

Research Article

THE HIDDEN ADVANTAGE IN SHOOT/DON'T SHOOT SIMULATION EXERCISES FOR POLICE RECRUIT TRAINING

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During the past thirty-five years, developments in computer-related technology have been providing increasingly more sophisticated simulation alternatives for training law enforcement officers. Such developments have leveraged on the back of progress achieved in the aviation, military and medical professions as law enforcement educators seek to address the challenges of training for high-risk, high-stakes professional environments. While globally, simulation based learning exercises are at the forefront in use-of-force training with firearms for police recruits there is limited published research which views the influence of these exercises on operational practice through the lens of the police recruit as they engage with the demands of their volatile, unpredictable workplace. This paper discusses a case study of a cohort of 372 police recruits whose police academy education program included participation in simulation based learning exercises centred on decision making in use-of-force. The pivotal inclusion in the study was the opportunity for the police recruits to reflect on the influence of the simulation exercise experience from an operational perspective. The study revealed an unvoiced advantage—while trainers are focussing on the amount of ammunition used, the marksmanship accuracy, and the justification for the use-of-force, the students are unconsciously building a repertoire of realistic experiences as a reference library for the moment of decision in real life shoot/don't shoot incidents.

Keywords: Police use-of-force, firearms simulation training, police recruit training, law enforcement simulation technology, weapons training

INTRODUCTION

Recent global events involving police use of firearms highlights the often confusing, complex and high risk situations armed police officers find themselves in. Consequently, developing an understanding of the way police officers are trained to make decisions and act or react in such situations

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influences their operational practice is important. Simulation training for armed police officers is an area that needs closer examination and understanding for its influence on the decisions taken by police officers when faced with life or death decisions.

The use of simulation for use-of-force and firearms training both in law enforcement and the military has been in place for several decades, initially their use was concerned with skill development and assessment in the use of firearms (Copay & Charles, 2001; C.O. Dillion, 1972; Dorering, 1980; Edholm, 1978; Griffith 2009; Knight, 2007; Morrison & Shave, 2002; Olsen, 2004; Pinizzotto, Kern, & Davis, 2004; Weiss & Davis, 2002). More recently an emerging trend to utilise technology-supported simulations for more holistic training has been evidenced. This move to incorporate additional aspects of training and assessment with firearms skill development ranges from a combination of firearms skills to the use of communications to resolve an incident (Gillis, 1999). Furthermore, inclusive in this progress is an escalation to the assessment of verbal communication skills to defensive tactics (Hodge, 2003).

The clamour by high-tech experts to service the expectations for law enforcement simulation technology has led to the development of a number of well-regarded use-of-force simulation products entering the market place. As reported by Griffith (2009), and Nowicki (2009), those products which accommodated learning opportunities which extended beyond the traditional firearms range experience to placing the officer in an environment which recreates as many of the environmental conditions that exist in their operational domain, such as the public street, are gaining popularity with educators.

The momentum in the technology arena driven by the demand from law enforcement agencies with responsibility for preparing recruit officers for operational duty has seen the development of virtual high fidelity, interactive, shootout environments (Andrews International, 2011; Wollert, Burnett, Sizemore & Balash; 2014). These developments have not changed the priority of situating marksmanship as the number one focus for many law enforcement agencies. As Johnson (2013) writes in discussing firearms training for FBI agents:

The thing that jumps out at you from the (shooting incident) research is that if we're not preparing agents to get off three to four rounds at a target between 0 and 3 yards, then we're not preparing them for what is likely to happen in the real world," says FBI training instructor Larry "Pogo" Akin.

Developing an understanding of whether experience in a simulation exercise and the subsequent perception and prediction of level of skills and knowledge is ultimately evidenced in the field and what impact simulation exercises have on the transfer of learning to professional practice for police officers is hampered in this under-published area.

Firstly, in the main published research in this domain concentrates on the training environment. The seminal work of Helsen and Starkes (1999) in this arena is centred on understanding how prepared the recruit officer feels for the use-of-force decisions inherent in police work. Similarly contained within the training environment is the research reported by Scharr (2001) and the comprehensive report on Canadian law enforcement agencies use-of-force simulations developed by Bennell and Jones (2004). The responses from participants in each of the simulation exercise research reports pertained to their perception of the influence of the simulation exercises during training and to predicting their level of confidence for decision making in future professional practice.

