

Protective Vests in Law Enforcement: A Pilot Survey of Public Perceptions

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### Abstract

The primary purpose of this study was to begin an examination of the relationship between public perception and the number of attachments on external protective vests worn by law enforcement. A secondary purpose was to examine perceptual differences between non-law enforcement majors and law enforcement majors. Images of six vests that systematically varied in the amount of external attachments were rated across eight attributes: (1) approachability, (2) militarized appearance, (3) intimidation, (4) professional appearance, (5) organization, (6) confidence instilled in an officer, (7) confidence instilled in the public, and (8) recognizable as law enforcement. Vests with more external attachments were rated as more militarized and intimidating. However, participants also rated militarized appearance and intimidation as the least important attributes when considering external protective vests. Confidence instilled (by the images of vests) in an officer, and in the public, were the highest rated attributes, respectfully. These findings suggest that a militarized and intimidating appearance might not detract from the public's overall acceptance of external protective vests in law enforcement. In addition, law enforcement majors and non-law enforcement majors differed significantly in their ratings of all eight attributes. This suggests that exposure to law enforcement education might affect public perceptions of external protective vests. It is possible that education of the public on the function (e.g., load distribution) of external protective vest attachments might offset negative perceptions.

*Keywords: law enforcement, militarization, police, protective vest, public perception*

## 1. Introduction

Protective vests are a form of body armor worn by law enforcement officers that are designed to increase the chance of survival when officers are under gunfire, attack with an edged weapon, or other physical threat. Findings from a recent national analysis of ambushes on police indicate that wearing a protective vest was associated with an increase in officer survivability of 235% (Fachner & Thorkildsen, 2015), as compared to not wearing a protective vest. Bodily protection from potentially lethal gunfire to the torso is especially effective with this type of armor (LaTourrette, 2010; Peleg, Rivkind, Aharonson-Daniel, & Israeli, 2006). Despite increased survivability and advancement in armor design in recent decades, vests are not worn by all officers. Fachner and Thorkildsen (2015) reported that 25% of officers were not wearing a vest at the time of an ambush. For example, officers may not wear a vest when undercover and in plain clothes. Others may not be mandated to wear protective vests and choose not to because vests can be a heavy and uncomfortable piece of equipment that results in pain, injury, and performance limitations.

Protective vests and equipment may weigh between 17 and 20 pounds for patrol officers (Dempsey, Handcock, & Rehrer, 2013). This extra load may increase physiological strain (Majumdar, Srivastava, Purkayastha, Pichan, & Selvamurthy, 1997) and result in back, neck, and upper extremity pain (Konitzer, Fargo, Brininger, & Lim Reed, 2008). Discomfort may arise due to limitations in vest flexibility (Horsfall, Champion, & Watson, 2005; Barker, 2007) and duty belt flexibility (Czarnecki & Janowitz, 2003) as perceived by the wearer. In fact, male soldiers demonstrated a positive association between vest size and time to engage a target, such that reaction time was slower as vest size increased (Choi et

al., 2016). In general, the weight and design of officer equipment may also hinder mobility and performance during various physical activities (Carlton, Carbone, Stierli, & Orr, 2014; Dempsey et al, 2013; Lewinski, Dysterheft, Dicks, & Pettitt, 2015; Taylor, Peoples, & Petersen, 2016). Equipping personnel with protective vests that best enable the safe performance of job-related tasks is paramount. In fact, some law enforcement organizations mandate personnel to wear some type of protective armor. In one sample, approximately 59% of law enforcement agencies required officers to wear body armor, but only 45% had a written policy to enforce the mandate (Taylor et al., 2009). Survivability and physical consequences (i.e., pain or discomfort) may not be the only factors that influence the viability of wearing a protective vest as part of the uniform throughout a work shift. One study found that 50 to 90% of 911 calls require a social service response from law enforcement (Messinger et al., 2013) and so public perception of an officer's apparel and general appearance likely plays a major role in these day-to-day interactions.

