also be found from practices that are advocated as “evidence-based.” The movement toward evidence-based policy extends across a variety of fields.

For example, we know from reviews that evidence-based approaches to reducing crime involve police being more proactive, place-focused, and problem-oriented (see Lum et al., 2011; Sherman and Eck, 2002; Weisburd and Eck, 2004). Research evidence has also supported a focused deterrence approach to concentrate on serious offenders (Braga & Weisburd, 2012). Evaluations continue to show that when police focus their efforts at small concentrations of crime (hot spots), crime is reduced with little evidence of displacement (Braga, Papachristos, & Hureau, 2012). Additionally, by using approaches in which police communicate with both victims and offenders with respect and dignity, police can improve citizen attitudes of police (Mazerolle, Bennett, Davis, Sargeant, & Manning, 2013). These types of policing schemes differ from the more reactive approaches that typically define traditional policing (see Lum, 2009). Perhaps officers open to evidence-based policing, then, have attitudes and characteristics that indicate they are more proactive, problem-oriented, and analytic. Below, I explore some

traits and attitudes that may be reasonably connected to practices associated with evidence-based policing.

Critical Thinking

Problem-oriented policing is an evidence-based approach that requires police to develop a systematic process for examining and addressing problems (Goldstein, 1979). At the core of this approach is critical thinking - a form of investigation whose purpose is to explore a situation, phenomenon, question, or problem to arrive at a hypothesis or conclusion about it that integrates all available information (Kurfiss, 1988). It relates, in its focus on integrating information to come to a conclusion about a problem, to problem solving and problem-oriented policing (Eck & Spelman, 1987). Halpern (2002) describes critical thinking as the use of the cognitive skills that increase the probability of a desirable outcome. She explains it as purposeful and goal-directed thinking, “the kind of thinking involved in solving problems, formulating inferences, calculating likelihoods, and making decisions, when the thinker is using skills that are thoughtful and effective for the particular context and type of thinking task” (Halpern, 2002, pp. 6–7). Problem – oriented policing requires the ability to think critically throughout all of the problem solving steps outlined by Goldstein (1979).

The California Critical Thinking Disposition Inventory (CCTDI) (Facione, Facione, & Sanchez, 1994) and the California Critical Thinking Skills Test (CCTST) (Facione, Facione, Blohm, & Giancarlo, 2007) assess critical thinking disposition in a variety of individuals. The criterion validity of these tests has been demonstrated through independent studies. The CCTDI contains 75 Likert-style items and seven scales:

inquisitiveness, open-mindedness, systematicity, analyticity, truth-seeking, critical thinking self-confidence, and maturity (Facione, Sánchez, Facione, & Gainen, 1995). One study found that nurses that report using research scored higher on the CCTDI, with critical thinking explaining 20% of the variance in attitudes toward research (Wangensteen, Johansson, Bjorkstrom, & Nordstrom, 2011).

High critical thinkers enjoy sorting out problems, thriving in a team or group-based problem-solving challenges. Interviews with pre-pharmacy students that include the CCTST as well as participation in a problem-solving session have significantly predicted performance in classes that incorporate substantial amounts of team or group related activities, as well as GPA in all pharmacy practice courses (Allen & Bond, 2001). Additionally, individual differences on the CCTDI have emerged regarding gender. A sample of university students showed statistically significant differences on the scales for maturity and open-mindedness, with mean scores for women being higher on both (Facione et al., 1995). Unfortunately, while critical thinking likely relates to openness to evidence-based policing, this study is unable to actually assess police recruit abilities in critical thinking.

Proactivity

Given its importance to problem-solving, and given that many evidence-based policing strategies are those which are problem oriented, critical thinking is likely one important trait of the evidence-based police officer. Another important trait of an evidence-based policing officer is his or her ability to be proactive. Proactive policing – efforts by the police stemming from their own initiative- includes interventions that may

deter a crime likely to occur in the near future or focus on risk factors and long-term prevention (Lum et al., 2011). Proactivity has been linked to various evidence-based, effective practices of crime control as well as internal management and police-citizen relations. Indeed, problem analysis as discussed above also reflects a proactive mindset (Boba, 2003). A study of 282 undergraduates were used to investigate whether individuals can have a personal disposition toward proactive behavior (Bateman & Crant, 1993). This led to the creation of a 17-item Proactive Personality Scale (PPS) and found that proactivity can be measured and also differs across individuals. The PPS asks respondents how much they agree with statements such as “I am constantly on the lookout for new ways to improve my life”, “I excel at identifying opportunities,” and “I am great at turning problems into opportunities,” to name a few examples of ways that this trait can be measured.

Others have found that proactivity is a desired trait in various careers. For example, a study of 200 employees within 54 work groups found that having a proactive personality is associated with employees establishing a high-quality exchange relationship with their supervisors, potentially creating the linking mechanism explaining proactive employees experiencing greater job satisfaction (Li, Liang, & Crant, 2010). Proactive disposition has also been associated with more planning and exploration (both self and environmental), better knowledge and use of decision-making principles, and higher use of self-regulatory strategies (Creed, Macpherson, & Hood, 2010). A study of 180 full time employees and their supervisors linked proactivity to greater career initiative (Seibert, Kraimer, & Crant, 2001). Real estate agents with higher scores on the

PPS have higher job performance, and this holds even when experience, social desirability, and certain personality factors (conscientiousness and extraversion) are controlled for (Crant, 1995). Because proactivity is an important aspect of evidence-based policing strategies, understanding whether officers exhibit proactive traits and determining whether the police academy positively or negatively impacts officer proactivity is important.

Communication Skills and Community/Citizen Relations

In addition to proactive characteristics, certain aspects of police proactivity suggest officers need to have good communication skills. Being proactive may often require officers having the confidence to approach strangers in various contexts, or the ability to speak with a variety of local community members and stakeholders about local crime problems (Heise & Miller, 1951). Communication also plays a large role in criminal investigations (Raffel, 2005). The capacity to create and maintain dialogue encompasses skills of instruction, argumentation, manipulation, and inspiration (Muir, 1977). Confidence in communication skills sets the stage for an officer to be comfortable in performing typical duties, but also in engaging in more proactive approaches.

More broadly, research evidence suggests that police can effectively improve police-citizen relationships and improve their legitimacy in their eyes of the public by being more procedurally just. Legitimacy is “the belief that the police are entitled to call upon the public to follow the law and help combat crime and that members of the public have an obligation to engage in cooperative behaviors,” (Tyler, 2004). Existing research promotes procedural justice as an essential pathway to achieving this legitimacy (Tyler,

2001, 2004; Hinds & Murphy, 2007; Mazerolle et al., 2013). A related proposition put forth by the National Research Council (2004) is the idea that police behavior may influence the behavior of citizens. Procedural justice involves elements of participation (individuals prefer to explain their situation and communicate their views), neutrality (decisions are more fairly made when authorities are unbiased), being treated with dignity and respect, and trusting the motives of decision makers (Tyler, 2004). Approaches such as these provide police with a starting point in maintaining or even repairing relations with the community. Systematic observations of 1,627 police-citizen encounters found that when officers are less respectful toward citizens, citizens are less likely to comply with officer requests (Mastrofski, Snipes, & Supina, 1996). Individuals more open to the tenets of treating all citizens with an equal level of respect and dignity, then, would be more open to the evidence-based aspects of policing with an emphasis on procedural justice. The ability to communicate is a necessary aspect of procedural justice, and an important part of evidence-based policing.

Cynicism

Many evidence-based approaches that require engaging with community members demand at least a neutral (if not positive view) of police-community relations. Cynicism toward the community can affect acceptance of newer, nontraditional policing philosophies. A study surveying 445 officers of all departmental ranks looked at community policing schemes in theory, in practice, and in daily use, and found that a major factor inhibiting officers to practicing community policing may be officers thinking that people do not respect the police (Novak et al., 2003). Novak et al. (2003)

also found that the officers believing that most citizens do not respect the police were not only less likely to view community policing approaches as effective in practice, they also were less likely to incorporate it into their daily activities. Police cynicism has been found to be a significant predictor of relations with the public (Regoli, Crank, & Rivera, 1990); police that perceived lower levels of respect from community members were more likely to view poorer relations with the public. Bennett and Schmitt (2002) also found cynicism to be positively related to poorer relations with the community. Additionally, if the adoption of evidence-based policing tactics *increases* an officer's feelings of autonomy, or an officer's belief in public service, the officer will feel *less* cynicism toward the public (Poole & Regoli, 1979). A *low* level of cynicism toward the community might then be associated with an officer's openness to general philosophies such as evidence-based approaches as well as specific evidence-based approaches that involve working with the community. In addition to cynicism toward the community, general cynicism could independently affect how recruits feel about the incorporation of evidence being brought forth by outside research (although unfortunately this dissertation is only able to examine cynicism toward the community).

The Police Academy and Police Officer Attitudes

Those that join the police service may naturally vary in attitudes that facilitate or impede evidence-based policing. They may also have attitudes that are similar in certain ways (see Twersky-Glasner, 2005 for a review of the literature on police personality). However, changes in these attitudes may also occur during early socialization of officers, as well as throughout their careers. Understanding whether officers have positive

attitudes associated with evidence-based policing when they join, and whether such attitudes are impacted positively or negatively by academy training is essential knowledge for a police chief who wants to build an agency that is more “evidence-based.” Academies may foster or degrade mindsets that are receptive to the philosophy of evidence-based policing or to particular types of approaches known to be evidence-based.

Much of our knowledge regarding the socialization process of becoming a police officer stems from rich, ethnographic work of policing scholars providing a qualitative analysis of their own observations and conversations with officers (i.e. Muir, 1977; Manning, 1977). In an early study, Van Maanen (1975) documented the socialization process among 136 young men entering the police world, hypothesizing that the academy served a ‘degrading’ role detaching police recruits from their old attitudes and forcing them to begin identifying with their new social group of other police recruits. Van Maanen found that the training academy creates a powerful setting for individuals to start to cultivate an ideal of oneness with policing culture, as well as solidarity with other officers (see also Rosenbaum, Yeh, & Wilkinson, 1994). One particularly vital element in the early socialization of officers is the role of authority given to the police. The symbolization of policing is described to convey a sense of sacredness, asserting a premise of absolute morality used as “one of their primary weapons in the public political arena, where resources, particularly money, prestige, and job security, are contested” (Manning, 1977, pp. 21–22). Similarly, Skolnick and Fyfe (1993) propose that two principle aspects of policing – danger and authority –create solidarity among officers.

Later empirical studies have found that socialization does occur in policing, and occurs early, especially during training. Chan et al. (2003) followed approximately 150 new police recruits in New South Wales; conducting questionnaires, observations, and interviews to understand early socialization of officers during their training and apprenticeship. She found officers began to create cultural barriers between themselves and their friends and family members, quickly viewing members of the public as lacking an understanding of police work. In their work in the National Police Research Platform, Rosenbaum, Schuck, and Cordner (2011) followed more than 500 new officers from the first day at the academy until they leave the force. Their study documented variations in new officer attitudes and beliefs and found that officers report more aggressiveness after completing the academy than before they entered.

One important area of interest in the early socialization of officers that is relevant to this study is what officers are taught about policing in the academy. Very little is known about the content of academy training. In an observation study of recruit training, Chappell and Lanza-Kaduce (2010) concluded the most salient lessons being provided to recruits reinforced paramilitary structure and culture. Furthermore, they found that instructors advised the recruits only to discuss problems among one another rather than with ‘outsiders,’ again reinforcing the strong bond encouraged among recruits occurring within academy walls. Another study by Bradford and Pynes (1999) tried to examine curriculum data from each state agency responsible for certifying training, in order to assess how much of the curriculum was task oriented versus cognitive in nature. They defined task oriented training as instruction in basic repetitive skills (such as conducting a

proper traffic stop), and cognitive oriented training involves moving beyond a task and includes an integrated skill response that requires reasoning (such as simulated scenarios that require effective communication). Their study of 22 curricula found that less than 3% of their sample's academy training time was spent in cognitive and decision-making domains, while most was spent in task-oriented activities, although only 22 (44%) of their responses provided enough information for curriculum analysis. While the Presidential Task Force on 21st Century Policing (COPS Office, 2015) is calling for new developments in police training to build public trust and defeat crime problems, little is known about what is being taught in academies.

Studies have also shown that recruit attitudes can change over time. Haarr (2001) followed a sample of 446 police recruits through their police academy basic training program, and then to their respective agencies where they proceeded through field training and the completion of a one-year probationary period. She found that after completing basic training, recruits expressed more positive attitudes toward community policing and problem-solving policing, and feeling more qualified to engage in problem-solving tasks related to the SARA model. These gains, however, were undone by field training. By the end of their field training, Haarr found that recruits believed that fewer resources should be devoted to community policing, expressed less favorable views toward community policing and its effectiveness, and felt less qualified to engage in problem-solving tasks related to the SARA model. Overall, academy classes emerged as statistically significant variables. This finding suggests police recruits that train together possibly develop a unique group culture that influences their attitudes.

Another recent study examined both the short-term and long-term effects of a police training program based on the principles of procedural justice (Skogan, Van Craen, & Hennessy, 2015). This study of 2,681 officers found this training increased recruit levels of trust in the public shortly after training, but that these effects wore off over the long term. In the long term, African American and older officers were significantly more likely to be supportive of the principle of respect that they learned about in training, but in the long run training did not appear to impact the willingness of the officers to trust the public (Skogan et al., 2015).

Some research outside of policing suggests that individuals may be more likely to be open to change and new ideas during an educational or transitional period. Aarons' (2004) research, which focused on the adoption of evidence-based practices among mental health providers, used an evidence-based attitudes scale to assess attitudes among interns and professional mental health service providers. He found that interns were more likely to score higher on his scale than the service providers who had been working in the field. Another study of 799 faculty members and 79 academic unit heads at 53 universities examined linkages between receptivity and resistance to innovations and change found that older faculty and tenured faculty are more likely to be resistant to change than younger faculty, and that full professors are less likely to be receptive to change than associate or assistant professors (Clarke, 1996). Another study of 1,780 faculty members undergoing a new organizational initiative found that the longer the elapsed time since graduate training, the less likely the faculty member was to actively embrace the new initiative (Bercovitz & Feldman, 2008).

A survey of 663 front-line staff specializing in addiction treatment services asked respondents to indicate the extent to which they believed different treatment processes were necessary, and researchers discovered that certified counselors were more likely than non-certified counselors to adhere to traditional conceptions of the causes and treatment of addictive disorder (Ogborne et al., 1998). This study, however, was looking at distinct groups of individuals and comparing their attitudes. Whether the non-certified counselors would have shifted to more traditional ideas of services after becoming certified remains unclear. Finally, in a study of clinicians evaluating their own effectiveness, interns and postdoctoral fellows tended to offer the most positive comments about the utility of standardized outcome assessment measures, and tended to be the least likely to report difficulty interpreting scores of such measures (Garland et al., 2003). As time goes by, attitudes may become affected by institutional norms and practices of an organization. This points to the police academy as an appropriate environment to explore openness to evidence-based ideas and how those attitudes may change.

Summary and Research Questions

Various areas of literature provide clues as to what traits and attitudes would characterize officers who are receptive to both evidence-based policing as a philosophy and strategies and tactics that are supported by research evidence. These might include openness to research and outsider knowledge, a tendency toward proactivity, proficient communication abilities, an openness to engage with the community, and a low level of cynicism. While research indicates that cultural solidarity and authoritative and task-

oriented mentalities are regularly fostered in police academies, some research does suggest that academies are also places where openness to new ideas and innovations can be encouraged. However, the literature does confirm that academies and field training can influence officer attitudes and that these attitudes can change over the course of such training. These attitudes could facilitate or impede evidence-based policing if they shape an officer's approach to policing, including whether he or she has positive relationships with citizens, values analytic, outsider and research knowledge in addition to personal experience, or is willing to carry out activities that are known to reduce crime or improve community relations. Thus, if policing wishes to become more evidence-based, understanding the impact of early training and socialization on attitudes conducive to evidence-based policing is important.

In this dissertation, I examine whether a variety of traits and attitudes discussed above (e.g., research receptivity, proactivity, communication skills, community relations, and low cynicism) can be measured in academy recruits and whether recruits change in these attitudes over the course of their training. Specifically, this dissertation addresses the following questions:

1. What might be some attitudinal dimensions of someone amenable to adopting an evidence-based approach to policing?
 - a. Can we identify these attitudes in police recruits, and do their viewpoints change over the course of the academy?

2. Are there particular characteristics that might predict individual attitudes in recruits, or changes in these attitudes after completing the police academy?

Using knowledge from the literature discussed, I select five attitudinal dimensions that may reflect openness to the philosophies and approaches of evidence-based policing. These include research receptivity, a proactive mindset, communication skills, community/citizen relations, and low cynicism toward police-community relations. Using a survey instrument developed for the Matrix Demonstration Projects,³ multiple questions are selected as possible measures for each dimension. For example, to gauge attitudes toward research receptivity, questions relating to education and the balance between science and experience are asked. Proactivity attitudes are captured through items exploring how recruits feel about improving policing skills, as well as their desires to work with others. The communication attitudes stem from an existing scale capturing confidence in communication skills. To recognize mindsets reflecting community/citizen relations, this dissertation asks recruits about their attitudes toward involving the community in crime prevention efforts, increasing public satisfaction with the police, and how important it is to enforce the law fairly as an overall goal of policing. Finally, cynicism attitudes are assessed through agreeance questions relating to multiple facets of how the police and community get along with one another.

³ <http://cebcp.org/evidence-based-policing/the-matrix/matrix-demonstration-project/>

CHAPTER THREE: STUDY METHODS

This dissertation examines whether individual attitudes and traits are evident in perceptions of police academy recruits that may align with evidence-based policing. Of particular interest is whether these attitudes change during training. Although there is little guidance on the characteristics of an evidence-based police officer, Chapter 2 showed various domains of study providing clues. In particular, officers who may be more amenable to an evidence-based policing approach may be those who are open to research, proactive, have good communication skills, believe in enhancing police-community relations, and have low levels of cynicism. To explore these ideas, I surveyed eight cohorts of academy recruits at the beginning and end of their training from two different police academies.