The second restriction is premised on protecting the commercial intelligence of the technology companies developing high tech use-of-force simulation products.

While there is a growing body of literature which examines use-of-force by police officers from many perspectives (see Alpert & Dunham, 2010; Dymond, 2014; Klahm & Tiller, 2010; Willits, & Nowacki, 2014) Klahm, Frank & Liederbach (2014) acknowledge the limited available literature published in this field:

Historically researchers have lamented the lack of available data to fully explore police use of force. Police agencies have been reluctant to disclose information, especially when the data include descriptions of violent acts committed by police. At the same time, data that describe behaviors that occur on the other end of the continuum—verbal commands, threats, and other nonviolent acts—are not typically collected on official records (p.558).

There is however, an emerging trend for articles discussing use of force simulations to be publically available on the internet (see PoliceOne.com). The study reported here focuses on the relationship between use-of-force simulations in training to application in the field and is consistent with the suggestion by

Dymond (2014) that research on specific areas related to use-of-force has the potential to inform more widely:

This article aims both to assist practitioners in providing an overview of the state of knowledge pertaining to Taser in the UK and to assist academics by using this review to highlight broader gaps in the literature on Taser and indeed, on use of force more generally (p.165).

CASE STUDY

To contextualise the police recruits' reflection on the influence of the use-of-force simulation experience it is valuable to provide the background to the case study. This case study included a cohort of 372 police students undertaking weapons (including Glock pistol firearms) and tactics training as a part of their academy based studies prior to deployment as operational probationary constables. Included in the weapons and tactics training program is participation in a VirTra use-of-force simulation exercise. The VirTra simulation training product provides five screens and a 300-degree immersive training platform.

The judgemental use-of-force training mode supplies a library of realistic scenarios with an audio system and transducers simulating sounds and movement. The participant officer/s step onto a platform surrounded by the screens, onto which the high definition video is played. In this study the participants utilised a replica gas fired Glock pistol and OC spray (oleoresin capsicum which irritates the eyes and causes tears and pain).

The threat-fire element with return fire was not utilised in the study. The simulation scenario is operated by an instructor who has the ability to change the response from the screen characters dependent on the actions of the officer. In the spirit of ethical disclosure, the author advises that the work reported here is independent of any relationship with the manufacturer of the VirTra equipment or its representatives.

At the time of participating in the VirTra simulation, the police recruits had completed two fourteen week sessions of academy studies inclusive of firearms marksmanship and weapon less control tactics in preparation for commencing twelve months as a probationary constable.

DATA COLLECTION

The case study participants were invited to complete a pre-simulation questionnaire which focussed on understanding their previous experience with firearm usage, and their level of confidence to undertake the VirTra use-of-force simulation exercise/s. The pre-simulation questionnaire also focussed on understanding the factors the participants considered would affect their decision making in the scenario. Immediately following the police recruit's participation in the simulation exercise they were invited to complete a post-simulation questionnaire. The post-simulation questionnaire provided an opportunity for the participants to reflect on their simulation experience, emotionally, physically and from a learning perspective. In particular reflecting on how confident they felt that the decision/s they made in the simulation were correct and the rationale for their perspective. Further the questionnaire sought to identify the factors which impacted on the participants' decision making during the simulation exercise.

Following a three to four month period post-simulation exercise participation the case study VirTra participants were invited to participate in an interview. The purpose of the interview was to develop an understanding of the influence of the VirTra simulation experience on the operational practice of the cohort who were now operational field based probationary constables.

The data presented in this paper is drawn from the researcher's previous doctoral research project. In this regard, time constraints did not allow for an exploration of longer term influences of the simulation experience on the participants' operational policing practice. During the study period there was not the opportunity to include a control group who undertook the police recruit training program without participating in the VirTra simulation.

Including police recruits in the study who had previously undertaken the police recruit training program without participating in the VirTra was of concern due to the lapse of time since their Academy studies. At the time of this study those non-VirTra participant officers would have been field based for more than three years and their perception of initial citizen/police interactions potentially clouded/contaminated by their length of operational experience. The focus of the study was to understand the role of judgemental use-of-force simulations in police training programs and there may be an avenue for future research in this field which addresses limitations of this study.