It has long been held that uniforms serve to reduce ambiguity about the status of an individual as an officer of the law (Shaw, 1973) and to symbolize authority, legitimacy, and group membership (Joseph & Alex, 1972). It has been suggested that uniformed officers increase perceptions of safety (Balkin & Houlden, 1983), competence (Lawrence & Watson, 1991), reliability, intelligence, and helpfulness (Singer & Singer, 1985). However, it is not clear which components of officer appearance exert influence on public perceptions. Nickels (2008) surveyed 150 undergraduate students from introductory level criminal justice classes. The author found that criminal justice majors formed a more positive assessment of officer character than students in other disciplines and that images of officers in darker colored uniforms were rated as more favorable. Volpp and Lennon

(1988) found that the style of uniform hat influenced the degree of authority exuded by police officers. In contrast, Johnson, Plecas, Anderson, and Dolan (2015) suggested that uniform accessories (i.e., necktie and hat) may not have impacted citizen ( $N = 363$ ) impressions of the officers from whom they received services. Tinsley, Plecas, and Anderson (2003) found that Canadian citizens ( $N = 1400$ ) preferred strict grooming standards for police officers, such that relaxing the grooming standards (e.g., allowing visible tattoos, facial piercings, dyed hair, etc.) within law enforcement may result in lower levels of respect, trust, pride, and confidence in police by the public. Previous research has also suggested a link between unprofessional appearance and an increase in the number of physical assaults on officers (Bell, 1982; Cizanckas & Feist, 1975; Gundersen, 1987; Mauro, 1984; Tenzel & Cizanckas, 1973; Tenzel, Storms, & Sweetwood, 1976).

In recent years, media outlets have paid special attention to officer appearance regarding the militarization of police. In fact, the White House implemented and reviewed Executive Order No. 13688 (2015) regarding the provision of military and military-styled equipment, firearms, and tactical vehicles to law enforcement agencies in their mission to safeguard the public. Scholars have argued that militarization can increase community hostility toward the police, but may also increase perceived professionalism and accountability (Bieler, 2016). Despite significant media coverage and policy changes, there is a paucity of research on components of officer appearance that might be conceived as contributing to the militarization of police. One such trend is the adoption of “outer carriers,” or protective vests with external attachments (e.g., firearm magazine pouches). To date, research has not addressed the potential impact of protective vest design and visible tools of the trade as components of the uniformed police officer’s appearance.

The present study was developed in consultation with the International Association of Chiefs of Police (IACP) Patrol and Tactical Operations Committee. The purpose was to extend previous research on public perceptions of officer appearance by examining the perceived importance of protective vest attributes in relation to vest design. Specifically, we examined how the number of readily visible attachments might impact the public's perception of (1) approachability, (2) militarized appearance, (3) intimidation, (4) professional appearance, (5) organization, (6) confidence instilled in an officer, (7) confidence instilled in the public, and (8) recognizable as law enforcement. A secondary aim was to examine how perceptions might differ depending on participant's familiarity with law enforcement.

## **2. Method**

### **2.1 Participants and Setting**

Participants ( $N = 315$ ) were recruited from the undergraduate psychology and law enforcement departments at a Midwest university in the United States of America. Participant majors were psychology ( $n = 128$ ), other disciplines ( $n = 107$ ), law enforcement ( $n = 64$ ), or undeclared ( $n = 16$ ). Much of the sample identified as female ( $n = 198$ ), 49 identified as male, and 68 participants did not identify a gender. Participants were mostly young adults ( $M = 20.94$ , range 16 - 40). Participants were White ( $n = 236$ ), Non-white ( $n = 48$ ), or did not identify a race ( $n = 31$ ). Participation was completely voluntary and students were free to exit the survey at any time without consequence. The survey was disseminated to students through Qualtrics online survey software. Participants completed the survey in an environment of their choosing on an electronic device capable of running the online Qualtrics survey.

## 2.2 Variables

The independent variables were six images of external protective vests (A to F) that varied in appearance and the number of attachments. Figure 1 displays the array of external protective vests. *Vest A* was designed to look like a dress shirt with buttons down the center and pockets in the chest area with no attachments. *Vest B* had a fabric hook patch across the chest area and various sized pockets along the waistline with no attachments. *Vest C* had a fabric hook patch across the chest area and two rows of attachment loops along the waistline. Vests D, E, and F were identical to Vest C except for the number of attachments. *Vest D* had one attachment: a radio. *Vest E* had three attachments: a radio, conducted electrical weapon (CEW), and handcuffs. *Vest F* had five attachments: a radio, CEW, handcuffs, magazine pouches, and a body-worn camera. All vests were black and made from similar fabric.