Study Locations

This research takes place at two distinct and accredited police academies in the same state. Both police academies primarily serve suburban jurisdictions in the mid-Atlantic region. Academy 1, established in 1965, is the larger of the two facilities, serving almost 20 law enforcement agencies, which together total over 2,700 sworn personnel. The academy is governed by a Board of Directors, which is comprised of the chief administrative officers, police chiefs, and sheriffs from each academy member agency. The basic training staff consists of sworn officers and deputy sheriffs from the

participating agencies who work under the supervision of full-time academy staff members. Each trainer serves a minimum of three years in the academy before returning to his or her department. It is currently comprised of 17 permanent, non-sworn employees, 18 sworn employees from its member agencies. Training for Academy 1 lasts 21 weeks, and the class sizes surveyed in this study range from 69 to 80 recruits.

Academy 2 was established in 1985 and serves four law enforcement agencies as well as a fire service, which together total over 1900 sworn personnel. A Board of Directors, comprised of the Chief and Sheriff of the law enforcement agencies served, and the academy director governs this academy. The basic training staff consists of 26 sworn officers and 3 civilian employees. Training lasts 26 weeks from the start of classes through graduation, and the class sizes examined in this study range from 37 to 69.

The academies are required to include curriculum and testing meeting compulsory minimum requirements by the state department of criminal justice services. These minimum training standards include sections on weapons and field training, driving, defensive tactics, patrol and investigations, communications, legal studies, and professionalism. The academies may also provide additional training in other areas outside of the mandated requirements.

Despite being in the same state and not geographically distant from one another, the two academies do have their differences. First, there are some slight differences in the demographics of the recruits surveyed. Academy 1, has significantly more recruits with prior military experience, as well as more recruits with prior police officer experience. Additionally, Academy 1 served many more agencies than Academy 2, and the cohorts

were larger. Due to the size of the cohorts in Academy 1, the recruits would be broken up into smaller “breakout groups.” I asked an instructor how the breakout groups were chosen, and was told that they are specifically assigned to have a mix of recruits from the various departments. These departments vary from airport authority to community college police agencies. They also can vary greatly in size: one department in Academy 1 has fourteen sworn officers in total, while others have over 300 sworn officers. It is reasonable to state that, with regard to the type of departments the recruits in Academy 1 were hired for, that academy is more heterogeneous than Academy 2. Perhaps this type of heterogeneity – of the city or town or county the recruits were being trained to police – may invite different types of attitudinal change.

Unit of Analysis and Sample

The units of analysis for this study are individual recruits at Academies 1 and 2. Recruits from eight cohorts of academy training (four cohorts in Academy 1 and four cohorts in Academy 2) participated in this study. A cohort is a distinct class of police recruits who enter and graduate the academy together. At the beginning of each academy class, I administered a survey to each member of a cohort (see Table 1 for N and response rates of each survey administration). Within a week before that cohort’s graduation, I administered the same survey to that class, linking their responses from both surveys. The total data collection time occurred between July 2013 and July 2015.

Each academy provided between 30 to 50 minutes for the administration of the survey (described in the next section). For each survey administration, I introduced the

survey and the research project and read instructions from a survey recruitment script to the officers. The survey took officers approximately 15 minutes to complete.

Table 1 details the data collection waves by the number of surveys collected and the response rate for each administration. The response rate is the number of recruits that turned in a survey divided by the number of recruits present during survey administration (as participation was voluntary). Response rates ranged from 90% to 100%.

Table 1 Survey Administration

	Academy 1		Academy 2	
	Beginning of academy	End of academy	Beginning of academy	End of academy
Cohort 1				
Administration	July 2013	November 2013	November 2013	April 2014
N (Response rate)	69 (90.8%)	66 (95.6%)	40*	30 (96.8%)
Cohort 2				
Administration	February 2014	June 2014	April 2014	September 2014
N (Response rate)	80 (97.6%)	78 (95.1%)	37 (100%)	33 (97.0%)
Cohort 3				
Administration	August 2014	December 2014	August 2014	February 2015
N (Response rate)	79 (96.3%)	75 (100%)	70 (100%)	58 (95.0%)
Cohort 4				
Administration	February 2015	June 2015	February 2015	July 2015
N (Response rate)	81 (96.4%)	80 (100%)	55 (100%)	45 (100%)
Total	309	299	202	166

*Initial number of students in this session unknown; response rate cannot be calculated

Because surveys were anonymous, the survey provided a unique code for each recruit so that I could match up surveys taken at the beginning and end of the academy. Not everyone who answered a survey at the beginning of the academy could be linked

with his or her survey at the end of the academy. Some recruits drop out over the course of the training, and in some cases, recruits did not provide their unique codes on their end-of-academy survey. Table 2 illustrates the number of matched surveys for each academy session.

Table 2 Survey Cohort Matches

	Academy 1	Academy 2
Cohort 1	n = 57	n = 30
Cohort 2	n = 63	n = 29
Cohort 3	n = 69	n = 54
Cohort 4	n = 70	n = 43
	Total n = 259	Total n = 156
Total n = 415		

Table 3 summarizes demographic information for the sample participants that completed both waves, and for the overall academy classes from which the sample was drawn provided by Academy 1 (Academy 2 will not provide this information). This table also provides demographic values for agencies nationwide, provided by the Law Enforcement Management and Administrative Statistics (LEMAS) in 2013 (Reaves, 2015).

Table 3 Recruit Demographics

	Academy 1 Final Sample	Academy 1 Total Class	Academy 2 Final Sample	LEMAS data (Nationwide)

	(N = 259)	(N = 324)	(N = 156)	
% Male	78.2	79.4	81.3	87.8
% Under 30	71.1	75.13	74.8	*
% White	67.2	66.12	71.8	72.8
% College degree or higher	63.3	61.43	69.9	*
% Prior served (police)	18.5	17.91	10.9	*
% Prior served (military)	26.3	24.12	17.3	*

*Data not provided by LEMAS

The recruits surveyed in Academy 1 do not appear different from the demographics of all recruits from Academy 1 in those four cohorts. This was expected given the high response rates of each cohort to the survey. Unfortunately, Academy 2 would not provide the total demographics of each academy class, so I was unable to make comparisons. However, given the high response rate of each cohort studied in Academy 2, differences between those who completed the survey and all recruits from those four cohorts are not anticipated to be different. There were a few differences across the academies. In particular, a smaller percentage of respondents in Academy 2 have served as an officer in another jurisdiction or in the military before entering the academy compared to Academy 1. Additionally, Academy 1 appeared to have more non-white recruits than Academy 2.

Compared to national statistics found in the LEMAS, both academies are male-dominated. Academy 1 has a larger proportion of non-white recruits compared to the national averages. Although LEMAS data does not provide information on officer education, one study sampling a broad population of over 900 officers found that 27.6%

had a 4-year college degree (Weisburd, Greenspan, Hamilton, Bryant, & Williams, 2001). Another study, the Telep and Lum Receptivity Survey (discussed in Chapter 2) found 63.7% of respondents from three agencies had a Bachelor's degree or higher (Telep & Lum, 2014b). Both academies appear to be on the higher end of the education spectrum, which may have implications for findings, as recruits may gain exposure to concepts of policing research and crime control evidence in their educational experiences.

The Survey Instrument and Operationalization of Key Concepts

To gauge recruit attitudes and traits that may be conducive to evidence-based policing, I surveyed each recruit at the beginning (within the first two weeks of their classes beginning) and end of their academy training experience (within the last two weeks prior to their graduation) using the same survey instrument. The survey used was developed as part of a broader project known as the Matrix Demonstration Project (MDP),⁴ which focuses on finding innovative ways to translate and institutionalize research into the daily practices of law enforcement. Unfortunately, the survey was created to provide academies with a sense of a variety of recruit attitudes at the beginning and end of training and I was unable to make changes to the survey after administration began, thus the focus of the items does not focus on overall openness to evidence-based policing. The instrument (herein, the “Academy survey”) uses selected items from two surveys—the National Police Research Platform’s Longitudinal Study of New Officers⁵ and the Receptivity Survey by Lum and Telep (see Lum, Telep, Koper, & Grieco, 2012; Telep & Lum, 2014b). The survey is available as Appendix A. At this time, the National

⁴ <http://cebcp.org/evidence-based-policing/the-matrix/matrix-demonstration-project/>

⁵ <http://www.nationalpoliceresearch.org/longitudinal-study-of-new-offi/>

Police Research Platform measures have not been validated in the field to assess the relationships of the attitudes being assessed.⁶ The Receptivity survey has been administered and replicated in a variety of agencies with consistent findings in the measures used for this dissertation. Other than the Receptivity survey, evidence-based policing is lacking in constructs relating to measurements in attitudinal openness, and therefore the exploratory nature of this study creates a complication regarding reliability and validity; this line of study aims to ultimately create a more reliable and valid measurement.

This dissertation did not use all survey questions from the academy survey. Rather, using the attitudinal dimensions outlined from the literature analysis (openness to research, proactivity, communication skills, community/citizen relations, and low levels of cynicism), I only used certain relevant questions⁷. Table 4 shows the survey questions used in this analysis, grouped into these attitudinal dimensions.

Table 4 Survey Variables and Attitudinal Dimensions

Attitudinal Dimensions	Survey variables (* indicates reverse coding)
Research Receptivity	How important is pursuing higher education for police officers?
	Minimum educational standard for new recruits?
	Balance between use of scientific knowledge and experience
Proactivity	Problem solving
	Encourage the use of negotiation and conflict resolution
	Improve methods and strategies for catching criminals

⁶ see <http://uicclj.squarespace.com/background/>

⁷ Sections excluded from this study do not reflect attitudinal openness toward evidence-based policing: ‘Decision to become a police officer’ and ‘Being a police officer’ (both of these sections ask more general questions about why they entered the field and how they think the job will change them); Some of the items under ‘Goals of policing’ were excluded because they do not reflect attitudes about evidence-based ideas or tactics; Items from ‘Opinion about the Community’ were only included for the Low Cynicism dimension if they directly related to attitudes about the relationship between police and the community (excluding more general items about ‘people’ and ‘society’); From ‘Interactions with the public’, only variables representing police/community relations or procedural justice notions were included, and more generic items about being disrespected and dealing with gang members were excluded; ‘Opinions about use of force’, ‘Police training’, ‘Police integrity’, and ‘Viewpoint on people and society’ are all sections excluded from this dissertation because they do not reflect attitudinal openness toward evidence-based policing philosophies or tactics.

	Improve the investigations of crime
	We can solve many of society's problems if we put our minds to it
	Reduce the incidence of crime and violence
Communication skills	I know how to talk to people
	I know how to resolve conflict between people
	I can talk anyone into doing just about anything
	I know how to keep myself from getting upset
	I have good communication skills
	People don't often take my advice*
	I don't like to make eye contact when telling people bad news*
	I know how to make someone comfortable
	I feel confident when using my communication skills
	I can talk my way out of trouble
	I am good at reading other people's emotions
	I know how to show empathy or compassion
	I know how to use nonverbal cues to communicate feelings to others
Community/Citizen Relations	Enforce the law fairly
	Increase citizens' feelings of safety
	Involve the community in crime prevention
	Improve services to victims
	Increase public satisfaction with police service
	If you let people vent their feelings first, you are more likely to get them to comply with your request
	Police officers are expected to gather information from victims of crime, not comfort them*
	All people should be treated with respect regardless of their attitude
	Being professional with the public should be one of the highest priorities in law enforcement
	The time that officers spend chatting with average citizens could be better spent investigating crime and suspicious situations*
Low Cynicism	In an emergency, most community members would come to aid of an officer who needs assistance
	The community shows a lot of respect for the police
	Residents don't understand problems officers face*
	Many residents try to make the community look bad*
	Most citizens have confidence in the police
	You can get tired of listening to citizens complain about everything*
	You can't help the community if they are unwilling to help themselves*
	The community doesn't appreciate what the police do for them*

Items reflecting research receptivity include elements from the Lum and Telep Receptivity Survey⁸ asking about the importance of higher education, minimum education requirements of departments, and about the balance between personal experience and scientific knowledge. These items are all measured on a 5-point Likert

⁸ see <http://cebcp.org/evidence-based-policing/the-matrix/matrix-demonstration-project/receptivity-to-research/>

scale. I also included questions from the survey about recruit knowledge of evidence-based practices, a dimension of research receptivity. This section lists fourteen policing tactics and asks recruits to rate how effective they think they are (with the option for them to indicate that they are unsure or have not heard of the tactic). The tactics represent a variety of police procedures and ideas, some with an evidence-base of effectiveness, others without such a research-based background. Since the recruits take the survey twice, it is possible to understand how familiarity with these tactics changes from the beginning of training to the end. Additionally, I can compare the two academies in the percentage of recruits entering training with knowledge about tactics, as well as how much that knowledge increases throughout the course of training. Table 5 provides the strategies rated by recruits.

Table 5 Strategies Rated by Recruits to Assess Familiarity

Strategies to Rate Familiarity/Effectiveness
Hot spots policing
Community-oriented policing
Problem-oriented policing
Follow up visits for domestic violence
“Pulling levers” interventions
Use of civil remedies (e.g. nuisance abatement)
Restorative justice
Traffic enforcement to reduce gun crime
Legitimacy/ procedural justice policing

The remaining variables selected for this dissertation all come from existing scales from the Police Platform survey. Items from the survey reflecting proactivity ask recruits how important certain issues are concerning the overall goals of policing, and are

pulled from a Platform scale with 4-point Likert scales with response categories ranging from “very important” to “not at all important”. These items include reducing the incidence of crime and violence, encouraging the use of negotiation and conflict resolution, improving the investigations of crime, and problem-solving. Given the literature, these also reflect problem solving and critical thinking.

Confidence in communication skills is a necessary component for police officers to work effectively in groups to solve problems (Heise & Miller, 1951), de-escalate potentially dangerous situations (Muir, 1980), and work with various community members in proactive approaches. The academy survey includes a 13-item section asking recruits to rate the extent to which they agree with the statements. This scale was pulled as is from a communication abilities scale in the Platform survey and are 5-point Likert scale questions with response categories ranging from “strongly agree” to “strongly disagree”. These include overall confidence in speaking with others, comfort in giving advice or delivering bad news, as well as using communication to calm down others.

Attitudes toward improving community/citizen relations ask respondents to rate the importance of enforcing the law fairly, increasing citizens’ feelings of safety, and involving the community in crime prevention. Other items ask whether they agree that being professional with the public should be one of the highest priorities in law enforcement. The items for this dimension were selected from two different scales in the Platform survey, one asking about the goals of policing (which uses a 4-point Likert scale) and another asking questions about interactions with the public (using a 5-point Likert scale).

Questions in the survey examining low cynicism among recruits include the extent to which they agree whether the community shows a lot of respect for the police, if residents understand the problems faced by officers, and whether residents try to make the police look bad. The low cynicism items all stem from one scale in the Platform survey that asks opinions about police and the community, measuring items using a 5-point Likert scale with response categories ranging from “strongly agree” to “strongly disagree”. Cynicism toward the community among police officers can affect acceptance of newer, nontraditional approaches to policing. Police perceiving lower levels of respect from community members are more likely to perceive poor relations with the public (Regoli et al., 1990), and officers believing that citizens do not respect the police are less likely to incorporate community-oriented practices into their daily activities (Novak et al., 2003).

Finally, demographics collected in the survey include gender, age, race/ethnicity, current marital status, the highest level of formal education achieved, military service, prior police service, and employment history.

Components of Attitudinal Dimensions

The literature informed the survey questions selected for each attitudinal dimension. However, the survey questions for each attitudinal dimension may or may not measure the same underlying latent trait representing its respected dimension label. To analyze these items further, I performed principal components analysis for the survey questions within each of the five dimensions. Principal components analysis (PCA) is a form of factor analysis that converts a set of possibly correlated variables into a set of

values called principal components. This analysis groups survey items under the attitudinal dimensions within components, creating the ability to analyze components, rather than individual survey items. This dissertation uses PCA to combine correlated variables into a smaller group of components, with the goal of explaining as much variance as possible. This analysis improves parsimony and can also reduce multicollinearity, and also helps to develop measures with greater reliability and validity

I performed five separate analyses using principal components – one for each attitudinal dimension. The analysis was performed using recruit responses at the beginning of training. While most items yielded a factor loading of .55 or higher, the factor loading threshold for assigning items to components was 0.4, based on guidelines for practical significance and my sample size (Hair, Anderson, Tatham, & William, 1998). Fourteen components emerged from the analysis among the five attitudinal dimensions. However, some of these were single variables, loading on their own components. Two such variables had very low factor loadings as well as very low variation in responses: “problem solving” and “enforce the law fairly.” Recruits gave these items the highest possible rating by 95% or more of the recruits, creating data invariability for these items. After reviewing the demographics of respondents choosing the outlier option, and comparing these responses across the two academies, I dropped these items from further analysis, leaving thirteen components. Finally, due to very low factor loadings and theoretical justifications, I dropped two variables.⁹ The output from

⁹ “We can solve many of society’s problems if we put our minds to it”; “I know how to keep myself from getting upset”. While at face value these items made sense to include, after careful deliberation they were dropped due to their deviation from the remaining variables within their assigned attitudinal dimensions.

this analysis is available in Appendix B. The final dependent variables are twelve attitudinal components.

Table 6 provides the components and variables yielding from the principal components analyses for each of the attitudinal dimensions. The table also offers a brief explanation for what the component scores indicate. Correlations among the components were also examined using a Spearman correlation (due to the non-normal distribution of the components), and these results are available in Appendix C.

