ALERRT Reaction Time Study

Problem Statement

One of the critical decisions that police officers face is how to deal with an individual who is armed with a gun. More specifically, how should the police deal with an individual who is holding a gun in his or her hand, but is not pointing it at the police officer or another person? Critical to this decision is knowledge about both how quickly the individual can bring the gun on target with a police officer or innocent citizen, and how quickly the officer can discharge his weapon when the suspect begins to aim the weapon at the police officer or citizen. This study seeks to answer both questions.

Method

Design

This study will feature two conditions. In the first, the suspect will hold his or her gun at a low position (Arm straight down at his or her side). In the second, the suspect will hold his or her gun in a high position (Arms up with the gun above his or her shoulder).

Samples

Two samples will be used for this experiment. The first will consist of law enforcement officers who are participating in the Texas Tactical Police Officers conference. Recruitment will be accomplished by making an announcement at the conference. No incentives will be offered for participation. It is expected that approximately 40 police officers will participate in this group. This group will be referred to as police officers (See Police Consent Form).

The second sample will consist of students in criminal justice classes at Texas State. Recruitment will be accomplished by making announcements in classes. Some instructors may choose to give their students credit for participation and some may not. For those that do give credit and alternative assignment of reading a journal article and preparing a 1 page summary will be offered for those who choose not to participate, but would still like to receive credit. We will aim to recruit approximately 100 students. This group will be referred to as the suspects (See Student Consent Form).

Method

The study will be conducted at Advanced Law Enforcement Rapid Response Training’s (ALERRT) Bowie Facility. Upon arrival, both samples will participate in the standard ALERRT safety preparations. This includes searching the participants to insure that no weapons are brought into the facility and a briefing on the safety rules for the use of Simunition FX Marking Cartridge weapons. During this briefing, the participants will be issued and instructed in the use of the safety equipment. Both the searches and safety briefing will be conducted by certified ALERRT instructors who are either full time police officers or retired police officers. Biographical Information will also be collected at this time (See Bio Form).

Following the briefing, the suspects will be taken one at a time to the location where the reaction time testing will be done by a safety officer. At this time, the safety officer will inspect the student’s safety equipment to ensure that it is fitted properly and issue the student a Simunition FX Marking Cartridge weapon. This gun will have 1 Simunition FX Marking Cartridge round in it. They will also be instructed to hold the gun in either the high or low position discussed above. Three quarters of the students will be instructed that they should attempt to shoot the officer when he or she instructs the student to put the gun down. One quarter of the students will be instructed to comply with the police officer’s commands and put the gun down.

Once the student is in place, a police officer will be brought into the training area. At this time, the safety officer will inspect the officer’s safety equipment to ensure that it is fitted properly and issue the officer a Simunition FX Marking Cartridge weapon. This gun will have 1 Simunition FX Marking Cartridge round in it. The officer will be told that an armed suspect has been located in the building and that the officer’s task is to get the suspect to surrender. The officer will be authorized to use his or her Simunition FX Marking Cartridge weapon if the suspect attempts to point the weapon at the officer. The officer will then encounter the student and attempt to get the student to comply. Once the encounter is finished, the safety officer will instruct the participants to stop, collect the Simunition FX Marking Cartridge weapons, and escort the participants back to the safe area. All of the encounters will be videotaped. Participants will be informed of the videotaping on the consent form and be given a chance to withdraw their video from the study if they so choose (See Video Consent Form).

Analysis

The videotapes will be reviewed to determine how long it took the suspect to bring the gun on target and fire. The amount of time that it took the officer to fire after the suspect began his or her movement will also be reviewed. Additionally the tapes will be reviewed to determine who was able to fire first. This data will be aggregated to produce means and standard deviations. We will also record the accuracy of the shots that are fired.

Risks

The participants will be using Simunition FX Marking Cartridge weapons. These fire a colored wax projectile at a high rate of speed. These projectiles can leave welts similar to those created by paintballs. Simunition FX Marking Cartridges are the industry standard in law enforcement and military training used during force-on-force training exercises. To minimize the risk of injury, participants will be instructed to wear long sleeves, pants and gloves to the session. We will additionally keep long sleeved shirts, pants and gloves on hand in case participants fail to wear their own. The participants will also be placed in safety equipment that protects their head, face, and neck. Additionally, each participant will have only one round in his or her weapon which will limit the number of times that they might be hit.

ALERRT has conducted this type of training for 10 years and has not had a serious injury during that time. In the event that a serious injury does occur, EMS will be immediately contacted, the IRB will be notified, and the experiment will be stopped until the IRB has reviewed the situation and given permission for the experiment to resume.

Benefits

The participants will get to participate in the research process and learn how quickly they can act.

The information generated will fill a critical gap in our knowledge about use of force. It will also be integrated into the ALERRT training programs and may serve to save lives.