Eight vest attributes served as the dependent variables and were defined as follows: *Approachability* was the degree of comfort you (i.e., the participant) would feel in speaking to or otherwise interacting with an officer wearing the vest. *Militarized appearance* was the degree to which you feel the vest looks like something a soldier or other member of the military would wear. *Intimidation* was the degree of discomfort you would feel in speaking to or otherwise interacting with an officer wearing the vest. *Professional appearance* was the degree to which you think an officer would look like they take their job seriously. *Organization* was the degree to which you think any equipment attached to the vest would look well arranged. *Confidence in an officer* was the degree to which you think an officer would feel safe in the vest. *Confidence in the public* was the degree to which you would

feel protected by an officer wearing the vest. *Recognizable as law enforcement* was the degree to which you could identify an officer as a police officer.

### **2.3 Design**

A qualitative set of questions was designed to assess public perception about different attributes of protective vests worn by law enforcement personnel. Participants were only provided with the general topic of the study before beginning the survey. All responses were anonymous and voluntary. Within and between group analyses of variance were conducted to examine the relationships between (1) rating of vest attribute importance, (2) ratings of vest images with various numbers of external attachments, and (3) declared major area of study.

### **2.4 Procedures**

Participants provided informed consent by logging into the Qualtrics website portal through a Midwest university. Upon checking the box to affirm their understanding of the study and willingness to participate, participants were granted access to the survey. After providing consent, the following statement and definition were provided to introduce participants to the topic of the survey: “This survey was designed to identify and collect information about your perception of protective vests worn by law enforcement personnel. *Vest* is a sleeveless securely fitting garment with no collar that does not extend below the waist.” After this, questions were presented one at a time until the participant either answered the question or selected to skip the question and move on to the next one.

The first section contained three questions aimed at gathering information about each participant’s familiarization with law enforcement and knowledge about protective vests. The questions were as follows: (1) Have you ever been actively involved in law



enforcement? If yes, how long? (2) Do you know anyone who has been actively involved in law enforcement? If yes, how long? (3) To the best of your knowledge, how often do you think law enforcement personnel wear protective vests while on-duty (i.e., at work) with 1 being very rarely and 7 being always?

The second section contained one question with eight sub-parts designed to evaluate participants' perceptions about the importance of the eight vest attributes. Participants used a 7-point Likert scale to rate the importance (1 = not important, 4 = somewhat important, 7 = very important) of each vest attribute. Participants were not exposed to images of external protective vests up to this point in the survey.

The second section contained eight questions, each with six sub-parts designed to evaluate participant's perceptions of Vests A to F in relation to each of the eight vest attributes. The vest array contained images of all six vests and was presented at the top of the screen. Below, participants were asked to rate each protective vest according to their perception of each of the eight attributes using a 7-point Likert scale. For example, participants were asked to rate each vest on "recognizable as law enforcement" with 1 indicating *not recognizable as law enforcement*, 4 indicating *somewhat recognizable as law enforcement*, and 7 indicating *very recognizable as law enforcement*. This process was repeated for each attribute in relation to each vest.

The last section contained eight questions and was designed to obtain demographic information about participants. In addition, the following open-ended questions about experience with and perceptions of law enforcement were asked: (1) What is your major area of study? (2) What is your age? (3) What is your race? (4) What is your gender? (5) What is your experience with law enforcement? (6) What is your experience with

protective vests and/or body armor? (7) Are there any other factors that contribute to your perception of law enforcement appearance? (8) Have you ever previously considered the appearance of law enforcement protective vests?

After answering the last question, participants were asked to select an end button to exit the survey.

### **3. Results**

Public interaction is a large portion of the job for police officers. How the public perceives officers has an influence on every interaction. Protective vests are a prominent part of officers' uniforms and this survey was designed to examine individual perceptions surrounding these vests. First, we examined the importance of each vest attribute as rated by participants. Then, repeated measures ANOVAs were used to examine how vest complexity (i.e., number of attachments) influenced participants' ratings of the vests on the different attributes. Finally, we then examined how participants' college major influenced vest ratings.