Table 6 Attitudinal Components

Attitudinal Dimension	Variables (*indicates reverse coding)	Component	Brief explanation
Research Receptivity	How important is pursuing higher education for police officers?	Education Support	Education-related questions; ↑score, ↑agreement
	Minimum educational standard for new recruits?		
	Balance between use of scientific knowledge and experience	Balance	Balancing research with experience; ↑ score, ↑ agreement
Proactivity	Encourage the use of negotiation and conflict resolution	Proactivity	Questions related to proactively addressing crime problems; ↑score, ↑agreement
	Improve methods and strategies for catching criminals		
	Improve the investigations of crime		
	Reduce the incidence of crime and violence		
Communication	I know how to talk to people	Skills	Confidence in skills relating to communication; ↑score, ↑agreement
	I know how to resolve conflict between people		
	I can talk anyone into doing just about anything		
	I have good communication skills		
	I feel confident when using my communication skills		
	I can talk my way out of trouble		
	I know how to make someone comfortable	Empathy	Confidence in skills relating to making others comfortable; ↑score,
	I am good at reading other people's		

	emotions		↑agreement
	I know how to show empathy or compassion		
	I know how to use nonverbal cues to communicate feelings to others		
	People don't often take my advice*	Withholding	Confidence in reaching out with advice or delivering bad news; ↑score, ↑disagreement
	I don't like to make eye contact when telling people bad news*		
Community/ Citizen Relations	If you let people vent their feelings first, you are more likely to get them to comply with your request	Obtaining Compliance	Obtaining compliance through procedural justice means; ↑score, ↑agreement
	Being professional with the public should be one of the highest priorities in law enforcement	Professionalism	Rates importance of being professional with citizens; ↑score, ↑agreement
	All people should be treated with respect regardless of their attitude		
	Increase citizens' feelings of safety	Customer Service	Agreement with issues relating to improving community relations through improving services to citizens; ↑score, ↑agreement
	Involve the community in crime prevention		
	Improve services to victims		
	Increase public satisfaction with police service		
	Police officers are expected to gather information from victims of crime, not comfort them*	Congenial	Agreement with issues relating to friendliness; ↑score, ↑disagreement
The time that officers spend chatting with average citizens could be better spent investigating crime and suspicious situations*			
Low Cynicism	In an emergency, most community members would come to aid of an officer who needs assistance	Community Relations	Measures the extent to which recruits believe there are poor relations between police and the community; ↑score, ↓cynicism
	The community shows a lot of respect for the police		
	Most citizens have confidence in the police		
	Many residents try to make the community look bad*		
	The community doesn't appreciate what the police do for them*	Us Vs. Them	Measures extent to which recruits believe there is a strong divide between police and the community; ↑score, ↓cynicism
	Residents don't understand problems officers face*		
	You can't help the community if they are unwilling to help themselves*		
	You can get tired of listening to citizens complain about everything*		

The items entered into Research Receptivity analysis loaded on two components.

The first component of the Receptivity dimension is “education support.” These

questions measure recruit support of the importance of educational attainment for police officers, and the higher the component score, the more an officer agrees that education is important in policing. Next, the question regarding balancing scientific research evidence with experience yielded as its own variable. This “balance” question asks officers the extent to which scientific information should play a role in policing compared with experiential knowledge. The higher the component score, the more a recruit agrees there should be a balance of scientific research with experiential knowledge.

The principal components analysis grouped survey questions within the attitudinal dimension of proactivity into one component: named proactivity. This component relates to improving investigations, and improving the methods with which police do so; the higher the score, the more the recruit agrees to the importance of these items concerning goals of policing.

The principal components analysis performed on the communication items yielded three components, while the variable “I know how to keep myself from getting upset” was dropped due to low factor loadings and theoretical justification (the statement itself does not reflect communication skills directly). The first component relates to skills: confidence in overall ability to communicate with others and resolve conflict. The higher the recruit score on this component, the more the recruit agrees with these statements. The empathy component relates to confidence in the ability to make other individuals feel comforted; again, the higher the score, the more the recruit agrees with the statements. The withholding component includes the two negative items from the survey, regarding confidence in reaching out with advice or delivering bad news. These

items have been reverse-coded, therefore, the higher the scale score, the more the recruit *disagrees* with the statements.

The items entered into the principal components analysis for the community/citizen relations variables yielded four components. One survey item did not load highly on either component: a question regarding letting people vent their problems to obtain compliance – related to research finding that the manner in which police officers behave may influence the behavior of citizens (National Research Council, 2004). Because this item is important theoretically (and has variability in responses in both waves), it remains within this attitudinal dimension as standalone components, using the raw scores from the recruits for further analysis. For this variable, higher the score, the more the recruit agrees that enforcing the law in a fair manner is important and that letting people vent leads to greater compliance. The next component is professionalism, in which recruits rate the importance of being professional with the public, even in the face of negative attitudes of said public. The higher the score, the more a recruit agrees with this sentiment. The customer service component ranks agreeance with issues relating to improving community relations through improving services to victims and involving the community in crime prevention; the higher the scale score, the more the recruit agrees with these ideas. The congenial component includes agreeance with issues relating to friendliness, such as comforting victims or chatting with citizens. These items are negatively worded and have been recoded: the higher the scale score, the more a recruit disagrees with the negative statements of officer friendliness.

Because this dissertation aims to examine openness to evidence-based ideas, the attitudinal dimension surveyed is *low* cynicism. Two components emerged from the principal components analysis for the items in the low cynicism dimension. Community relations¹⁰ measures the extent to which recruits believe there are poor relations between police and the community, and the higher the score, the lower the cynicism. The us vs. them component examines whether recruits believe there is a strong divide between police and the community, and again, the higher the score, the lower the cynicism.

Component Score Analysis and Regression

I created scale scores by averaging each recruit's responses that fall within the attitudinal components for both Wave 1 and Wave 2. I also created scale change scores by subtracting the Wave 1 scale scores from the Wave 2 scale scores. Following the creation of these scores, various types of analysis were performed first to understand what these attitudes look like at the beginning and end of academy training, as well as the types of changes these attitudes may go through. I conducted paired samples t-tests to assess any significant changes in scale scores from the beginning of the academy to the end of the academy. To examine academy-level differences, recruits in the two academies were compared on each scale score at both the beginning and end of the academy using independent samples t-tests. I then used independent samples t-tests to examine whether the two academies differ in attitudinal changes during training. This study is exploratory, and so even though change scores are being utilized as a dependent variable, I also want to be able to understand these components at both stages of training.

¹⁰ This component differs from the attitudinal dimension "Community/Citizen Relations," which examines attitudes toward engaging with and improving relationships between police and the community and citizens that they serve.

Due to the highly skewed dependent variables, Kruskal-Wallis testing (as opposed to a one-way ANOVA) was conducted to compare the academy cohorts for the beginning and the end of training. This test can determine whether the medians of two or more groups differ when comparing data that are not symmetrical. These results, as well as a summary table showing changes from the beginning of training to the end of training for each cohort (available in Appendix D), show that cohorts did differ in certain positive and negative changes in their scale scores. However, there is no obvious explanation for the random significant changes among the cohorts, justifying regression analysis to assess any determinants of these scale scores and their changes over the course of the academy.

In order to determine whether individual or group (academy) characteristics influence attitudinal dimensions, or changes in them, component scores and score changes were entered into regression models. The dependent variables are highly skewed and remain skewed after various transformation attempts (log, natural log, square, square root). Due to the nonnormality of the dependent variables, first a non-parametric regression was looked into (quantile regression). However, several models were unable to converge due to the small amount of variance among the variables. Thus, the regression analysis turned to a heteroskedasticity-consistent covariance matrix (HCCM) approach. This approach estimates corrected ordinary-least-squares standard errors without having to specify the particular form of heteroskedasticity, and is argued to be the most appropriate choice for those preferring to avoid the risk of misspecification of the form of the error variance (Kaufman, 2013). The particular specification used, proposed by MacKinnon and White (1985), is referred to as HC₃. A seminal paper demonstrating the

choice among various HCCM methods used to estimate robust standard errors strongly favored the use of HC₃ (Long & Ervin, 2000). I entered component scores at the beginning of the academy, the end of the academy, and changes in the scale scores as dependent variables, and entered individual demographics as well as academy as the independent variables. The following chapter provides descriptives of scale scores and results from all above described analyses.

CHAPTER FOUR: ANALYSIS AND RESULTS

Recruit Exposure to Evidence-Based Tactics

One important part of an officer’s receptivity to research knowledge and evidence-based practices is his or her familiarity and exposure to these practices. In other words, are recruits learning about various strategies and practices research finds to be effective? Table 7 provides the percent of recruits that had heard of these tactics at the beginning and end of the academy, separated by academy, with indication of significant differences flagged. There were no significant differences between academies at either measurement.

Table 7 Recruit Exposure to Evidence-Based Tactics

	Academy 1 (n=259)			Academy 2 (n=156)		
	Heard of at beginning of academy	Heard of at end of academy	Absolute difference (%)	Heard of at beginning of academy	Heard of at end of academy	Absolute difference (%)
Hot spots policing	93.8%	96.9%	3.1*	92.3%	99.4%	7.1
Community-oriented policing	97.7%	100%	2.3	94.9%	99.4%	4.5
Problem-oriented policing	87.9%	97.7%	9.8*	86.5%	98.1%	11.6*
Follow up visits for domestic violence	88%	93.1%	5.1*	92.3%	95.5%	3.2
“Pulling levers” interventions	33.3%	50.8%	17.5*	27.3%	46.8%	19.5*
Use of civil remedies (e.g. nuisance abatement)	53.7%	79.5%	25.8*	60.4%	75.5%	15.1*
Restorative justice	59.6%	68.8%	9.2*	58.3%	68.4%	10.1*
Traffic enforcement to reduce gun crime	80.1%	87.2%	7.1*	80.1%	84.6%	4.5*
Legitimacy/procedural justice	54.2%	71%	16.8*	55.1%	65.4%	10.3*

policing		
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*p <.05; **p<.01; ***p<.001

For both academies, there is wide variation in knowledge in these differing practices. Over 90% of recruits in each academy had familiarity with hot spots policing as well as community-oriented policing, while recruits came in with much less familiarity with tactics such as pulling levers, civil remedies, restorative justice, or legitimacy/procedural justice policing. Additionally, the recruits gained familiarity with all of these tactics by the end of their training – changes in percent familiar all increased across the board. This dissertation is unable to assess the exact manner in which recruits learned about these tactics, but Table 7 shows that cadets are entering the academy with a familiarity of some policing techniques or, for those tactics with less familiarity at the beginning of training, are learning of them throughout the course of the academy.

Existence of Attitudes Connected to Evidence-Based Policing

This section provides descriptives and analysis of changes in the component scale scores described in Chapter 3. It begins first with the pooled analysis of all recruits at the beginning and end of their academy training and then provides a comparison analysis of these component scores in the two different academies studied.

Recruit Attitudes at the Beginning and End of the Academy

First, I pooled together all academy recruits from both academies to examine their responses at the beginning and end of the academy experience for each component within the five attitudinal dimensions. These scores are the average of each recruit's Likert

answer for the questions falling under each component.¹¹ Table 8 provides the mean score and standard deviation (as well as the range of scores) for the attitudinal components at the beginning and end of the academy. The proactivity component and one component under the Community/Citizen Relations component (customer service) are measured on a 4-point Likert scale. The remaining components are all measured on a 5-point Likert scale.

Table 8 Pooled Recruit Scale Scores at Beginning and End of Academy

	Beginning of academy			End of academy		
	Mean	SD	(Min, Max)	Mean	SD	(Min, Max)
Research Receptivity						
Education Support	3.643	.909	(1.5, 5)	3.598	.986	(1.5, 5)
Balance Research & Experience	2.412	.678	(1, 5)	2.279	.715	(1, 5)
Proactivity						
Proactivity	3.792	.326	(2.5, 4)	3.730	.392	(1.75, 4)
Communication						
Communication Skills	4.009	.551	(1.8, 5)	4.139	.552	(2.3, 5)
Empathy	4.174	.526	(2, 5)	4.223	.551	(1.8, 5)
Withholding	4.109	.660	(1, 5)	4.024	.743	(1, 5)
Community/Citizen Relations						
Obtaining Compliance	3.959	.714	(2, 5)	4.139	.647	(2, 5)
Professionalism	4.405	.577	(2.5, 5)	4.283	.643	(2, 5)
Customer Service	3.703	.381	(2.5, 4)	3.702	.404	(2, 4)
Congenial	3.643	.643	(1.5, 5)	3.657	.687	(1, 5)
Low Cynicism						
Community Relations	3.352	.588	(1.6, 5)	3.116	.619	(1.3, 5)
Us Vs. Them	2.591	.704	(1, 4.7)	2.488	.713	(1, 5)

*p < .05; **p < .01; ***p < .001

¹¹ This is true for all scores with two exceptions: the two variables that did not load on any components, but were kept for analysis due to their theoretical importance as well as having variability across recruits.

Recall, a high score shows a strong agreement of the component within the attitudinal dimensions. For example, a high score for communication skills indicates that recruits have high confidence in a variety of communication skills. The mean score for communication skills is approximately 4 at the beginning of the academy, and 4.14 at the end of the academy, indicating that recruits have high confidence in their communications skills at both survey times, but have more confidence at the end of their training. The communication items are measured on a 5-point Likert scale, with the higher number indicating higher confidence in communication abilities. Optimistically at the beginning of training, these scores are all relatively positive – they are greater than the halfway point in their possible ranges. The scores at the end of training are also quite high, closer to the maximum range than the minimum. However, all but four components had a lower average score than at the beginning of the academy. Other than communication skills, empathy, obtaining compliance, and the congenial component, all other scores decreased on average.

To examine whether any of these changes are statistically significant, Table 9 provides the findings from the paired-samples t-test analysis, comparing mean score changes from the beginning of the academy to the end of the academy.

Table 9 Comparing Attitudes at the Beginning and End of Academy

	Beginning of academy mean score	End of academy mean score	Mean Change
Research Receptivity			
Education Support	3.643	3.598	-0.046
Balance Research & Experience	2.412	2.279	-0.132**
Proactivity			
Proactivity	3.792	3.730	-0.062**
Communication			
Communication Skills	4.009	4.137	0.128***
Empathy	4.174	4.221	0.046
Withholding	4.109	4.028	-0.081
Community/Citizen Relationships			
Obtaining Compliance	3.958	4.139	0.180***
Professionalism	4.404	4.283	-0.121***
Customer Service	3.703	3.702	-0.001
Congenial	3.640	3.657	0.017
Low Cynicism			
Community Relations	3.352	3.118	-0.234***
Us Vs. Them	2.591	2.489	-0.102**

*p <.05; **p<.01; ***p<.001

Seven of the thirteen component scale scores significantly change over the course of academy training. The item relating to balancing research with experience significantly decreased, indicating that recruits valued balancing research knowledge about policing less at the end of their training than at the beginning. The proactivity component also significantly decreases over the course of training: at the end of training recruit attitudes regarding these types of tactics were lower than at the beginning. The communication skills component significantly increased in this analysis, indicating that on average recruits feel more confident in their ability to talk to others and resolve conflicts. The question relating to obtaining compliance – which asks about an agreement in letting people vent their problems to achieve compliance, also significantly increases at the end

of training: the recruits are more positive toward this concept at the end of their training. However, the professionalism component significantly decreases over this training, in their second survey recruits are less likely to agree with the importance of being professional with citizens.

Both components from the Low Cynicism attitudinal dimension significantly changed over the academy training. As explained in Chapter 3, these items are coded to measure low cynicism – therefore, a decrease in these items is not a desirable outcome. The community relations component, looking at the extent to which recruits believe there are poor relations between police and the community, decreased significantly. By the end of training, there was a greater sense of these poor relations. The us vs. them component, measuring the extent to which recruits believe there is a strong divide between police and the community, also significantly decreased at the end of the academy, indicating a stronger sense of this divide at the end of their training than at the beginning. The following section examines differences in these items (and changes across time) between the two involved academies.

Differences in Recruit Attitudes Between Academies

The purpose of surveying recruits at two different academies is that it provides the ability to compare attitude scores, and changes in those scores, across the academies. The academies are located within the same state, reporting to the same state training guidelines. However, they have different instructors and serve different police agencies. Even within the same state and the same general requirements, attitudes and attitudinal changes may differ between these two academies.

For example, Table 10 provides the paired samples t-test comparing mean score changes from the beginning of training to the end of training, separated out by academy, in order to assess whether one academy is experiencing more significant change in attitudes than the other. While the academies had several similar significant changes in the same direction (communication skills, obtaining compliance, professionalism, and community relations), there are also some differences in how attitudes changed in the two academies. In Academy 2, recruit attitudes significantly decreased for the balance research and experience question. Also in Academy 2, empathy, customer service, and the congenial component significantly increased. In Academy 1, attitudes about proactivity significantly decreased, as did the withholding component and the us vs. them component.

Table 10 Comparing Change Across Academies

	Academy 1 Mean Change	Academy 2 Mean Change
Research Receptivity		
Education Support	-0.058	-0.026
Balance Research & Experience	-0.073	-0.231***
Proactivity		
Proactivity	-0.097***	-0.005
Communication		
Communication Skills	0.100**	0.174***
Empathy	0.006	0.114**
Withholding	-0.133*	0.0032
Community/Citizen Relationships		
Obtaining Compliance	0.122**	0.277***
Professionalism	-0.109*	-0.139**
Customer Service	-0.036	0.059*
Congenial	-0.078	0.174**
Low Cynicism		

Community Relations	-0.297***	-0.129**
Us Vs. Them	-0.125**	-0.064

*p <.05; **p<.01; ***p<.001

Table 11 provides the independent samples t-test for scale scores at the beginning of training. The table shows that the academies do not differ tremendously in scale scores at the beginning of training. No mean scores differed significantly at the beginning of training.