#### **3.1 Ratings of importance of vest attributes**

When participants were asked to rate the importance of different attributes before presentation of vest images, confidence of an officer was rated as most important, followed closely by confidence of the public, recognizable as law enforcement, approachability, organization, and professional appearance. Militarized appearance and intimidation were rated significantly less important than the rest of the attributes ( $F(7, 217) = 105.87, p < .0001$ , partial  $\eta^2 = .322$ ; (see Table 1 for the means and standard deviations of the ratings of each attribute).

Then, after presentation of vest images, the ratings for each attribute were averaged across all six vests in order to compare them to how participants ranked the importance of each attribute before viewing vest images. There was a significant, positive correlation between how important participants thought ‘intimidation’ was as a vest attribute, and their ratings of how intimidating the vests were ( $r = .282, p < .0001$ ). Similarly, there was a significant, positive correlation between how important participants thought ‘militarized appearance’ was as a vest attribute, and their ratings of how militarized in appearance the vests were ( $r = .199, p < .004$ ). There were no other significant correlations between importance ratings of the attributes and the ratings of the vests (all  $ps > .18$ ).

A t-test found only one significant gender difference in the ratings of importance of each attribute; females rated ‘intimidation’ as more important ( $M = 3.72, SD = 2.96$ ) compared to men ( $M = 2.96, SD = 1.80, t(260) = -3.28, p < .001$ ). There were also significant differences between law enforcement majors and non-law enforcement majors on ratings of several of the attributes. Law enforcement majors rated ‘intimidation’ as less important ( $M = 2.54, SD = 1.76$ ) compared to non-majors ( $M = 3.61, SD = 1.73, t(258) = -3.87, p < .0001$ ). Law enforcement majors rated ‘professional appearance’ as more important ( $M = 5.84, SD = 1.52$ ) compared to non-majors ( $M = 5.23, SD = 1.48, t(259) = 2.59, p < .01$ ). Law enforcement majors also rated ‘organization’ as more important ( $M = 6.00, SD = 1.14$ ) compared to non-majors ( $M = 5.22, SD = 1.53, t(262) = 3.37, p < .001$ ). Law enforcement majors rated ‘confidence of an officer’ as a more important attribute ( $M = 6.52, SD = .86$ ) compared to non-majors ( $M = 6.10, SD = 1.13, t(268) = 2.44, p < .02$ ). Finally, Law enforcement majors rated ‘recognizable as law enforcement’ as more

important ( $M = 5.90$ ,  $SD = 1.46$ ) than non-majors ( $M = 5.40$ ,  $SD = 1.52$ ,  $t(266) = 2.10$ ,  $p < .04$ ).

### 3.2 Ratings of vests across all participants

There was a significant effect of vest type on ratings of approachability ( $F(5, 245) = 64.953$ ,  $p < .0001$ , partial  $\eta^2 = .207$ ), such that approachability ratings of the two vests with the most attachments were significantly lower than approachability ratings of the other four vests (see Table 2 for the specific means and standard deviations for the ratings of each vest).

There was a significant effect of vest type on ratings of militarized appearance ( $F(5, 222) = 203.77$ ,  $p < .0001$ , partial  $\eta^2 = .474$ ), such that participants rated more complex vests as more militarized. Similarly, there was a significant effect of vest type on ratings of intimidation ( $F(5, 234) = 446.65$ ,  $p < .0001$ , partial  $\eta^2 = .652$ ), such that participants rated more complex vests as more intimidating.

There was a significant effect of vest type on ratings of professional appearance ( $F(5, 221) = 100.502$ ,  $p < .001$ , partial  $\eta^2 = .309$ ), such that more complex vests were rated as more professional in appearance. There was also a significant effect of vest type on ratings of organization ( $F(5, 236) = 57.941$ ,  $p < .0001$ , partial  $\eta^2 = .194$ ), such that more complex vests were rated as looking more organized.

There was a significant effect of vest type on ratings of confidence of an officer wearing the vest ( $F(5, 237) = 241.396$ ,  $p < .0001$ , partial  $\eta^2 = .500$ ), such that as vests became more complex, ratings of how confident an officer wearing the vest would feel also increased. There was also a significant effect of vest type on ratings of the confidence of the public when seeing an officer wearing that vest ( $F(5, 222) = 162.63$ ,  $p < .0001$ , partial

$\eta^2 = .418$ ), such that as vests became more complex, ratings of how confident the public would feel in an officer wearing that vest also increased.

Finally, there was a significant effect of vest type on ratings of how recognizable as law enforcement an officer would be when wearing the vest ( $F(5, 235) = 321.33, p < .0001$ , partial  $\eta^2 = .573$ ), such that more complex vests were rated as making an officer more recognizable as law enforcement.

Table 2 displays the means and standard deviations of ratings of each vest. Subscripts in the table show the results of Bonferroni-corrected pair-wise comparisons of each vest type, with different subscripts indicating significant differences in ratings at  $p < .01$ .

### **3.3 Influence of participant college major on vest ratings**

Mixed-model ANOVAs were used to examine whether students who were majoring in law enforcement rated the vests differently from other students. Here, significant differences were found for all ratings. Table 3 shows the means and standard deviations of the ratings of each vest type, comparing law enforcement majors to non-law enforcement majors.

Students who were law enforcement majors rated all vests as significantly greater in approachability compared to non-law enforcement majors ( $F(1, 238) = 12.04, p < .001$ , partial  $\eta^2 = .05$ ). This effect was qualified by a significant interaction between college major and vest type ( $F(5, 234) = 3.26, p < .006$ , partial  $\eta^2 = .014$ ), such that this difference was more pronounced for the more complex vests.

Students who were law enforcement majors rated all vests as significantly less militarized in appearance compared to non-law enforcement majors ( $F(1, 217) = 11.70, p$

$< .001$ , partial  $\eta^2 = .05$ ). This finding was also qualified by a significant interaction between major and vest type, such that the difference between the two groups was greater for the more complex vests ( $F(5, 213) = 2.371, p < .04$ , partial  $\eta^2 = .011$ ). Similarly, law enforcement majors rated all vests as less intimidating than did students in other majors ( $F(1, 227) = 26.62, p < .0001$ , partial  $\eta^2 = .105$ ), and this effect was most pronounced for the more complex vests ( $F(5, 223) = 11.09, p < .0001$ , partial  $\eta^2 = .047$ ).

Law enforcement majors rated all vests as more professional in appearance compared to non-majors ( $F(1, 217) = 6.54, p < .011$ , partial  $\eta^2 = .029$ ), and this difference was strongest for the least complex vests ( $F(5, 213) = 5.14, p < .0001$ , partial  $\eta^2 = .023$ ). Law enforcement majors also rated all vests as more organized in appearance, compared to non-majors ( $F(1, 230) = 6.99, p < .009$ , partial  $\eta^2 = .03$ ).

Law enforcement majors rated all vests as making an officer feel more confident, compared to non-majors ( $F(1, 229) = 12.65, p < .0001$ , partial  $\eta^2 = .052$ ), and the difference was greater for the less complex vests ( $F(5, 225) = 3.86, p < .002$ , partial  $\eta^2 = .017$ ). Similarly, law enforcement majors rated all vests as making the public feel more confident in an officer wearing the vest, compared to non-majors ( $F(1, 218) = 14.67, p < .0001$ , partial  $\eta^2 = .063$ ), and again, this difference was greater for the less complex vests ( $F(5, 214) = 4.71, p < .0001$ , partial  $\eta^2 = .021$ ). Finally, law enforcement majors gave higher ratings to all vests for the characteristic of 'recognizable as law enforcement' ( $F(1, 231) = 8.21, p < .005$ , partial  $\eta^2 = .034$ ), and again the difference was greatest for the less complex vests ( $F(5, 227) = 5.12, p < .0001$ , partial  $\eta^2 = .022$ ).

#### 4. Discussion

The purpose of the present study was to extend previous research on public perception of officer appearance by examining vest attributes in relation to vest design and the number of external vest attachments. We also sought to identify how perceptions might differ depending on familiarity with law enforcement.

Confidence instilled in an officer wearing the vest was rated as the most important attribute, followed by how confidence-inspiring the vest is to the public, recognizable as law enforcement, approachability, organization, and professional appearance. Militarized appearance and intimidation were rated as the least important attributes. Individuals that rated intimidation and militarization as more important also rated the vests as being more intimidating and militarized than individuals who rated these two attributes as less important.