Table 11 Differences Between Academies at the Beginning of Training

	Academy 1 Mean	Academy 2 Mean	Mean Difference
Research Receptivity			
Education Support	3.627	3.669	0.042
Balance Research & Experience	2.401	2.429	0.028
Proactivity			
Proactivity	3.769	3.827	0.058
Communication			
Communication Skills	4.036	3.966	-0.069
Empathy	4.174	4.175	0.001
Withholding	4.117	4.096	-0.021
Community/Citizen Relations			
Obtaining Compliance	3.946	3.981	0.035
Professionalism	4.391	4.426	0.035
Customer Service	3.699	3.709	0.009
Congenial	3.639	3.647	0.008
Low Cynicism			
Community Relations	3.318	3.410	0.093
Us Vs. Them	2.615	2.550	-0.065

*p <.05; **p<.01; ***p<.001

Table 12 provides the independent samples t-test for scale scores at the end of the academy. Here, the difference between the two academies is more pronounced. Five mean scale scores significantly differ across academy. Academy 2 recruits had significantly higher mean scale scores for proactivity, obtaining compliance, customer service, congeniality, and community relations.

Table 12 Differences Between Academies at the End of Training

	Academy 1 Mean	Academy 2 Mean	Mean Difference
Research Receptivity			
Education Support	3.569	3.644	0.075
Balance Research & Experience	2.328	2.198	-0.129
Proactivity			
Proactivity	3.675	3.821	0.146***
Communication			
Communication Skills	4.139	4.140	0.001
Empathy	4.183	4.288	0.105
Withholding	3.979	4.099	0.121
Community/Citizen Relations			
Obtaining Compliance	4.067	4.258	0.191**
Professionalism	4.278	4.290	0.012
Customer Service	3.663	3.767	0.104**
Congenial	3.559	3.819	0.261***
Low Cynicism			
Community Relations	3.020	3.276	0.256***
Us Vs. Them	2.490	2.483	-0.007

*p <.05; **p<.01; ***p<.001

Table 13 provides the independent samples t-test that compares the mean change scores for each academy. The proactivity component and community relations

components had a negative mean change in both academies, yet the differences between the two academies in these changes were statistically significant. Additionally, the congenial component mean change was negative for recruits in Academy 1 and positive for recruits in Academy 2, and this difference was also significant. Finally, while the obtaining compliance component had a positive mean change score in both academies, the change was significantly greater in Academy 2. This difference was statistically significant for the congenial component. Appendix D provides Kruskal-Wallis test output comparing the eight individual cohorts at the beginning and end of the academy. Each cohort had both negative and positive changes in the different components; all but one cohort had statistically significant changes in opposite directions (in which one component changed significantly in the positive direction, and another component changed significantly in the negative direction). The differences are random and difficult to interpret, indicating that there is not one cohort driving the significant changes in the attitudinal components, or the significant differences between the academies at the end of training.

Table 13 Differences Between Academies, Attitudinal Change

	Academy 1 Mean Change	Academy 2 Mean Change	Mean Difference
Research Receptivity			
Education Support	-.058	-.026	0.032
Balance Research & Experience	-.073	-.231	-0.157
Proactivity			
Proactivity	-.097	-.005	.092*
Communication			
Communication Skills	.100	.174	0.074

Empathy	.005	.114	0.108
Withholding	-.133	.003	0.136
Community/Citizen Relations			
Obtaining Compliance	.122	.277	0.156*
Professionalism	-.110	-.139	-0.0289
Customer Service	-.037	.059	0.095
Congenial	-.078	.174	0.253**
Low Cynicism			
Community Relations	-.297	-.129	0.169**
Us Vs. Them	-.125	-.064	0.06

*p <.05; **p<.01; ***p<.001

Regression Analysis

The analysis provided in prior sections shows that recruit attitudes do change over the course of training. Some attitudes change in a positive direction, and other attitudes are less favorable toward openness to evidence-based policing notions. Additionally, many attitudes and changes in attitudes varied by academy. The regression analysis attempts to predict attitudes and attitudinal change using particular individual demographics of recruits, as well as using academy as a predictor.¹²

Demographic and Organizational Predictors of Attitudes at the Beginning of Training

The following tables present the regression coefficients as well as t scores for the attitudinal components at the beginning of the academy. The independent variables entered into the model were age, being male, being a minority, being a sworn officer in a different organization before entering the academy, having prior military experience, and the highest level of education attained. Finally, due to interesting findings from the

¹² Two temporal predictor variables were initially entered into the regression models as well (if the recruit was in training prior to the events in Ferguson and prior to the events in Baltimore), with no significant findings.

independent samples t-test in which academies differed significantly in many items, being in Academy 1 was also entered into the model as a predictor variable. The tables are broken out by the five attitudinal dimensions, for organizational and spacing purposes.

Table 14 shows factors that may predict recruit support for education and the way they balance research and experience. When examining recruits at the beginning of the academy, the higher a recruit's education, the greater their support for police education. No recruit or academy characteristics seemed to predict whether recruits supported a balance between research and experience.

Table 14 Predictors of Research Receptivity Attitudes: Beginning of Training

	Education Support R ² = .277	Balance Research and Experience R ² = .014
Age	-.009 (-1.16)	-.0003 (-.05)
Male	.067 (.68)	-.051 (-.61)
Minority	.122 (1.42)	.105 (1.44)
Prior Sworn	-.139 (-1.15)	-.056 (-.51)
Military	.045 (.47)	-.079 (-.98)
Education	.378 (12.11)**	.023 (.81)
Academy	.005 (.07)	-.027 (-.39)

*p <.05; **p<.01; ***p<.001

Table 15 shows individual demographics regressed on attitudes at the beginning of the academy related to the attitudinal dimension of proactivity. None of the independent variables predicted attitudes in this component.

Table 15 Predictors of Proactivity Attitudes: Beginning of Training

	Proactivity R ² = .012
Age	-.000 (-.06)
Male	-.03 (-.88)
Minority	.031 (.68)
Prior Sworn	-.014 (-.32)
Military	.002 (.05)
Education	-.002 (-.14)
Academy	-.060 (-1.69)

*p <.05; **p<.01; ***p<.001

Table 16 shows factors that may predict recruit attitudes regarding communication. None of the predictors entered significantly predicted attitudes at the beginning of training in this attitudinal dimension. These components are all negatively skewed – most recruits rated the items in these components quite highly, possibly negating any individual or organizational factors that may contribute to these scores (perhaps suggesting that by the time an individual enters the police academy, they are already confident and comfortable in their ability to communicate with others).

Table 16 Predictors of Communication Attitudes: Beginning of Training

	Communication Skills R ² = .024	Empathy R ² = .018	Withholding R ² = .011
Age	.005 (.80)	.006 (1.15)	.012 (1.73)
Male	.005 (.08)	-.091 (-1.38)	.026 (.31)
Minority	.014 (.23)	.087 (1.54)	-.0611 (-.79)
Prior Sworn	.122 (1.63)	-.009 (-.13)	-.018 (-.17)
Military	.129 (1.92)	-.040 (-.62)	-.051 (-.65)
Education	.009 (.39)	.015 (.80)	.027 (1.05)
Academy	.037 (.68)	-.009 (-.19)	.023 (.34)

*p <.05; **p<.01; ***p<.001

Table 17 displays characteristics regressed on attitudes relating to community/citizen relations at the beginning of the academy. Two components in this dimension found significant predictors. Having prior military experience led to a significantly lower component score for professionalism – which rates the importance of being respectable and courteous toward citizens. Education was found to be a significant negative predictor for customer service ratings: the higher the level of education attained by the recruit, the lower they agree with the idea that police should improve services to citizens.

Table 17 Predictors of Community/Citizen Relations Attitudes: Beginning of Training

	Obtaining Compliance R ² = .004	Professionalism R ² = .02	Customer Service R ² = .03	Congenial R ² = .02
Age	.001 (.14)	.009 (1.61)	-.002 (-.55)	.002 (.36)
Male	-.041 (-.43)	-.021 (-.29)	-.025 (-.52)	.141 (1.68)
Minority	-.030 (-.38)	.003 (.05)	.075 (1.79)	-.101 (-1.27)
Prior Sworn	-.044 (-.43)	-.138 (-1.46)	-.081 (-1.43)	.028 (.28)
Military	-.024 (-.27)	-.146 (-1.99)*	.044 (1.01)	.031 (.38)
Education	.021 (.73)	-.009 (-.41)	-.034 (-2.19)*	.0002 (.01)
Academy	-.014 (-.18)	-.019 (-.32)	-.008 (-.23)	-.006 (-.09)

*p <.05; **p<.01; ***p<.001

Table 18 shows factors that may predict low cynicism among recruit attitudes when they first enter into training. Several predictors were found to be significant in this dimension. Age and male were significant positive predictors for the community relations

component, and being a prior sworn officer was a negative predictor. The community relations component measures the extent to which recruits believe there is a negative relationship between the police and the community. In this component, the higher the score, the lower the cynicism. Thus, being older and being male led to lower levels of cynicism, while being a prior sworn officer led to higher cynicism. The us vs. them component found that being a minority significantly predicts lower cynicism in believing there is a strong divide between police and the community. Additionally, education was a significant negative predictor of this component. More highly educated recruits had higher cynicism within this component at the beginning of training.

Table 18 Predictors of Low Cynicism Attitudes: Beginning of Training

	Community Relations R ² = .08	Us Vs. Them R ² = .07
Age	.027 (4.14)**	.015 (1.91)
Male	.141 (2.18)*	-.044 (-.55)
Minority	.012 (.17)	.240 (2.92)**
Prior Sworn	-.300 (-3.42)**	-.185 (-1.82)
Military	-.046 (-.66)	.032 (.37)
Education	.011 (.46)	-.0638 (-2.33)*
Academy	-.069 (-1.2)	.048 (.68)

*p <.05; **p<.01; ***p<.001

Demographic and Organizational Predictors of Attitudes at the End of Training

The following tables present the regression coefficients as well as t scores for the attitudinal components at the end of the academy. Table 19 shows factors that may predict recruit support for education and the way they balance research and experience.

When examining recruits at the end of the academy, similar to the beginning of the academy, education is a significant positive predictor for education support. Additionally, being minority significantly predicted a higher score for education support. Unlike at the beginning of the academy, education was a significant positive predictor for the balance component. The interpretation of this component is that the higher the score, the more a recruit gives weight to scientific research in day-to-day decision-making. Thus, recruits that are more educated were more likely to support using research in decision-making.

Table 19 Predictors of Research Receptivity Attitudes: End of Training

	Education Support R ² = .23	Balance Research and Experience R ² = .05
Age	-.009 (-1.00)	.0007 (.1)
Male	.095 (.83)	-.149 (-1.71)
Minority	.214 (2.18)*	.034 (.41)
Prior Sworn	-.156 (-1.20)	-.166 (-1.58)
Military	.161 (1.62)	-.048 (-.56)
Education	.371 (10.78)**	.076 (2.59)*
Academy	-.046 (-.51)	.135 (1.83)

*p <.05; **p<.01; ***p<.001

Table 20 displays characteristics regressed on attitudes regarding proactivity. Being a minority was a significant positive predictor for this component. Additionally, being in Academy 1 predicted having more negative attitudes toward these attitudes by the end of training.

Table 20 Predictors of Proactivity Attitudes: End of Training

	Proactivity R ² = .04
Age	-.002 (-.53)
Male	-.018 (-.4)
Minority	.095 (2.05)*
Prior Sworn	-.028 (-.45)
Military	.043 (.87)
Education	-.021 (-1.28)
Academy	-.143 (-3.68)**

*p <.05; **p<.01; ***p<.001

Table 21 shows factors that may predict attitudes about communication at the end of training. No characteristics of recruits supported significantly positive or negative attitudes about their communication skills, mirroring the regression findings on this component from the beginning of training. The empathy component, which examines confidence in making others comfortable, being a minority or having higher levels of education led to a higher score on this component, while being in Academy 1 led to more negative attitudes in the empathy component. The withholding component measures confidence in reaching out with advice (or delivering bad news) had one positive significant predictor: education. Recruits with higher education may be more likely to have more positive attitudes in reaching out to others by the end of training.

Table 21 Predictors of Communication Attitudes: End of Training

	Communication Skills R ² = .03	Empathy R ² = .06	Withholding R ² = .03
Age	.006 (1.04)	.004 (.70)	.005 (.60)

Male	.073 (1.07)	-.101 (-1.61)	.038 (.44)
Minority	.049 (.74)	.179 (2.89)**	-.053 (-.59)
Prior Sworn	.145 (1.8)	-.077 (-.88)	-.191 (-1.62)
Military	.125 (1.83)	.074 (1.07)	-.026 (-.26)
Education	.006 (.28)	.052 (2.13)*	.067 (2.19)*
Academy	-.045 (-.78)	-.124 (-2.32)*	-.103 (-1.40)

*p <.05; **p<.01; ***p<.001

Table 22 displays characteristics that may predict attitudes about the relationship between police and the community. Academy 1 was a significantly negative predictor for the obtaining compliance item, which measures whether a recruit agrees with using procedural justice techniques to gain compliance. At the end of training, recruits in Academy 1 had more negative attitudes toward this idea. In the professionalism component, being a minority was a significant positive predictor for a higher score for professionalism: minorities may be more likely to agree that all citizens should be treated with respect at the end of training. The customer service regression found that minorities may be more apt to have more positive attitudes about providing services to the community, and having a higher education or being in Academy 1 predicted lower scores on the customer service component. Being in Academy 1 also significantly predicted lower scores on the congenial component, which measures attitudes about friendly interactions with members of the community.

Table 22 Predictors of Community/Citizen Relations Attitudes: End of Training

	Obtaining Compliance R ² = .04	Professionalism R ² = .03	Customer Service R ² = .05	Congenial R ² = .05
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Age	-.008 (-1.33)	.004 (.64)	-.002 (-.44)	-.004 (-.66)
Male	.047 (.55)	.056 (.69)	-.082 (-1.82)	.063 (.76)
Minority	.124 (1.70)	.190 (2.64)**	.111 (2.65)**	-.112 (-1.44)
Prior Sworn	.043 (.45)	.051 (.51)	-.028 (-.46)	-.142 (-1.25)
Military	-.027 (-.33)	-.024 (-.30)	.035 (.75)	.055 (.69)
Education	.044 (1.63)	.028 (1.05)	-.035 (-2.11)*	.011 (.39)
Academy	-.184 (-2.66)**	-.018 (-.27)	-.108 (-2.76)**	-.244 (-3.46)**

*p <.05; **p<.01; ***p<.001

Table 23 shows factors that may predict attitudes indicating low cynicism regarding how the public views the police they serve. Age was found to be a significant positive predictor for lower cynicism for the community relations component, while being in Academy 1 significantly predicted higher cynicism. In the us vs. them component, having experience as a prior sworn police officer led to higher cynicism.

Table 23 Predictors of Low Cynicism Attitudes: End of Training

	Community Relations R ² = .13	Us Vs. Them R ² = .02
Age	.036 (7.21)**	.011 (1.49)
Male	.031 (.43)	.009 (.11)
Minority	-.079 (-1.14)	.129 (1.57)
Prior Sworn	-.179 (-1.96)	-.266 (-2.51)*
Military	-.028 (-.41)	.054 (.59)
Education	-.020 (-.79)	-.048 (-1.70)
Academy	-.258 (-4.15)**	.003 (.04)

*p <.05; **p<.01; ***p<.001

Demographic and Organizational Predictors of Changes in Attitudes

The change scores presented below are interpretable in a different manner than overall component scores shown for the beginning and the end of the academy. Change scores ranged from -4 to 3, with mean change scores ranging from -.234 to .180. It is important to note, however, that upon inspection of change score frequency tables, the modal change score for every component was zero. Most recruit scores did not change over the course of the academy. Those that did, however, do also have some significant predictors of that change. Table 24 presents predictors of change in receptivity to research. For this dimension, no characteristics of recruits led to significant changes in attitudes.

Table 24 Predictors of Research Receptivity Attitudinal Change

	Education Support R ² = .008	Balance Research and Experience R ² = .02
Age	-.0002 (-.02)	.001 (.14)
Male	.028 (.3)	-.097 (-.97)
Minority	.092 (1.12)	-.071 (-.82)
Prior Sworn	-.018 (-.2)	-.110 (-1.08)
Military	.115 (1.5)	.031 (.33)
Education	-.007 (-.23)	.053 (1.61)
Academy	-.051 (-.69)	.163 (1.93)

*p <.05; **p<.01; ***p<.001

Table 25 shows factors that may predict attitudes about proactivity. Being in Academy 1 was a significant predictor of a negative change in these attitudes.

Table 25 Predictors of Proactivity Attitudinal Change

	Proactivity R ² = .02
Age	-.002 (-.57)
Male	.013 (.28)
Minority	.066 (1.48)
Prior Sworn	-.011 (-.19)
Military	.043 (.92)
Education	-.019 (-1.37)
Academy	-.088 (-2.20)*

*p <.05; **p<.01; ***p<.001

Table 26 displays characteristics that may predict attitude change about communication. No characteristics of recruits supported significant attitude changes for the communication skills or withholding component. Academy was a significant predictor change in the empathy component: being in Academy 1 predicted more negative attitude change regarding sympathetic communication.

Table 26 Predictors of Communication Attitudinal Change

	Communication Skills R ² = .01	Empathy R ² = .03	Withholding R ² = .02
Age	.002 (.41)	-.002 (-.25)	-.005 (-.58)
Male	.072 (1.21)	-.008 (-.12)	.015 (.17)
Minority	.041 (.75)	.097 (1.52)	.012 (.12)
Prior Sworn	.018 (.25)	-.071 (-.98)	-.176 (-1.28)
Military	-.007 (-.13)	.112 (1.42)	.023 (.23)
Education	-.002 (-.09)	.037 (1.58)	.040 (1.21)
Academy	-.079 (-1.56)	-.112 (-2.01)*	-.124 (-1.46)

*p <.05; **p<.01; ***p<.001

Table 27 shows factors regressed on attitude change for community/citizen relations. Being in Academy 1 was a significant predictor of negative attitudinal change in obtaining compliance, customer service, and the congenial component. Being a minority was a significant predictor for positive attitude changes in the professionalism component.