In support of Volpp and Lennon's (1988) finding that the style of police apparel might impact perception, we found that more complex vests (three to five attachments) were rated as more militarized, intimidating, and less approachable. However, more complex vests were also rated as more organized, professional, recognizable as law enforcement, and as inspiring more confidence in the officer and public. These findings suggest a somewhat surprising trade-off between what are often considered positive and negative attributes in the media. When vests, such as those with three to five attachments, are rated as more militarized and intimidating, they are also rated higher on many positive attributes, except for approachability. Confidence, professional appearance, and organization ratings were higher for the vest with the most attachments than the least amount of attachments. This difference demonstrates that although perceived approachability diminishes as militarization and intimidation increase, this sample reported

an increasing sense of confidence, professionalism, and organization of the vest. These findings are in line with previous research that has suggested a link between unprofessional appearance and physical assaults (cf. approachability) on officers (Bell, 1982; Gundersen, 1987; Mauro, 1984; Tenzel & Cizankas, 1973; Tenzel, Storms, & Sweetwood, 1976). However, further research is needed to determine if there is a trade-off between approachability and susceptibility to attack.

Law enforcement majors rated intimidation as less important and professional appearance, organization, confidence of an officer, and recognizable as law enforcement as more important than non-law enforcement majors. Overall, and especially for more complex vests, LE majors rated vests as more approachable and less intimidating and militarized than non-LE majors. Overall, and especially for less complex vests, LE majors rated professional appearance, confidence of an officer and the public, and recognizable as law enforcement higher than non-law enforcement majors. Organization was rated higher across all vests for law enforcement than non-law enforcement majors. In line with Nickels (2008), familiarity with law enforcement, as measured by major area of study, appears to differentially impact public perception of police officer appearance. Future research might explore potential mediating and moderating variables in this regard.

For example, previous research has shown that seeing weapons (such as guns) automatically primes people to think about aggression and hostility (Collins & Loftus, 1975). However, Bartholow, Anderson, Carnagey, and Benjamin Jr. (2005) showed that while pictures of guns primed aggressive thinking and behaviors in people with less gun experience, seeing pictures of guns did not lead to increased aggression in hunters. The authors argue that hunters associate guns with sport, rather than with aggression and harm,



so that seeing a picture of a gun used in hunting did not prime them to think or act aggressively. Similarly, our law enforcement student participants may associate police weapons with their career goals, serving the public, and protection, rather than with negative actions and aggression, leading to the lower ratings they gave for intimidation for the more complex vests that openly showed a weapon (i.e., CEW) as one of the attachments. This also identifies an area for further research into the associations that people develop between police officers and the tools police use. It is possible that these associations influence the public's initial responses to the presence of police officers.

Differential findings between LE majors and non-LE majors suggest that spreading awareness about the various functions (e.g., protection and load distribution) of protective vests and external carriers may hold the potential to change public perception regarding one aspect of the militarization of police. There are a variety of means with which to educate the public. An introductory criminal justice or law enforcement course might be required in educational settings so that early on, youth are provided with information about law enforcement standard operating procedures and the purpose of their equipment. News outlets might provide ongoing public safety announcements about law enforcement operations to bridge gaps in knowledge and perception.

#### **4.1 Limitations**

The findings from the current study are limited to the perceptions of college-aged participants from a Midwest university in the United States of America. Our sample was largely female and white. While only one gender difference was found, the sample was not sufficient to allow analysis of perceptions by race. A representative sample of the U.S. population may be utilized in future research to increase the generalizability of findings.

Additionally, participant perceptions relate directly to the vests, which aids in isolating the vest attributes from those of any officer that might wear the vest. However, it is not currently known how the perception of vest images might interact with perceptions of officers wearing these vests. Other factors might be race, hair style, uniforms, various body composition or gender identification, demeanor and affect, or tattoos and facial hair (see Tinsley, Plecas, & Anderson, 2003).

The present investigation did not randomize the presentation of vests. Simultaneous presentation of all vests in the same order was employed as a visual prompt for participants to directly compare each vest to the other. This measure also served to decrease survey length to guard against participant fatigue. Lastly, none of the vest images displayed a firearm. A CEW was placed on vests with more attachments (E & F), which could have been mistaken for a firearm by those participants less familiar with law enforcement. Future research might examine the impact of a firearm with and without a CEW on public perception of protective vests.