Table 27 Predictors of Community/Citizen Relations Attitudinal Change

	Obtaining Compliance R ² = .03	Professionalism R ² = .04	Customer Service R ² = .02	Congenial R ² = .04
Age	-.009 (-1.44)	-.005 (-.75)	.0004 (.12)	-.006 (-.85)
Male	.089 (.96)	.080 (.96)	-.057 (-1.25)	-.074 (-.82)
Minority	.155 (1.85)	.194 (2.77)**	.036 (.90)	-.010 (-.12)
Prior Sworn	.087 (.85)	.186 (1.94)	.053 (.85)	-.174 (-1.50)
Military	-.002 (-.02)	.126 (1.63)	-.009 (-.20)	.017 (.19)
Education	.023 (.75)	.039 (1.64)	-.001 (-.06)	.012 (.41)
Academy	-.169 (-2.20)*	.007 (.11)	-.099 (-2.57)*	-.236 (-3.09)**

*p < .05; **p < .01; ***p < .001

Table 28 shows factors that may predict attitude changes regarding low cynicism. Being in Academy 1 was a significant predictor of negative attitude change for the community relations component. No characteristics of recruits supported significant change for the us vs. them component.

Table 28 Predictors of Low Cynicism Attitudinal Change

	Community Relations R ² = .05	Us Vs. Them R ² = .01
Age	.008 (1.42)	-.003 (-.42)
Male	-.108 (-1.73)	.056 (.69)
Minority	-.082 (-1.33)	-.105 (-1.40)
Prior Sworn	.119 (1.50)	-.082 (-.81)
Military	.018 (.29)	.022 (.26)
Education	-.028 (-1.31)	.017 (.66)
Academy	-.192 (-3.56)**	-.048 (-.69)

*p <.05; **p<.01; ***p<.001

Demographic Predictors of Attitudes Between Academies at the Beginning of Training

After careful examination of the significant predictors of attitudes and attitudinal changes in the previous sections, it was decided that an additional analysis is necessary to assess whether the Academy variable may have acted as a suppressor for other predictors. Thus, I ran the regressions once more, separating out the academies and only using the individual predictor variables. Because I was interested in the difference in academies for attitudinal change, I only ran these regressions for the beginning of the academy and for change scores. Table 29 provides the predictors of attitudes in receptivity to research for each academy. In both academies, education level is a significant predictor of the education support component.

Table 29 Predictors of Receptivity Between Academies: Beginning of Training

Academy 1		
	Education Support R ² = .24	Balance Research and Experience R ² = .008
Age	-.012 (-.92)	.001 (.15)
Male	.098 (.69)	.096 (.79)

Minority	-.025 (-.19)	.028 (.25)
Prior Sworn	-.139 (-1.02)	-.021 (-.14)
Military	-.048 (-.35)	-.107 (-.98)
Education	.339 (7.44)***	.021 (.55)
Academy 2		
	Education Support R ² = .31	Balance Research and Experience R ² = .02
Age	-.002 (-.23)	-.003 (-.37)
Male	.216 (1.25)	-.124 (-.86)
Minority	.045 (.26)	.002 (.02)
Prior Sworn	-.074 (-.27)	-.170 (-.79)
Military	.128 (.74)	.051 (.35)
Education	.406 (8.69)***	.043 (.83)

Table 30 provides the predictors of proactivity attitudes for each academy at the beginning of training. No predictors were significant for either academy.

Table 30 Predictors of Proactivity Between Academies: Beginning of Training

	Academy 1
	Proactivity R ² = .01
Age	-.001 (-.18)
Male	-.042 (-.74)
Minority	.001 (.02)
Prior Sworn	-.045 (-.73)
Military	.044 (.84)
Education	-.016 (-.89)
	Academy 2
	Proactivity R ² = .04
Age	.002 (.42)
Male	-.038 (-.58)
Minority	.071 (1.12)

Prior Sworn	.049 (.90)
Military	-.089 (-1.16)
Education	.019 (.80)

Table 31 provides the predictors of attitudes regarding communication for each academy at the beginning of training. In Academy 1, education was a significant predictor for positive attitudes in the empathy component, while in Academy 2, prior military experience predicted more positive attitudes regarding recruit communication skills.

Table 31 Predictors of Communication Attitudes Between Academies: Beginning of Training

Academy 1			
	Communication Skills R ² = .03	Empathy R ² = .03	Withholding R ² = .02
Age	.004 (.60)	.001 (.19)	.006 (.65)
Male	.148 (1.53)	-.016 (-.19)	.176 (1.37)
Minority	.075 (.73)	.164 (2.06)*	-.149 (-1.14)
Prior Sworn	.115 (1.14)	-.006 (-.07)	-.154 (-1.0)
Military	.021 (.24)	-.022 (-.25)	-.08 (-.81)
Education	.040 (1.25)	.059 (2.33)*	-.002 (-.06)
Academy 2			
	Communication Skills R ² = .05	Empathy R ² = .04	Withholding R ² = .04
Age	-.003 (-.3)	.008 (1.10)	.009 (.87)
Male	-.091 (-.93)	-.150 (-1.31)	-.076 (-.57)
Minority	-.001 (-.01)	.061 (.67)	-.008 (-.07)
Prior Sworn	.107 (.79)	.003 (.03)	.264 (1.7)
Military	.258 (2.15)*	-.113 (-.93)	.017 (.11)
Education	-.015 (-.43)	-.016 (-.47)	.053 (1.36)

Table 32 provides the predictors of attitudes for community/citizen relations for each academy at the beginning of training. In Academy 1, education predicted negative attitudes toward customer service. In Academy 2, being minority significantly predicted more positive attitudes in the customer service component. Also in Academy 2, education predicted positive attitudes in the congenial component at the beginning of training.

Table 32 Predictors of Community/Citizen Relations Between Academies: Beginning of Training

Academy 1				
	Obtaining Compliance R ² = .02	Professionalism R ² = .03	Customer Service R ² = .05	Congenial R ² = .04
Age	.007 (.77)	.009 (1.2)	.002 (.37)	.005 (.73)
Male	.082 (.58)	-.107 (-1.14)	-.033 (-.50)	.101 (.9)
Minority	-.199 (-1.67)	-.048 (-.49)	.053 (.84)	-.124 (-1.18)
Prior Sworn	-.003 (-.02)	-.169 (-1.37)	-.097 (-1.37)	.136 (1.22)
Military	-.029 (-.28)	-.089 (.347)	.066 (1.16)	.073 (.78)
Education	-.012 (-.3)	.001 (.03)	-.054 (-2.70)**	-.035 (-1.08)
Academy 2				
	Obtaining Compliance R ² = .05	Professionalism R ² = .05	Customer Service R ² = .05	Congenial R ² = .06
Age	.001 (.07)	.003 (.31)	-.008 (-1.45)	-.003 (-.22)
Male	-.238 (-1.51)	.088 (.68)	.009 (.11)	.159 (1.18)
Minority	.056 (.45)	.185 (1.44)	.171 (2.04)*	.059 (.34)
Prior Sworn	-.114 (-.62)	-.131 (-.68)	-.022 (-.24)	-.139 (-.67)
Military	-.248 (-1.24)	-.225 (-1.56)	-.057 (-.63)	-.145 (-.84)
Education	.044 (.86)	.004 (.09)	-.001 (-.02)	.103 (2.1)*

Table 33 provides the predictors in low cynicism for each academy at the beginning of training. In both academies, having experience as a prior sworn officer

significantly predicted more negative attitudes in the community relations component. In Academy 1, being male significantly predicted more positive attitudes in the community relations component. Being a minority predicted more positive attitudes in the us vs. them component, whereas education predicted more negative attitudes in this component. In Academy 2, increased age significantly predicted more positive views on community relations.

Table 33 Predictors of Low Cynicism Between Academies: Beginning of Training

Academy 1		
	Community Relations R ² = .07	Us Vs. Them R ² = .12
Age	.019 (1.86)	.017 (1.92)
Male	.196 (2.14)*	-.166 (-1.43)
Minority	.067 (.65)	.326 (2.65)**
Prior Sworn	-.309 (-2.51)*	-.203 (-1.48)
Military	.006 (.07)	.232 (2.08)*
Education	.007 (.20)	-.087 (-2.5)*
Academy 2		
	Community Relations R ² = .09	Us Vs. Them R ² = .05
Age	.028 (3.48)**	.013 (.78)
Male	.102 (.86)	-.004 (-.03)
Minority	.001 (.01)	.183 (1.02)
Prior Sworn	-.359 (-2.31)*	-.200 (-1.01)
Military	-.143 (-1.21)	-.221 (-1.38)
Education	.012 (.32)	-.051 (-.93)

Demographic Predictors of Attitudinal Change Between Academies

In addition to examining various predictors of attitudes at the beginning of training between the two academies, I also wanted to assess whether the predictors of *change* varied between the two organizations. Table 34 provides the predictors of attitude change in receptivity to research for each academy. No significant predictors were found for either academy.

Table 34 Predictors of Receptivity Attitudinal Change Between Academies

Academy 1		
	Education Support R ² = .009	Balance Research and Experience R ² = .02
Age	-.007 (-.47)	-.008 (-.83)
Male	-.058 (-.46)	-.084 (-.64)
Minority	.044 (.41)	-.106 (-.95)
Prior Sworn	.045 (.41)	-.083 (-.69)
Military	.164 (1.67)	.148 (1.41)
Education	-.008 (-.2)	.038 (.92)
Academy 2		
	Education Support R ² = .03	Balance Research and Experience R ² = .04
Age	.011 (.93)	.014 (1.11)
Male	.168 (1.18)	-.145 (-.86)
Minority	.164 (1.27)	.007 (.05)
Prior Sworn	-.095 (-.68)	-.139 (-.61)
Military	.041 (.33)	-.211 (-1.11)
Education	-.006 (-.16)	.076 (1.33)

Table 35 provides the predictors of attitude change for proactivity for each academy. No significant predictors were found for either academy.

Table 35 Predictors of Proactivity Attitudinal Change Between Academies

Academy 1	
Proactivity	
R ² = .02	
Age	-.005 (-1.22)
Male	.021 (.32)
Minority	.104 (1.62)
Prior Sworn	.035 (.44)
Military	.024 (.39)
Education	-.018 (-.98)
Academy 2	
Proactivity	
R ² = .03	
Age	.003 (.83)
Male	.007 (.10)
Minority	.006 (.11)
Prior Sworn	-.91 (-.9)
Military	.095 (1.31)
Education	-.017 (-.74)

Table 36 provides the predictors of attitude change for the communication items for each academy. No individual predictors were found in Academy 1. In Academy 2, prior experience as a sworn officer significantly predicted more negative attitudes for the withholding component.

Table 36 Predictors of Communication Attitudinal Change Between Academies

Academy 1			
	Communication Skills	Empathy	Withholding
	R ² = .02	R ² = .01	R ² = .01
Age	-.001 (-.19)	.000 (0.0)	-.012 (-1.06)

Male	-.023 (-.32)	-.015 (-.18)	.024 (.20)
Minority	.069 (1.0)	.128 (1.48)	-.000 (-0.0)
Prior Sworn	.084 (.93)	-.034 (-.39)	.019 (.11)
Military	.025 (.34)	.089 (.85)	-.055 (-.42)
Education	-.033 (-1.49)	.015 (.45)	.041 (.87)
Academy 2			
	Communication Skills R ² = .05	Empathy R ² = .06	Withholding R ² = .08
Age	.007 (1.07)	-.004 (-.72)	.002 (.12)
Male	.223 (2.13)	-.005 (-.05)	-.019 (-.15)
Minority	-.022 (-.24)	.041 (.45)	.046 (.30)
Prior Sworn	-.103 (-.72)	-.173 (-1.93)	-.635 (-2.77)**
Military	-.036 (-.39)	.172 (1.57)	.220 (1.34)
Education	.051 (1.61)	.079 (2.59)*	.051 (1.17)

Table 37 provides the predictors of attitude change for community/citizen relations for each academy. In Academy 1, being minority significantly predicted positive attitude change for obtaining compliance, as well as for professionalism. Also in Academy 1, prior sworn experience predicted positive attitudinal change for professionalism. In Academy 2, military experience as well as education significantly predicted positive attitudinal change for professionalism. Additionally, prior sworn experience significantly predicted negative change for the congenial component.

Table 37 Predictors of Community/Citizen Relations Attitudinal Change Between Academies

Academy 1				
	Obtaining Compliance R ² = .04	Professionalism R ² = .05	Customer Service R ² = .03	Congenial R ² = .02
Age	-.007 (-.85)	-.009 (-.84)	-.005 (-.99)	-.008 (-.95)
Male	.091 (.77)	.058 (.54)	-.072 (-1.2)	-.029 (-.25)
Minority	.272 (2.58)*	.256 (2.58)*	.055 (.99)	-.026 (-.25)
Prior Sworn	.172 (1.36)	.298 (2.51)*	.108 (1.4)	-.084 (-.56)

Military	-.037 (-.34)	.078 (.77)	-.038 (-.64)	-.084 (-.76)
Education	.035 (.93)	.022 (.65)	.005 (.27)	.042 (1.18)
Academy 2				
	Obtaining Compliance R ² = .02	Professionalism R ² = .06	Customer Service R ² = .03	Congenial R ² = .05
Age	-.015 (-1.27)	-.001 (-.1)	.008 (1.55)	-.004 (-.35)
Male	.095 (.62)	.119 (.81)	-.010 (-.14)	-.138 (-.91)
Minority	-.049 (-.35)	.086 (.92)	.001 (.02)	.024 (.15)
Prior Sworn	-.141 (-.74)	-.073 (-.44)	-.042 (-.41)	-.392 (-2.36)*
Military	.089 (.49)	.261 (2.18)*	.075 (1.14)	.229 (1.46)
Education	.005 (1.46)	.076 (2.18)*	-.009 (-.38)	-.032 (-.61)

Table 38 provides the predictors of attitude change for low cynicism for each academy. In Academy 1, higher education significantly predicted negative attitudinal change for community relations, while being minority predicted negative change for the us vs. them component. In Academy 2, prior sworn experience predicted positive attitudinal change in the community relations component.

Table 38 Predictors of Low Cynicism Attitudinal Change Between Academies

Academy 1		
	Community Relations R ² = .03	Us Vs. Them R ² = .04
Age	.007 (.87)	-.008 (-.86)
Male	-.137 (-1.69)	-.022 (-.22)
Minority	-.116 (-1.44)	-.228 (-2.45)*
Prior Sworn	.039 (.4)	-.054 (-.43)
Military	-.026 (-.35)	.006 (.06)
Education	-.059 (-2.13)*	.003 (.11)
Academy 2		
	Community Relations R ² = .07	Us Vs. Them R ² = .02
Age	.012 (1.44)	.006 (.46)

Male	-0.025 (-.27)	.181 (1.18)
Minority	-.029 (-.32)	.104 (.82)
Prior Sworn	.333 (2.83)**	-.902 (-.48)
Military	.121 (1.04)	.072 (.46)
Education	.026 (.73)	.044 (.91)

CHAPTER FIVE: DISCUSSION AND CONCLUSION

In this dissertation, I sought to examine whether literature could point to attitudes that may relate to openness to evidence-based policing and whether I could assess these attitudes among police academy recruits. I also examined whether these attitudes change over the course of training, by gauging these attitudes at the beginning and the end of academy training, as well as whether any individual characteristics could predict these attitudes, or their changes. By creating component scores for recruits based on principal components analysis run for each identified attitudinal dimension, I was able to examine scores at the beginning and end of training, as well as make comparisons between the two academies examined. Below, I discuss the findings of this research, their implications for the evidence-based policing movement, study limitations, and ideas for future studies.

Discussion of Results

First, there is variability in the extent to which academy recruits enter their training with knowledge of different evidence-based policing tactics, and in how much they become familiar with tactics during their training. While most recruits enter the academy familiar with terms such as hot spots policing and community-oriented policing, other tactics are less known. The tactics that were less familiar at the beginning of training had, optimistically, the greatest percentage increase in familiarity by the end of training. However, several evidence-based tactics were still rather unknown by almost all

recruits before graduating. In the survey recruits take at the end of their training, less than 70% in both academies had familiarity with restorative justice. Approximately half of recruits in Academy 1 and less than half of the recruits in Academy 2 completed their training with a familiarity of pulling levers interventions. Additionally, less than 75% of recruits left training with familiarity in legitimacy/ procedural justice policing –a style of policing that may help rebuild trust and confidence between police and their communities.

Recruits begin their training with relatively positive attitudes concerning the attitudinal components measuring their openness to evidence-based policing. The pooled scores show that the mean for each component is positive, compared to the possible range of scores. All components, other than balancing research and experience, have a mean higher than the halfway mark of possible scores.¹³ Many components are considerably higher, with means much closer to the highest possible score. Similar to findings described in Chapter 2, that individuals may be open to new ideas during an educational period (see Aarons, 2004; Garland et al., 2003), the recruits answer their first survey with relatively positive perspectives on the items of interest to this dissertation.

However, most of the attitudinal scores decrease in a negative manner by the end of training. With the exception of communication skills, empathy, obtaining compliance, and congeniality, the attitudinal components all decreased, on average, indicating a drop in openness to the philosophies and tactics of evidence-based policing. Five of these decreases were statistically significant. However, two of the positive changes were also

¹³ Academy recruits in this study, however, are still much more positive about balancing research with experience than current officers answering the same question, (see Telep & Lum, 2014a).

significant: recruits were statistically more positive in their confidence in their communication skills as well as their attitudes toward obtaining compliance by the end of their training.

Age emerging as a significant predictor of positive attitudes regarding community relations provides interesting insight. Discussed in the literature review, age has been shown to be related to receptivity to innovation in a prior study, in which the older the officer, the less positive their view of the readiness of their department for innovation (Mastrofski & Rosenbaum, 2011). This dissertation found that age was a positive predictor of attitudes toward community relations – the older the recruit, the more positive the attitudes.

I found that, at the beginning of training, males had attitudes that are more positive in the community relations component. Research often examines the gender differences in officers regarding burnout or coping with stress (He, Zhao, & Archbold, 2002; McCarty, “Solomon” Zhao, & Garland, 2007), or decision-making (Visher, 1983). What is important to note in this dissertation is that being male was only a predictor of more positive attitudes in community relations at the beginning of training, and not at the end. Thus, by the end of the academy training, upon entering into their careers, gender was not a predictor of any particular attitudes, which concurs with a review piece examining studies on gender differences in officer attitudes (Poteyeva & Sun, 2009). It would seem that, at least as far as gender is concerned, attending the police academy neutralizes attitudinal differences between male and female cadets.

Being minority was found to be a positive predictor for the us vs. them attitudinal component at the beginning of the academy, and for education support, empathy, professionalism, and customer service at the end of training. These findings are similar to research examining a comparison of white and black officer attitudes, which found that black officers tend to have a broader police role orientation, be less selective in their enforcement of the law, and have more positive attitudes toward legal restrictions (Sun, 2003). Another study has found that black police officers are more likely to feel criticized and to believe they are perceived as militant (Dowler, 2005). These attitudes may contribute to minority officers supporting the significant findings mentioned above, particularly items such as professionalism and customer service.

Having been a former sworn officer with another organization was a predictor for the low cynicism attitudinal dimensions: leading to more negative attitudes toward community relations at the beginning of training, and more negative attitudes toward the us vs. them attitudes at the end of the academy. Unfortunately, we do not know enough information about veteran officer attitudes when embarking on a career in a new agency. These findings suggest that having this experience can create a stronger sense of cynicism than recruits that have not previously served do, contributing to the police cynicism literature discussed in Chapter 2.

Having military experience before entering the academy was a predictor of negative attitudes toward professionalism at the beginning of training, but positive attitudes toward proactivity at the end of the academy. Most existing research on police officers with prior military experience focuses less on attitudes and more on topics such

as coping with stress and burnout (see Ivie & Garland, 2011; Patterson, 2002). One longitudinal study of job attitudes in an urban police department found that officers with military experience initially tended to report more motivation, commitment, and satisfaction at the first two data points, but by the third time period the statistical relationship had diminished (Van Maanen, 1975). However, much has changed for the military population since the time of that study, and the field of policing research is currently lacking information regarding attitudes of current military veterans serving in police forces.

In the regression analysis, education predicted several items. At the beginning of the academy, higher education predicted more positive attitudes toward education support, but negative attitudes toward customer service and the us vs. them component. At the end of the academy, education predicted (again) positive attitudes toward educational support and for balancing research with experience, as well as empathy and the withholding component (from the Communications attitudinal dimension). Education at the end of training also predicted negative attitudes toward customer service.

Police officer education has long been researched, from assessing the state of police officer education (Carter, Sapp, & Stephens, 1989), to examining the effects of education on a variety of outcomes. In the Receptivity survey described in Chapter 2, Telep and Lum found that college-educated police officers have previously been found to be more likely to believe that a bachelor's degree should be required to join a police force (Telep & Lum, 2014b). Education has also been looked at concerning its effect on different attitudes. One study found that college education was not strongly related to

professionalism attitudes (consistent with the findings here), but that it was not related to the measure of commitment to the service ideal (Shernock, 1992) – which is not consistent with the finding that higher education predicted less support for customer service attitudes. Higher education predicting higher scores for empathy and withholding is unsurprising, as these components measure confidence within the communication dimension.

There were interesting differences in the attitudinal components between the two academies. At the beginning of their training, recruits in Academy 1 had lower mean scores in all components but three (communication skills, withholding, and the us vs. them), but none of the differences were statistically significant. By the end of training, the differences between the two academies were greater, with five significantly different mean scores. In the second wave of surveys, recruits in Academy 1 had significantly lower mean scores in proactivity, obtaining compliance, customer service, congeniality, and community relations.

Additionally, in the regression analysis, academy was the greatest predictor of attitudinal dimensions, as well as the most significant predictor of changes in those attitudes. Being in Academy 1 was a significant predictor of more negative attitudes toward proactivity, empathy, the obtaining compliance variable, customer service, congeniality, and community relations at the end. Academy 1 was also a significant predictor for negative coefficients in the change score regressions for proactivity, empathy, obtaining compliance, customer service, congeniality, and customer relations.

There are various reasons that the two academies differed as much as they did regarding attitudes and attitudinal change. In Academy 1, the academy predicting more negative attitudes toward evidence-based policing concepts, classes are more diverse than Academy 2, in ways not detectable by examining demographics. Academy 1 trains recruits from seventeen agencies covering a large geographic area, and ranging from city police departments to rural sheriff's offices. Academy 2 trains recruits from four agencies, all within close proximity of one another, and with the majority of each class all working for one of the four agencies. Academy 1 classes are very large, and split up into smaller "break out" groups, intentionally mixing recruits from various agencies to work together. While I cannot say that mixing up recruits from diverse locations and agencies could contribute to more varied attitudes, it would make sense that recruits in Academy 2 would possibly have more equivalent attitudes toward different policing tactics than the heterogeneous classes in Academy 1.

I spent time (approximately 4 hours in Academy 1 and 12 hours in Academy 2) observing classes in each academy, in order to try to understand whether these organizations placed an emphasis on research in some of their class lessons. During these observations neither academy appeared to have a strong focus on teaching tactics stemming from research evidence, but instead solely focused on legal tactics and officer safety. These observations were not systematic enough to conclude that the academies were not trying to instill evidence-based policing concepts, however they do offer some insight into why recruits in both academies overall had less positive attitudes toward balancing research with experience by the end of training. The fact that one academy was

more predictive of attitudes in a negative direction points to the need for more systematic investigation into academy training overall, as discussed in the section outlining future research.

Implications for Evidence-Based Policing

Timing did not provide the opportunity to observe an entire academy session from beginning to end. As evident in the regression findings, it appears that unknown variables are leading to certain attitudes, as well as attitude change over the course of training. Whether this stems from formal lessons learned in the academy, or casual conversations in the gym or out on practice courses, something creates an opening for change in attitudes during the six months of the academy experience. Another possibility is that there is not necessarily something specific that occurs during training that would reflect these changes, but the overall socialization process that introduces recruits to the culture of policing (Chan et al., 2003). If changes in openness to evidence-based policing is an outcome of a social process, rather than official teachings, trying to instill certain attitudes would require a sea change in the social culture of the academy rather than an overhaul of the curriculum.

Additionally, the openness to evidence-based policing of an entire training academy is necessary if an agency hopes to hire recruits engaged in more proactive and research-based approaches. Academy instructors, for example, may provide important insight into some of the unexplained changes occurring in recruit attitudes. A recruit class opens up nearly endless opportunities for instructors to influence cadets, either with their personal attitudes or with more nuanced policing culture attitudes [such as the hegemonic

masculinity of policing (see Prokos & Padavic, 2002)]. Ensuring that a training program provides instructors open to evidence-based policing ideas could, at the very least, ensure recruits receive a more open atmosphere for these philosophies and practices.

If the mere act of attending a police academy can move recruit attitudes in a negative direction, this is something academies need to know about. The findings in this dissertation contribute to the literature reviewed in Chapter 2, describing the police academy as an important arena in understanding attitudes at an organizational level. Haarr (2001) found that recruits expressed less favorable views toward both community policing and engaging in problem-solving tasks by the end of their field training, but also that academy *classes* emerged as significant variables predicting these attitudes, suggesting class cultures could be shaped by instructor differences (which she was unable to examine). However, Haarr only looked at multiple classes within the same academy. This dissertation adds to the literature in understanding the importance of training organization in shaping attitudes toward evidence-based policing concepts.

The regression analysis of the academies separated out indicates that, in fact, inter-academy differences are important to consider. At the beginning of training, in both academies, higher education predicts more positive attitudes toward education support. In addition, being a prior sworn officer significantly predicts more cynicism in the community relations attitudinal component. This is the extent of the similarities between the two academies. The Academy 1 regressions produced twice as many significant predictors of attitudes at the beginning of training than Academy 2. In Academy 1, being male significantly predicted lower cynicism in the community relations component; being

minority significantly predicted more positive attitudes for the empathy and the us vs. them component; and higher education predicted more positive attitudes toward empathy and congeniality but more negative attitudes toward customer service and the us vs. them component. In Academy 2, being an older recruit predicted lower cynicism in the community relations component; being minority predicted more positive attitudes toward customer service; and prior military experience predicted more positive attitudes in communication skills.

In examining the regressions on change scores for each academy, I find that there were no predictors of attitudinal change that stand across both training organizations. In Academy 1, being a minority predicted positive change for obtaining compliance and professionalism, but a negative change for the us vs. them attitudinal component; having experience as a prior sworn officer predicted positive change in the professionalism component; and higher education predicted negative change (higher cynicism) for the community relations component. In Academy 2, only being a prior sworn officer predicted any negative attitudinal changes: in the withholding and congenial components. Also in Academy 2, having prior military experience predicted positive change in the professionalism component; and having higher education predicted positive change in the empathy and professionalism component.

It may be that an academy-specific approach may be necessary in improving attitudinal openness toward evidence-based policing. In addition to the existence of attitudinal differences between academies at the starting point of training, there is the possibility that then the training differentially influenced the shaping of those attitudes

over time. It may be possible that a 'one size fits all' approach to changing attitudes will not work across all academies. However, more research is needed to determine if that is the case.

If attending an academy can change perceptions about evidence-based policing, there is nothing to say that they cannot be altered in a more positive manner.

Understanding the underlying mechanism of how a training organization affects recruit attitudes toward evidence-based policing concepts creates an opportunity to expand on openness, rather than diminish it. Academies interested in instilling evidence-based policing may have the ability to create entire graduating cohorts of police officers that have more positive attitudes about evidence-based policing than when they first entered training.

Study Limitations

The greatest limitation of this study is that it cannot determine whether the attitudinal dimensions identified in this study are linked to amenability to evidence-based policing after leaving the academy, or what the impact of training has on future efforts to implement evidence-based policing. I found that specific attitudes can be measured among academy recruits, and that they change over the course of training. But this research does not follow recruits throughout field training and the first few years of their policing career, therefore it cannot speak to what officers are doing out on the job. Following officers long past academy graduation to observe the outcomes of these attitudes regarding actual officer behaviors would provide greater insight into the implications of these attitudes.

The measures of openness to evidence-based policing used in this dissertation are only proposed measures, and have not been validated as such. As discussed earlier, Appendix C provides a correlation table of all attitudinal components. This was conducted in order to examine whether all of the components reflected a latent trait encompassing an evidence-based policing openness scale. In observing the correlations, it is clear that this does not seem to be the case. Even when statistically significant, the correlations are quite low. This points to a conclusion that the measures used in this study are likely not the most appropriate in identifying an overall openness to evidence-based policing ideas and tactics.

Another limitation is that this dissertation was unable to carefully study the content of training in the two academies. While given the overall curriculum and class schedule for academy cohorts, I was unable to systematically observe all formal lessons provided to recruits throughout their training. Without knowing what recruits are specifically learning, it is difficult to pinpoint whether specific classes or lesson plans contribute to attitudes or attitudinal change.

While some demographic and class size differences exist between the two academies researched, they are located within the same geographic region (they are, in fact, only approximately fifteen miles apart from one another). Thus, I was unable to achieve representativeness of police academies nationwide with this sample. In addition to being geographically unrepresentative, there is also an issue with timing. American policing is undergoing concurrent experiences, from departmental budget cuts, to learning to use new technological equipment, to dealing with much of society's

discontent with how departments have handled certain high-profile incidents. Thus, these findings may also be limited to the period in which these academies took place (summer 2013 – summer 2015).

There are also generalization issues regarding education, as over 40% of the recruits in both samples entered the academy with a college degree. Because of the nature of the region, this sample likely contains a larger proportion of college-educated cadets compared to other areas in the country. Studies of police education have examined authoritarianism (Smith, Locke, & Fenster, 1970), abuse of authority (Telep, 2011), use of force (Paoline & Terrill, 2007), and overall job performance (Kakar, 1998). College education relates to officers being more likely to read academic journals and believe a college degree should be required for new recruits to a police agency (Telep & Lum, 2014b). Thus, the high level of college-educated recruits in this sample may make some findings regarding amenability to evidence-based concepts difficult to generalize to the broader field of policing.

A notable limitation also lies in the survey methodology and its expectation of capturing attitudinal change. While the surveys do capture changes in responses intended to measure personal ideas about evidence-based policing concepts, this study cannot be entirely sure that any changes (or non-changes) are observing a shift (or perpetuation) in attitudes. Instead, changes may reflect temporary outlooks or positions based on current mood or a recent event, attempts to recall how one responded to the initial survey, or a random and quick selection of responses to complete the survey and move on with other tasks. Additionally, any changes in survey responses are not claiming to demonstrate

overall character or personality transformations. These changes merely suggest an alteration in how a recruit may feel about some concepts that are evidence-based at a given time; these are attitudes that are likely not only amenable throughout the initial academy experience, but may also change throughout the first several years in the field.

Finally, due to the number of analyses performed, I run the risk of Type I error. The odds of having a spurious significant effect are high due to the amount of analyses ran. However, because this study is generally exploratory I took a liberal approach to detecting significant effects. A more robust test with corrected alphas is warranted for future research.

Ideas for Future Research

Future research stemming from this dissertation includes the creation of better scales to measure the variables of interest. This study also was unable to directly assess many of the attitudes proposed to reflect individual openness to the philosophy and tactics of evidence-based policing. One of the key attributes discussed in the literature was critical thinking – which the survey instrument was unable to measure. Future measures that can directly address the measurement of critical thinking skills in individuals are necessary in evaluating what might be an “evidence-based police officer”. Some of the items in this dissertation measure receptivity to the philosophies of evidence-based policing, while other represent attitudes reflected in evidence-based policing. Future measures would benefit by focusing more on the former attitudes, as the tactics based on the evidence may change over time.

The need to drop the “problem solving” item from analysis due to such invariability among responses highlights the need for a better instrument providing insight into police attitudes into items such as problem solving (as well as critical thinking). The setup of the “problem solving” variable in the present survey created an opportunity for 95% of recruits to give it the highest rating of “very relevant” as far as relevance to practical police work. Perhaps a more efficient way to inquire into a recruit’s openness to problem solving would be to ask them to rate the relevance of more nuanced practices stemming from police problem solving.

Other scales intended to measure attitudinal openness to evidence-based policing would allow for greater understanding of overall openness to introducing research evidence into day-to-day decision making. The creation of such scales, however, should rely on what we know about evidence-based policing and what we know about different types of attitudinal openness, perhaps including adapted items from Aarons’ (2004) Evidence-Based Practice Attitudes Scale. Future research can create better measures of understanding evidence-based policing by understanding the individuals most amenable to using it and the traits they may possess. Further, forthcoming research using these scales would add to the knowledge of police attitudes toward things such as proactivity, critical thinking, and communication, which the literature is currently lacking.

Scales that are more capable of identifying attitudes toward the use of evidence in practice, toward tactics backed by that research, toward methods known to improve community relations, would enable policing scholars to understand more accurately how officers view evidence-based notions and assess how these attitudes change over time. A

better-constructed survey would also be of use in evaluating training programs designed to increase positive views of evidence-based policing. The National Police Research Platform can follow officers and measure their attitudes longitudinally among a variety of organizations (with almost 100 current participating agencies in phase 2 of their ongoing research). Including measures reflecting more evidence-based policing notions could not only expand our knowledge on these attitudes to a national level, but they could also be re-measured at multiple times throughout an officer's career.

Future research should also focus on careful study of academy training content. This dissertation found that recruits from one academy had less open attitudes toward evidence-based policing at the end of their training, and the regression analysis found academy to be the greatest predictor of these attitudes, as well as attitudinal change. However, as discussed in Chapters 1 and 2, existing academy research mostly provides ethnographic information on the socialization of officers or studies examining individual predictors of academy performance. A large-scale content analysis of police academy curricula would provide the field with key differences across training organizations, as well as a base of understanding as the President's Task Force on 21st Century Policing aims to move toward developments in training aimed to defeat crime problems and build public trust.

Conclusion

This dissertation examines attitudes relating to openness to certain evidence-based policing ideas among academy recruits. Recruits tended to start their training with views compatible to the philosophy of evidence-based policing, but some of these attitudes

change in a negative direction. Either the training itself or the socialization that occurs during the academy may be undermining receptivity to evidence-based policing notions. It found that many overall attitudes do change significantly over the course of training and that certain demographic variables can significantly predict these attitudes. The most poignant predictor, however, was academy. Being in one academy (versus the other studied here) predicted two negative attitudes at the beginning of training, but six at the end of training, indicating that something occurred during training to create antagonism toward ideas of proactivity, empathy, customer service, and community relations.

Additionally, the two academies varied in predictors of attitudinal change. Thus, the importance of training organization and its relation to promoting (or undermining) evidence-based policing cannot be overemphasized. A research agenda examining the effects of academy training, at a national level and using more sophisticated measurements of openness to evidence-based policing is necessary for moving the movement forward. Learning the philosophy, underpinnings, and research stemming from evidence-based policing begins at the academy; thus creating a more evidence-based police force requires first a focus on a greater understanding of training and a stronger focus on implementing proper curriculum at the source of where such opinions are formed. With this understanding, the evidence-based policing movement presses on in the desired direction.

APPENDIX A: ACADEMY SURVEY

SURVEY CODE (instructions provided by GMU Team): _____

Thank you for participating in this survey. Remember your responses are confidential, and there are no right or wrong answers. Please answer to the best of your knowledge and as honestly as possible.

Decision to Become a Police Officer

Thinking back to when you made your decision to become a police officer, how important was each of the following in making your decision?