Finally, it is possible that law enforcement majors were predisposed toward positive perceptions of police before receiving their law enforcement specific education. If in fact their education had no effect, it will important for future research to identify an alternative explanation.

## **4.2 Conclusion**

This preliminary survey serves as a starting point to begin to identify how vest design and external attachments impact public perception and how those perceptions might differ depending on familiarity with law enforcement. A striking, and somewhat unexpected finding was that the current sample rated vests with more attachments as both

more militarized and intimidating as well as more professional, organized, and confidence inspiring. Officer safety is the paramount consideration when considering protective vests. However, law enforcement agencies may benefit from understanding public perceptions about vests and how those perceptions may impact public interactions. Future research is needed to isolate mediating and moderating variables that impact public perception of officer appearance and to identify the role of education in bridging the gaps between science and practice.

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- Ethical approval: Approved by an Institutional Review Board
- Informed consent: All participants provided informed consent to participate

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Figure 1. Vest array displayed to participants during the online survey. *Vest A* resembles a dress shirt with no attachments. *Vest B* had various sized pockets with no attachments. *Vest C* had two rows of attachment loops and no attachments. Vests *D*, *E*, and *F* were identical to *Vest C* except for the number of attachments. *Vest D* had one attachment: a radio. *Vest E* had three attachments: a radio, conducted electrical weapon (CEW), and handcuffs. *Vest F* had five attachments: a radio, CEW, handcuffs, magazine pouches, and a body-worn camera.



Table 1. Average ratings of importance of vest attributes. The subscripts indicate Bonferroni-corrected pair-wise comparisons showing significant differences at  $p < .01$  between the importance ratings of each attribute. Means with different subscripts are significantly different; means with the same subscript are not significantly different.

<i>Attribute</i>	<i>Mean</i>	<i>SD</i>
Confidence of an officer	6.18 <sub>a</sub>	1.12
Confidence of the public	5.78 <sub>b</sub>	1.35
Recognizable as law enforcement	5.50 <sub>b</sub>	1.49
Approachability	5.43 <sub>bc</sub>	1.58
Organization	5.41 <sub>c</sub>	1.48
Professional Appearance	5.36 <sub>c</sub>	1.54
Militarized Appearance	3.85 <sub>d</sub>	1.85
Intimidation	3.52 <sub>d</sub>	1.83

Table 2. Means and standard deviations of ratings of each vest across attributes. Subscripts in the table show the results of Bonferroni-corrected pair-wise comparisons of each vest type, with different subscripts indicating significant differences in ratings at  $p < .01$ . For each row, vest means with different subscripts are significantly different; means with the same subscript are not significantly different.

<i>Attributes</i>	<i>Vest Type</i>											
	A		B		C		D		E		F	
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>
Approachability	6.05 <sub>a</sub>	1.75	5.94 <sub>a</sub>	1.56	6.04 <sub>a</sub>	1.40	5.90 <sub>a</sub>	1.22	5.00 <sub>b</sub>	1.67	4.46 <sub>c</sub>	2.02
Militarized appearance	2.04 <sub>a</sub>	1.49	2.73 <sub>b</sub>	1.79	2.93 <sub>b</sub>	1.82	3.63 <sub>c</sub>	1.70	4.76 <sub>d</sub>	1.74	5.51 <sub>e</sub>	1.82
Intimidation	1.72 <sub>a</sub>	1.24	1.90 <sub>b</sub>	1.16	2.09 <sub>c</sub>	1.28	2.98 <sub>d</sub>	1.60	4.51 <sub>e</sub>	1.83	5.28 <sub>f</sub>	1.92
Professional appearance	4.18 <sub>a</sub>	2.21	4.35 <sub>a</sub>	1.89	4.62 <sub>b</sub>	1.74	5.47 <sub>c</sub>	1.28	5.97 <sub>d</sub>	1.16	6.08 <sub>d</sub>	1.28
Organization	4.53 <sub>a</sub>	2.24	4.74 <sub>ab</sub>	2.06	4.80 <sub>b</sub>	1.95	5.62 <sub>c</sub>	1.38	5.96 <sub>d</sub>	1.23	5.91 <sub>c</sub>	1.52
Confidence of an officer	3.52 <sub>a</sub>	2.10	3.83 <sub>b</sub>	1.90	4.22 <sub>c</sub>	1.80	5.10 <sub>d</sub>	1.40	6.03 <sub>e</sub>	1.15	6.43 <sub>f</sub>	1.08
Confidence of the public	3.61 <sub>a</sub>	2.09	3.81 <sub>b</sub>	1.91	4.11 <sub>c</sub>	1.86	5.07 <sub>d</sub>	1.49	5.89 <sub>e</sub>	1.25	6.19 <sub>f</sub>	1.35
Recognizable as law enforcement	3.52 <sub>a</sub>	2.12	3.92 <sub>b</sub>	1.96	4.27 <sub>c</sub>	1.87	5.58 <sub>d</sub>	1.38	6.47 <sub>e</sub>	.87	6.68 <sub>f</sub>	.82