	Very Important	Somewhat Important	Not Very Important	Not at all Important
1. Desire to work with people	1	2	3	4
2. Desire to serve the community	1	2	3	4
3. Desire for job security	1	2	3	4
4. Excitement of police work	1	2	3	4
5. Desire to fight crime	1	2	3	4
6. Good job prospects	1	2	3	4
7. Working outdoors	1	2	3	4

8. Admiration for police officers	1	2	3	4
9. Good pay	1	2	3	4
10. A step toward another profession	1	2	3	4
11. Early retirement and a pension	1	2	3	4
12. Wishes of parents, family, or friends	1	2	3	4
13. I needed a job	1	2	3	4
14. Enjoy the prestige of being an officer	1	2	3	4

Being a Police Officer

Please circle the number that best represents your opinion.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. Becoming a police officer will make me a different person.	1	2	3	4	5
2. Becoming a police officer will not change me in any noticeable way.	1	2	3	4	5
3. As a police officer, people will respect what I have to say.	1	2	3	4	5
4. As a police officer, people will need to obey my orders.	1	2	3	4	5
5. As a police officer, I will have the power to help people in need.	1	2	3	4	5
6. As a police officer, people will look up to me.	1	2	3	4	5
7. As a police officer, I will be respected by society.	1	2	3	4	5

Goals of Policing

Listed below are some goals of police departments. Please rate these goals according to their importance to you.

	Very Important	Somewhat Important	Not Very Important	Not at all important
1. Provide rapid response to emergency calls	1	2	3	4
2. Enforce the law fairly	1	2	3	4
3. Reduce the incidence of crime and violence	1	2	3	4
4. Increase citizens' feelings of safety	1	2	3	4
5. Involve the community in crime prevention	1	2	3	4
6. Improve education and training of police personnel	1	2	3	4
7. Improve methods and strategies for catching criminals	1	2	3	4
8. Provide technological support for police work	1	2	3	4
9. Improve services to victims	1	2	3	4
10. Encourage the use of negotiation and conflict resolution	1	2	3	4
11. Improve the investigations of crime	1	2	3	4
12. Increase public satisfaction with police service	1	2	3	4
13. Improve the working conditions for officers	1	2	3	4

Questions about Education

How important do you think pursuing higher education (i.e. more than a high school diploma) is for police officers in general?

- _____ a. Not important
- _____ b. Somewhat important

- _____ c. Important
- _____ d. Very important
- _____ e. Essential

What do you think should be the minimum educational standard for new police recruits in your agency?

- _____ a. No educational standard
- _____ b. High school diploma
- _____ c. Some college
- _____ d. Associate's degree
- _____ e. Bachelor's degree

In day to day decision making, what do you think the balance should be between the use of scientific research/knowledge (e.g. from universities and research organizations) and personal experience? (Choose one answer)

- _____ a. Experience should be most important (90%) and scientific knowledge should make little contribution (10%)
- _____ b. Experience should be more important (75%) but scientific knowledge should make some contribution (25%)
- _____ c. Experience (50%) and scientific knowledge (50%) should both make an equal contribution
- _____ d. Scientific knowledge should be more important (75%) but experience should make some contribution (25%)
- _____ e. Scientific knowledge should be most important (90%) and experience should make little contribution (10%)

View of police strategies

Below is a list of policing strategies. If you have heard of the strategy, indicate whether you think it is very effective, effective, somewhat effective, or not effective **for reducing crime and disorder**. If you have not heard of the strategy, please indicate so.

Strategy	If You Have Heard of the Tactic, How Effective Do You Think It Is for Reducing Crime?					I have not heard of this tactic
	Very Effective	Effective	Somewhat Effective	Not Effective	Unsure	
1. Random preventive patrol						
2. Hot spots policing						
3. Community-oriented policing						
4. Problem-oriented policing						
5. Rapid response to 911 calls						
6. Follow up visits for domestic violence						
7. "Pulling levers" interventions for violent offenders						
8. Drug Abuse Resistance Education (DARE)						
9. Use of civil remedies (e.g., nuisance abatement)						

10. Restorative justice
11. Mandatory arrest for
misdemeanor domestic
violence
12. Traffic enforcement to reduce
gun crime
13. Zero tolerance policing
14. Legitimacy/procedural justice
policing

Opinions about the Community, Police, and Justice

Please circle the number that best represents your opinion.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. Many people in society are liars and cheaters.	1	2	3	4	5
2. Many people in society will harm you if you give them the opportunity.	1	2	3	4	5
3. Most people are honest.	1	2	3	4	5
4. In an emergency, most community members would come to the aid of a police officer who needs assistance.	1	2	3	4	5
5. In general, you should be suspicious of people rather than give them the benefit of the doubt.	1	2	3	4	5
6. The community shows a lot of respect for the police.	1	2	3	4	5
7. Residents do not understand the problems that we face as police officers.	1	2	3	4	5
8. Many residents try to make the police look bad.	1	2	3	4	5
9. Most citizens have confidence in the police.	1	2	3	4	5
10. You can get tired of listening to citizens complain about everything.	1	2	3	4	5
11. You can't help the community if they are unwilling to help themselves.	1	2	3	4	5

12. The community doesn't appreciate what the police do for them.	1	2	3	4	5
13. The police and courts work well together to punish the bad guys.	1	2	3	4	5
14. We can solve many of society's problems if we put our minds to it.	1	2	3	4	5
15. People are basically good by nature so we need to give everyone a chance to do their best.	1	2	3	4	5
16. People are basically selfish and tend to look out only for themselves, so we need to be cautious and protect ourselves.	1	2	3	4	5
17. We shouldn't work so hard because it won't really make much difference in the end – the problems will remain the same.	1	2	3	4	5
18. We should be realistic that things are only going to get worse in our society.	1	2	3	4	5

Interactions with the Public

Please provide your opinion about police interactions with the community. Circle only one number for each statement.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. If you let people vent their feelings first, you are more likely to get them to comply with your request.	1	2	3	4	5
2. Police officers are expected to gather information from victims of crime, not comfort them.	1	2	3	4	5
3. In certain areas of the city, it is more useful for an officer to be aggressive than to be courteous.	1	2	3	4	5
4. Many “situations” between the police and public could be prevented if only police officers would remain calm and not get defensive.	1	2	3	4	5
5. All people should be treated with respect regardless of their attitude.	1	2	3	4	5
6. It is okay to be rude when someone is rude to you.	1	2	3	4	5
7. Being respectful is nearly impossible when you are dealing with a gang member.	1	2	3	4	5
8. Being professional with the public should be one of the highest priorities in law enforcement.	1	2	3	4	5
9. Officers can't be expected to keep their emotions in check when people are disrespectful.	1	2	3	4	5
10. The time that officers spend chatting with average citizens could be better spent investigating crime and suspicious situations.	1	2	3	4	5

Opinions about Use of Force

Please provide your opinion about police use of force. Circle only one number for each statement.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. Police officers should use force more often to get citizens to comply.	1	2	3	4	5
2. Use of force should be the last resort for police officers.	1	2	3	4	5
3. Police officers are often in situations where it is more appropriate to use physical force than to keep on talking to a person.	1	2	3	4	5
4. Some people can only be brought to reason the hard, physical way.	1	2	3	4	5
5. A tough, physical approach should be used less on the street.	1	2	3	4	5
6. Sometimes forceful police actions are very educational for civilians.	1	2	3	4	5
7. If officers don't show that they are physically tough, they will be seen as weak.	1	2	3	4	5

Police Training

Please give your opinion of the relevance of the following training to practical police work.

	Very Relevant	Somewhat Relevant	Not Very Relevant	Not at all Relevant
1. Officer safety and survival skills	1	2	3	4
2. Use of firearms and batons	1	2	3	4
3. The law	1	2	3	4
4. Handling child abuse cases	1	2	3	4
5. The legal system	1	2	3	4
6. Role of police in society	1	2	3	4
7. Crimes of assault	1	2	3	4
8. Communication and interpersonal skills	1	2	3	4
9. Police procedures and policies	1	2	3	4
10. Driving skills	1	2	3	4
11. Property crime	1	2	3	4
12. Written communication skills	1	2	3	4
13. Physical fitness	1	2	3	4
14. Problem-solving	1	2	3	4
15. The causes of crime	1	2	3	4
16. Dealing with survivors	1	2	3	4

17. Handling domestic disputes	1	2	3	4
18. Police health	1	2	3	4
19. Community-based policing	1	2	3	4
20. Ethics and professionalism	1	2	3	4
21. Police 'Mission' & 'Statement of Values'	1	2	3	4
22. Policing ethnic/minority communities	1	2	3	4
23. Policing gay communities	1	2	3	4
24. Non-law enforcement policing	1	2	3	4

Next we would like to ask you some questions about your communication skills. Please check the box indicating whether you agree or disagree with each of the statements.

	Strongly Agree	Agree	Disagree	Strongly Disagree	Don't know
1. I know how to talk with people.	1	2	3	4	5
2. I know how to resolve conflict between people.	1	2	3	4	5
3. I can talk anyone into doing just about anything.	1	2	3	4	5
4. I know how to keep myself from getting upset.	1	2	3	4	5
5. I have good communication skills.	1	2	3	4	5
6. People often don't take my advice.	1	2	3	4	5
7. I don't like to make eye contact when I am telling people bad news.	1	2	3	4	5
8. I know how to make someone comfortable.	1	2	3	4	5
9. I feel confident when using my communication skills.	1	2	3	4	5
10. I can talk my way out of trouble.	1	2	3	4	5
11. I am good at reading other people's emotions.	1	2	3	4	5
12. I know how to show empathy or compassion.	1	2	3	4	5
13. I know how to use nonverbal cues to communicate my feelings to others.	1	2	3	4	5

Police Integrity

Some behaviors on the job are considered serious ethical problems, and others are considered much less serious. How serious do you consider each of the following police behaviors?

	Very Serious	Somewhat Serious	Not Very Serious	Not at all Serious
1. Treating a citizen rudely	1	2	3	4
2. Accepting free coffee or food from a restaurant	1	2	3	4
3. Not reporting a minor traffic accident with a patrol car	1	2	3	4
4. Displaying a badge to avoid a traffic citation while off duty	1	2	3	4
5. Failing to report an incident of excessive force by a fellow officer	1	2	3	4
6. Exaggerating facts to obtain a warrant	1	2	3	4
7. Lying to a supervisor to protect a fellow officer	1	2	3	4
8. Falsified overtime reports	1	2	3	4
9. Leaving work early	1	2	3	4
10. Fixing a ticket for someone	1	2	3	4
11. Drinking alcohol while on duty	1	2	3	4
12. Covering up an incident of excessive force by a fellow officer	1	2	3	4
13. Inventing an informant for search warrant when you know the guy is dirty	1	2	3	4
14. Harassing officers who testified against other officers	1	2	3	4
15. Covering up an incident of drunk driving by a fellow officer	1	2	3	4

16. Using illegal drugs while on duty 1 2 3 4

Viewpoint on People and Society

Please indicate whether you agree or disagree with the following statements.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. We should try to rehabilitate criminals rather than punish them.	1	2	3	4	5
2. Overall, minorities have been mistreated by society.	1	2	3	4	5
3. Overall, women have been mistreated by society.	1	2	3	4	5
4. Overall, senior citizens have been mistreated by society.	1	2	3	4	5
5. Overall, young people have been mistreated by society.	1	2	3	4	5

Demographics and Background Information

Now we would like to ask you some information about yourself. Please circle/fill in the appropriate response.

1. What is your gender? Female Male

2. What year were you born? _____

3. With which race/ethnicity do you identify most closely?
 - a. Black or African American
 - b. Hispanic or Latino/Latina
 - c. White or Caucasian
 - d. Native American
 - e. Asian
 - f. Other, please specify: _____

4. What is your current marital status?
 - a. Single, never been married
 - b. Married
 - c. Divorced
 - d. Cohabiting with partner (but not married)
 - e. Separated but still married
 - f. Widowed

6. What is the highest level of formal education you have completed?
 - a. G.E.D.
 - b. High school graduate
 - c. Some college courses, but no degree
 - d. Associate degree
 - e. College degree
 - f. Some college courses beyond BA or BS
 - g. Masters degree
 - h. Law degree
 - i. PhD or other advanced degree (e.g., EdD)

7. Have you served in the Military?

No Yes (If yes, check here if you served in a combat theater of operations)

8. Prior to this job, did you serve as a sworn

officer in another jurisdiction?

No Yes (If yes, how many

years? _____)

9. Prior to entering the academy, did you have a full or part time job?

No

Yes (If yes, Circle:

Full Time

Part Time

)

10. Please re-enter the survey code you created on the first page here

Thank you very much for completing this survey!

APPENDIX B: PRINCIPAL COMPONENTS OUTPUT

Research Receptivity

Component Matrix^a	
	Component
	1
ImportantHigherEducation	.815
MinimumEducationStandard	.787
BalanceResearchAndExperience	.509
Extraction Method: Principal Component Analysis.	
a. 1 components extracted.	

Reliability Statistics	
Cronbach's Alpha	N of Items
.526	3

After removing the “Balance” question to use on its own

Component Matrix^a	
	Component
	1
ImportantHigherEducation	.849
MinimumEducationStandard	.849
Extraction Method: Principal Component Analysis.	
a. 1 components extracted.	

Reliability Statistics

Cronbach's Alpha	N of Items
.611	2

Proactivity

Rotated Component Matrix^a				
	Component			
	1	2	3	4
ProblemSolving	-.008	.307	-.131	.760
DesireToWork	.293	-.025	.799	.139
DesireToServe	-.014	.388	.822	-.032
DesireFightCrime	.213	.701	.129	.023
ReduceIncidenceOfCrime	.167	.770	.098	.069
ImproveMethodsAndStrategies	.746	.357	.025	.151
EncourageUseOfNegotiation	.797	-.015	.202	.016
ImproveCrimeInvestigations	.811	.265	.081	.031
WeCanSolveSocietyProblems	.142	-.181	.275	.685
Extraction Method: Principal Component Analysis.				
Rotation Method: Varimax with Kaiser Normalization. ^a				
a. Rotation converged in 6 iterations.				

Reliability Statistics	
Cronbach's Alpha	N of Items
.673	9

After dropping “Problem solving” and “We can solve society’s problems” (removing from analysis)

Rotated Component Matrix^a		
	Component	
	1	2
DesireToWork	.130	.848

DesireToServe	.137	.843
DesireFightCrime	.519	.189
ReduceIncidenceOfCrime	.599	.081
ImproveMethodsAndStrategies	.922	.035
EncourageUseOfNegotiation	.569	.266
ImproveCrimeInvestigations	.745	.184
Extraction Method: Principal Component Analysis.		
Rotation Method: Varimax with Kaiser Normalization. ^a		
a. Rotation converged in 3 iterations.		

Reliability Statistics	
Cronbach's Alpha	N of Items
.736	7

Communication skills

Rotated Component Matrix ^a				
	Component			
	1	2	3	4
KnowHowToTalkToPeople	.810	.124	.083	.003
KnowHowToResolveConflict	.792	.103	-.023	-.154
CanTalkAnyoneIntoDoingJustAboutAnything	.638	.117	-.111	.168
KnowHowToKeepMyselfFromGettingUpset	.399	.187	.002	-.575
HaveGoodCommunicationSkills	.777	.247	.128	-.042
KnowHowToMakeSomeoneComfortable	.310	.456	.013	.022
FeelConfidentWhenUsingCommunicationSkills	.690	.283	.240	.013
CanTalkMyWayOutOfTrouble	.420	.117	-.120	.508
GoodAtReadingOtherPeoplesEmotions	.214	.678	-.036	-.045
KnowHowToShowEmpathyOrCompassion	.088	.815	.040	-.259
KnowHowToUseNonverbalCues	.086	.757	.075	.253
PeopleOftenDontTakeMyAdvice	.132	.092	.666	.455
DontLikeToMakeEyeContactTellingBadNews	.015	-.010	.814	-.239

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 6 iterations.

Reliability Statistics	
Cronbach's Alpha	N of Items
.765	13

After dropping “know how to keep myself from getting upset” from analysis

Rotated Component Matrix ^a			
	Component		
	1	2	3
KnowHowToTalkToPeople	.815	.133	.091
KnowHowToResolveConflict	.786	.121	-.028
CanTalkAnyoneIntoDoingJustAboutAnything	.647	.099	-.054
HaveGoodCommunicationSkills	.774	.256	.133
KnowHowToMakeSomeoneComfortable	.320	.456	.016
FeelConfidentWhenUsingCommunicationSkills	.687	.288	.251
CanTalkMyWayOutOfTrouble	.435	.063	-.003
GoodAtReadingOtherPeoplesEmotions	.218	.683	-.036
KnowHowToShowEmpathyOrCompassion	.071	.832	.017
KnowHowToUseNonverbalCues	.102	.734	.116
PeopleOftenDontTakeMyAdvice	.130	.052	.733
DontLikeToMakeEyeContactTellingBadNews	-.033	.015	.778
Extraction Method: Principal Component Analysis.			
Rotation Method: Varimax with Kaiser Normalization.			
a. Rotation converged in 4 iterations.			

Reliability Statistics	
Cronbach's Alpha	N of Items
.756	12

Community relations

Rotated Component Matrix^a				
	Component			
	1	2	3	4
EnforceLawFairly	.376	-.137	-.154	-.520
IncreaseCitizens	.794	-.032	-.008	.216
ImproveVictimServices	.672	.183	-.080	-.261
IncreasePublicSatisfaction	.748	.044	-.060	.119
InvolveCommunityInCrimePrevention	.720	.165	-.006	-.057
IfYouLetPeopleVentTheyWillComply	.205	-.093	-.112	.712
PoliceExpectedToGatherInfoNotComfort	-.102	.166	.794	.163
AllPeopleShouldBeTreatedWithRespect	.046	.807	-.032	-.236
BeingProfessionalWithPublicHighPriority	.234	.654	-.014	.310
TimeOfficersSpendChattingCouldBetterSpentInvestigating	.012	-.256	.697	-.214
Extraction Method: Principal Component Analysis.				
Rotation Method: Varimax with Kaiser Normalization. ^a				
a. Rotation converged in 5 iterations.				

Reliability Statistics	
Cronbach's Alpha	N of Items
.544	10

After removing “Enforce the law fairly” and “If you let people vent they will comply” to analyze on their own

Rotated Component Matrix^a			
	Component		
	1	2	3
IncreaseCitizens	.794	.005	.036
ImproveVictimServices	.689	.138	.004
IncreasePublicSatisfaction	.719	.121	.084
InvolveCommunityInCrimePrevention	.752	.095	.040
PoliceExpectedToGatherInfoNotComfort	.114	-.154	.775
AllPeopleShouldBeTreatedWithRespect	.036	.818	-.024
BeingProfessionalWithPublicHighPriority	.217	.695	.093
TimeOfficersSpendChattingCouldBetterSpent Investigating	-.015	.246	.742
Extraction Method: Principal Component Analysis.			
Rotation Method: Varimax with Kaiser Normalization.			
a. Rotation converged in 5 iterations.			

Reliability Statistics	
Cronbach's Alpha	N of Items
.552	8

Cynicism toward the community

Rotated Component Matrix^a		
	Component	
	1	2
ResidentsDontUnderstandProblems	.203	.521
ResidentsMakePoliceLookBad	.555	.454
TiredOfListeningToComplaints	.007	.721
CantHelpUnwillingCommunity	-.029	.735
CommunityDoesntAppreciate	.577	.502

EmergencyCommunityAid	.562	.096
CommunityRespectsPolice	.793	.046
CitizensConfidenceInPolice	.808	-.051
Extraction Method: Principal Component Analysis.		
Rotation Method: Varimax with Kaiser Normalization.		
a. Rotation converged in 3 iterations.		

Reliability Statistics	
Cronbach's Alpha	N of Items
.702	8

APPENDIX C: COMPONENT CORRELATIONS

Component Correlations, Beginning of Training

ES = Education Support; BRE = Balance Research & Education; Proact = Proactivity; Comm = Communication Skills; Emp = Empathy; WH = Withholding; OC = Obtaining compliance; Prof = Professionalism; CS = Customer Service; Cong = Congenial; CR = Community Relations; UVT = Us vs. Them

	ES	BRE	Proact	Comm	Emp	WH	OC	Prof	CS	Cong	CR	UVT
ES	1	.188**	0.085	0.053	0.085	0.01	.125*	.135**	0.048	0.003	0.077	-0.058
BRE	.188**	1	0.076	-0.054	-0.023	-0.035	-0.021	0.028	0.094	0.031	0.079	.150**
Proact	0.053	-0.054	0.081	1	.431**	.158**	.115*	.152**	0.064	0.037	0.035	0.034
Comm	0.085	-0.023	.160**	.431**	1	.129**	.132**	.186**	.168**	.143**	0.087	0.073
Emp	0.01	-0.035	0.096	.158**	.129**	1	0.069	.137**	0.04	.114*	.171**	0.049
WH	.125*	-0.021	0.02	.115*	.132**	0.069	1	0.073	0.095	0.076	0.039	-0.086
OC	.135**	0.028	.191**	.152**	.186**	.137**	0.073	1	.243**	0.094	.229**	.188**
Prof	0.048	0.094	.665**	0.064	.168**	0.04	0.095	.243**	1	.138**	.160**	.180**
CS	0.003	0.031	0.092	0.037	.143**	.114*	0.076	0.094	.138**	1	.202**	0.024
Cong	0.077	0.079	.122*	0.035	0.087	.171**	0.039	.229**	.160**	.202**	1	.347**
CR	-0.058	.150**	0.08	0.034	0.073	0.049	-0.086	.188**	.180**	0.024	.347**	1

UVT	1	.188**	0.085	0.053	0.085	0.01	.125*	.135**	0.048	0.003	0.077	-0.058
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**Correlation is significant at the 0.01 level (2-tailed); * Correlation is significant at the 0.05 level (2-tailed).

Component Correlations, End of Training

ES = Education Support; BRE = Balance Research & Education; Proact= Proactivity; Comm = Communication Skills; Emp = Empathy; WH = Withholding; OC = Obtaining compliance; Prof = Professionalism; CS = Customer Service; Cong = Congenial; CR = Community Relations; UVT = Us vs. Them

	ES	BRE	Proact	Comm	Emp	WH	OC	Prof	CS	Cong	CR	UVT
ES	1	.139**	.121*	.126*	.152**	0.042	0.08	.178**	0.094	0.051	0.061	0.06
BRE	.139**	1	-0.006	-0.04	0.016	0.012	0.011	-0.06	0.027	0.065	0.085	.111*
Proact	.121*	-0.006	1	0.028	0.071	.107*	.122*	.134**	.790**	.157**	.133**	.162**
Comm	.152**	0.016	0.071	.601**	1	.138**	.240**	.122*	.147**	.112*	0.042	0.021
Emp	0.042	0.012	.107*	.097*	.138**	1	0.068	.100*	.103*	.171**	0.024	0.071
WH	0.08	0.011	.122*	.138**	.240**	0.068	1	.152**	0.078	.129**	0.072	-0.055
OC	.178**	-0.06	.134**	.142**	.122*	.100*	.152**	1	.173**	.100*	.186**	.186**
Prof	0.094	0.027	.790**	0.071	.147**	.103*	0.078	.173**	1	.136**	.173**	.192**
CS	0.051	0.065	.157**	-0.023	.112*	.171**	.129**	.100*	.136**	1	.146**	.160**
Cong	0.061	0.085	.133**	0.064	0.042	0.024	0.072	.186**	.173**	.146**	1	.357**
CR	0.06	.111*	.162**	0.026	0.021	0.071	-0.055	.186**	.192**	.160**	.357**	1

UVT	1	.139**	.121*	.126*	.152**	0.042	0.08	.178**	0.094	0.051	0.061	0.06
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**Correlation is significant at the 0.01 level (2-tailed); * Correlation is significant at the 0.05 level (2-tailed).

APPENDIX D: COHORT TESTING OUTPUT

Changes in Scale Scores Across Cohorts

	Academy 1				Academy 2			
	Cohort 1	Cohort 2	Cohort 3	Cohort 4	Cohort 1	Cohort 2	Cohort 3	Cohort 4
Education Support	-	-*	-	+	+	+	-	-
Balance Research & Experience	-	+	-	-	-**	-	-*	-
Proactivity	-	-**	-	-	-	No change	-	+
Communication Skills	+*	+*	+*	-	+	+	+***	+
Empathy	+	+	+	-	+	+	+**	
Withholding	-**	-*	+	-	+	+	-	-
Obtaining Compliance	+**	+*	+	-	+	+	+**	+**
Professionalism	-	-	-	-	-	-**	-	-
Customer Service	-	-*	-	+	+*	+	+	+
Congenial		-	-	-	+**	+*	-	+
Community Relations	-***	-***	-***	-**	-	-**	-	-
Us Vs Them	-	-***	-	+	+	-	-	-

*p<.05; **p<.01, ***p<.001

Kruskal Wallis Test to compare cohort scale scores

Beginning of Academy

Ranks			
	CohortGrouping	N	Mean Rank
EducationSupport1	A1C1	57	209.14
	A1C2	63	196.46
	A1C3	69	213.82
	A1C4	70	205.09
	A2C1	30	181.22
	A2C2	29	202.26
	A2C3	54	227.51
	A2C4	43	216.86
	Total	415	
Balance1	A1C1	57	224.71
	A1C2	63	179.89
	A1C3	69	206.40
	A1C4	70	216.87
	A2C1	30	194.57
	A2C2	29	199.05
	A2C3	54	225.11
	A2C4	43	209.08
	Total	415	
ProactivityScore1	A1C1	57	203.39
	A1C2	63	212.68
	A1C3	69	204.86

	A1C4	69	183.43
	A2C1	30	209.27
	A2C2	29	250.64
	A2C3	54	192.39
	A2C4	43	236.86
	Total	414	
CommunicationSkills1	A1C1	56	208.26
	A1C2	61	205.97
	A1C3	69	217.69
	A1C4	70	218.42
	A2C1	30	203.23
	A2C2	29	194.60
	A2C3	54	192.91
	A2C4	43	194.98
	Total	412	
EmpathyScore1	A1C1	56	191.32
	A1C2	61	198.07
	A1C3	69	216.41
	A1C4	70	224.05
	A2C1	30	191.98
	A2C2	29	210.57
	A2C3	54	193.86
	A2C4	43	217.02
	Total	412	
WithholdingScore1	A1C1	56	229.34
	A1C2	61	190.62

	A1C3	69	195.53
	A1C4	70	219.52
	A2C1	30	173.37
	A2C2	29	166.47
	A2C3	54	222.09
	A2C4	43	226.22
	Total	412	
ObtainingCompliance1	A1C1	57	202.89
	A1C2	62	214.33
	A1C3	69	187.64
	A1C4	70	214.36
	A2C1	30	206.30
	A2C2	29	233.55
	A2C3	54	202.24
	A2C4	43	214.33
	Total	414	
ProfessionalismScore1	A1C1	57	224.01
	A1C2	62	184.85
	A1C3	69	181.03
	A1C4	70	232.39
	A2C1	30	211.18
	A2C2	29	212.16
	A2C3	54	203.03
	A2C4	43	220.14
	Total	414	
CustomerServiceScore1	A1C1	57	209.26

	A1C2	63	228.02
	A1C3	69	211.97
	A1C4	70	194.51
	A2C1	30	173.25
	A2C2	29	222.10
	A2C3	54	189.05
	A2C4	43	231.12
	Total	415	
CongenialScore1	A1C1	57	172.15
	A1C2	62	217.16
	A1C3	69	207.59
	A1C4	70	224.98
	A2C1	30	173.93
	A2C2	29	177.47
	A2C3	54	234.33
	A2C4	43	221.80
	Total	414	
RelationsScore1	A1C1	57	244.68
	A1C2	63	207.43
	A1C3	69	192.56
	A1C4	70	165.95
	A2C1	30	229.92
	A2C2	29	172.59
	A2C3	53	227.14
	A2C4	43	233.64
	Total	414	

Us Vs ThemScore1	A1C1	57	223.23
	A1C2	63	204.55
	A1C3	69	218.43
	A1C4	70	202.94
	A2C1	30	204.37
	A2C2	29	170.74
	A2C3	53	195.49
	A2C4	43	222.64
	Total	414	

	Chi-Square	df	Asymp. Sig.
EducationSupport1	4.122	7	0.766
BalanceResearchAndExperience	8.058	7	0.328
ProactivityScore1	13.676	7	.057
CommunicationSkills1	2.781	7	0.905
EmpathyScore1	4.927	7	0.669
WithholdingScore1	13.25	7	0.066
ObtainingCompliance1	5.496	7	0.6
ProfessionalismScore1	11.244	7	0.128
CustomerServiceScore1	9.837	7	0.198
CongenialScore1	15.409	7	0.031
RelationsScore1	22.278	7	0.002
Us Vs ThemScore1	5.8	7	0.563

End of Academy

Ranks			
	CohortGrouping	N	Mean Rank
EducationSupport2	A1C1	57	200.58
	A1C2	63	184.27
	A1C3	69	209.43
	A1C4	70	221.76
	A2C1	30	191.80
	A2C2	29	224.64
	A2C3	54	215.41
	A2C4	43	218.69
	Total	415	
BalanceResearchAndExperience2	A1C1	57	220.32
	A1C2	63	201.41
	A1C3	69	206.92
	A1C4	70	231.76
	A2C1	30	174.85
	A2C2	29	211.45
	A2C3	54	202.30
	A2C4	43	192.33
	Total	415	
ProactivityScore2	A1C1	57	189.07
	A1C2	63	192.98
	A1C3	69	199.31
	A1C4	69	190.19
	A2C1	30	212.68
	A2C2	28	245.63

	A2C3	54	207.67
	A2C4	43	260.66
	Total	413	
CommunicationSkills2	A1C1	57	196.86
	A1C2	63	219.90
	A1C3	69	221.83
	A1C4	70	196.69
	A2C1	30	217.47
	A2C2	29	197.09
	A2C3	54	224.51
	A2C4	43	181.57
	Total	415	
EmpathyScore2	A1C1	57	183.91
	A1C2	63	197.04
	A1C3	69	214.75
	A1C4	70	204.76
	A2C1	30	212.17
	A2C2	29	217.97
	A2C3	54	230.13
	A2C4	43	213.02
	Total	415	
WithholdingScore2	A1C1	57	192.90
	A1C2	63	169.36
	A1C3	69	212.99
	A1C4	70	228.94
	A2C1	30	208.88

	A2C2	29	199.05
	A2C3	54	222.69
	A2C4	43	229.50
	Total	415	
ObtainingCompliance2	A1C1	57	212.30
	A1C2	62	219.85
	A1C3	69	183.33
	A1C4	67	162.75
	A2C1	30	214.15
	A2C2	29	232.64
	A2C3	54	215.57
	A2C4	42	241.85
	Total	410	
ProfessionalismScore2	A1C1	57	206.97
	A1C2	62	184.35
	A1C3	69	198.88
	A1C4	67	227.65
	A2C1	30	209.50
	A2C2	29	177.12
	A2C3	54	200.69
	A2C4	42	233.19
	Total	410	
CustomerServiceScore2	A1C1	57	191.20
	A1C2	63	195.29
	A1C3	69	200.64
	A1C4	70	205.51

	A2C1	30	213.32
	A2C2	29	226.93
	A2C3	54	203.91
	A2C4	43	253.43
	Total	415	
CongenialScore2	A1C1	57	166.38
	A1C2	62	183.73
	A1C3	69	192.54
	A1C4	67	205.93
	A2C1	30	240.45
	A2C2	29	239.83
	A2C3	54	227.61
	A2C4	42	234.25
	Total	410	
RelationsScore2	A1C1	57	246.69
	A1C2	63	190.67
	A1C3	69	157.65
	A1C4	70	173.11
	A2C1	30	258.92
	A2C2	29	144.05
	A2C3	54	264.81
	A2C4	43	255.94
	Total	415	
Us Vs ThemScore2	A1C1	57	217.70
	A1C2	63	166.54
	A1C3	69	218.54

	A1C4	70	223.99
	A2C1	30	237.70
	A2C2	29	182.21
	A2C3	54	203.60
	A2C4	43	215.15
	Total	415	

	Chi-Square	df	Asymp. Sig.
EducationSupport2	5.39	7	0.612
BalanceResearchAndExperience2	8.058	7	0.328
ProactivityScore2	19.216	7	0.008
CommunicationSkills2	6.263	7	0.509
EmpathyScore2	5.516	7	0.597
WithholdingScore2	12.831	7	0.076
ObtainingCompliance2	23.753	7	0.001
ProfessionalismScore2	9.175	7	0.24
CustomerServiceScore2	10.783	7	0.148
CongenialScore2	19.776	7	0.006
RelationsScore2	58.547	7	0
Us Vs ThemScore2	13.353	7	0.064

APPENDIX E: REGRESSION SUMMARY TABLE

ES = Education Support; BRE = Balance Research & Education; Proact = Proactivity; Comm = Communication Skills; Emp = Empathy; WH = Withholding; OC = Obtaining compliance; Prof = Professionalism; CS = Customer Service; Cong = Congenial; CR = Community Relations; UVT = Us vs. Them

Predictors at the Beginning of Training												
	Receptivity		Proactivity	Communication			Community/Citizen Relations				Low Cynicism	
	ES	BRE		Comm	Emp	WH	OC	Prof	CS	Cong	CR	UVT
Age											+	
Male											+	
Minority												+
Prior Sworn											-	
Military								-				
Education	+								-			-
Academy												
Predictors at the End of Training												
	Receptivity		Proactivity	Communication			Community/Citizen Relations				Low Cynicism	
	ES	BRE		Comm	Emp	WH	OC	Prof	CS	Cong	CR	UVT
Age											+	
Male												
Minority	+		+		+			+	+			
Prior Sworn												-
Military												
Education	+	+			+	+			-			
Academy			-		-		-		-	-	-	
Predictors of Change Scores												
	Receptivity		Proactivity	Communication			Community/Citizen Relations				Low Cynicism	
	ES	BRE		Comm	Emp	WH	OC	Prof	CS	Cong	CR	UVT
Age												
Male												
Minority								+				
Prior Sworn												
Military												
Education												
Academy			-		-		-		-	-	-	

APPENDIX F: RELIABILITY SCALES OF COMPONENT SCORES

Education Support

Case Processing Summary

		N	%
Cases	Valid	413	99.5
	Excluded ^a	2	.5
	Total	415	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.611	2

Proactivity

Case Processing Summary

		N	%
Cases	Valid	414	99.8
	Excluded ^a	1	.2
	Total	415	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.736	4

Communication Skills

Case Processing Summary

		N	%
Cases	Valid	408	98.3
	Excluded ^a	7	1.7
	Total	415	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.759	6

Empathy

Case Processing Summary

		N	%
Cases	Valid	412	99.3
	Excluded ^a	3	.7
	Total	415	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.688	4

Withholding

Case Processing Summary

		N	%
Cases	Valid	412	99.3
	Excluded ^a	3	.7
	Total	415	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.318	2

Professionalism

Case Processing Summary

		N	%
Cases	Valid	413	99.5
	Excluded ^a	2	.5
	Total	415	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.357	2

Customer Service

Case Processing Summary

		N	%
Cases	Valid	413	99.5
	Excluded ^a	2	.5
	Total	415	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.725	4

Congenial

Case Processing Summary

		N	%
Cases	Valid	413	99.5
	Excluded ^a	2	.5
	Total	415	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.278	2

Community Relations

Case Processing Summary

		N	%
Cases	Valid	413	99.5
	Excluded ^a	2	.5
	Total	415	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.724	5

Us Vs. Them

Case Processing Summary

		N	%
Cases	Valid	412	99.3
	Excluded ^a	3	.7
	Total	415	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.479	3

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