Table 3. Ratings of each vest across attributes by participant major, comparing students majoring in Law Enforcement and Other.

<i>Characteristic</i>	<i>Vest Type</i>											
	A		B		C		D		E		F	
	Law	Other	Law	Other	Law	Other	Law	Other	Law	Other	Law	Other
	Enf.		Enf.		Enf.		Enf.		Enf.		Enf.	
	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>	<i>M</i>
	( <i>SD</i> )	( <i>SD</i> )	( <i>SD</i> )	( <i>SD</i> )	( <i>SD</i> )	( <i>SD</i> )	( <i>SD</i> )	( <i>SD</i> )	( <i>SD</i> )	( <i>SD</i> )	( <i>SD</i> )	( <i>SD</i> )
Approachability	6.36	6.03	6.09	5.92	6.49	5.97	6.31	5.84	5.87	4.83	5.40	4.28
	(1.61)	(1.75)	(1.65)	(1.54)	(.97)	(1.45)	(1.22)	(1.19)	(1.29)	(1.69)	(1.78)	(1.98)
Militarized appearance	1.55	2.09	2.47	2.74	2.60	2.97	3.00	3.78	3.77	5.01	4.80	5.72
	(1.13)	(1.46)	(1.72)	(1.76)	(1.61)	(1.82)	(1.70)	(1.68)	(1.90)	(1.62)	(2.07)	(1.69)
Intimidation	1.34	1.79	1.61	1.97	1.59	2.21	2.07	3.17	3.20	4.79	3.78	5.60
	(1.04)	(1.27)	(.83)	(1.22)	(.89)	(1.33)	(1.23)	(1.61)	(1.93)	(1.70)	(2.14)	(1.72)
Professional appearance	5.12	4.01	5.00	4.23	5.33	4.46	5.74	5.44	5.93	5.99	6.10	6.07
	(2.36)	(2.11)	(2.00)	(1.82)	(1.69)	(1.71)	(1.17)	(1.30)	(1.18)	(1.17)	(1.17)	(1.32)

Organization	5.35 (2.20)	4.43 (2.19)	5.23 (2.04)	4.71 (2.02)	5.55 (1.65)	4.71 (1.95)	6.23 (1.03)	5.53 (1.42)	6.25 (.90)	5.92 (1.30)	6.08 (1.47)	5.85 (1.55)
Confidence of an officer	4.39 (2.44)	3.35 (1.97)	4.55 (2.06)	3.71 (1.81)	5.32 (1.44)	4.04 (1.75)	5.63 (1.22)	5.00 (1.39)	6.29 (.93)	5.98 (1.19)	6.61 (.64)	6.38 (1.15)
Confidence of the public	4.78 (2.33)	3.39 (1.98)	4.81 (2.15)	3.63 (1.80)	5.17 (1.99)	3.93 (1.76)	5.50 (1.56)	5.03 (1.44)	6.17 (1.16)	5.85 (1.28)	6.42 (1.13)	6.15 (1.40)
Recognizable as law enforcement	4.49 (2.61)	3.33 (1.97)	4.84 (2.28)	3.77 (1.83)	4.92 (2.19)	4.15 (1.76)	5.84 (1.44)	5.53 (1.36)	6.59 (.64)	6.44 (.91)	6.76 (.55)	6.66 (.85)