SETTING THE SCENE

Central to validation of the suggestion that experience in a use-of-force VirTra style simulation offers advantages beyond the mechanics of marksmanship which are transferred to the participants’ real world of policing is to firstly understand the participants’ simulation experience.

In this case study the post-simulation questionnaire included questions designed to elicit an understanding of the sense of realism the participants felt in the simulation scenario based exercises. The data as presented in Table 1 suggests 71% of the participants considered the VirTra simulation scenarios made them feel as if they were at the scene in relation time.

Table 1—Level of realism experienced by VirTra participants (n=372).

Question 2: “The VirTra simulation scenarios made me feel as if I were actually at the scene in real time.”	Very strongly agree	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Very Strongly Disagree
	53 (14.2%)	87 (23.4%)	126 (33.9%)	46 (12.4%)	38 (10.2%)	9 (2.4%)	13 (3.5%)

Of the remaining 28.5%, 12.4% were undecided and 16.2% disagreed. In analysis of further data collected in this study the reasons offered for participants not feeling as if they were at a real scene included: a view of the simulation as a game as they identified themselves as serious video game players; a lack of understanding as to the mechanics of how the simulation exercises operate; and lack of preparation for participation in the simulation exercise and some participants experienced technical malfunction of the simulation environment (split screens, audio and visual misaligned).

To build a holistic understanding of the experience of the participants in the simulation as it pertains to their field based reflections, it is important to consider the data in Table 1 with that presented in Table 2. Table 2 presents the cohort response in relation to the opportunity to apply decision making skills during their participation in the VirTra simulation exercise. Here 92.2% of the participants agreed they had opportunity to apply their decision making skills in

the scenario. The implication here is that while 16.1% of the cohort did not agree the VirTra scenario felt real only 2.9% considered they were not able to apply decision making skills in the scenario.

Table 2—Opportunity to provide decision-making skills in VirTra simulation (n=372).

Question 4:	Very strongly agree	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Very Strongly Disagree
“The VirTra simulation scenarios provided an opportunity for me to apply my decision-making skills.”	98 (26.3%)	132 (35.5%)	113 (30.4%)	18 (4.9%)	5 (1.3%)	3 (0.8%)	3 (0.8%)

The cohort responses to the post-simulation question: “I felt completely immersed and focused on the VirTra simulation scenarios,” similarly suggest that while there were participants who considered the VirTra simulation exercise did not make them feel as if they were actually at the scene in real time this did not necessarily preclude them from feeling immersed and engaged with the simulation scenario. As Table 3 indicates, 76.3% of the cohort agreed they were immersed and engaged, 12% were undecided and 10.5% disagreed.

Table 3—Sense of immersion and engagement in the VirTra simulation (n=367)

Question 3:	Very Strongly Agree	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree	Very Strongly Disagree
“I felt completely immersed and focused on the VirTra simulation scenarios.”	61 (16.6%)	96 (26%)	124 (33.7%)	47 (12%)	24 (6.5%)	8 (2.1%)	7 (1.9%)

POTENTIAL FIELD BASED INFLUENCE OF USE-OF-FORCE SIMULATION EXPERIENCE

Combining the perception of the case study participants sense of their engagement with the use-of-force simulation exercises with their perception of the how the experience will impact on their field based operational practice provides the platform from which latter discussion will be premised.

Question 16 of the post-simulation questionnaire captured the participants' perception of how they viewed the potential influence of the VirTra simulation experience on the participants' future operational practice. As indicated in Table 4, a total of 321 responses were recorded for the question and these were grouped according to similar descriptors. The responses indicated that 97.6% of respondents anticipated that their experience in the VirTra simulation would have a positive effect on their future policing practice. Here the participants have identified the potential reliance on the VirTra experience as a reference point for their field based decision making.

OPERATIONAL BASED REALITY OF THE INFLUENCE OF USE-OF-FORCE SIMULATION EXPERIENCE

An important consideration which permeates the discussion of the VirTra participants' experience in the simulation, their transfer of learning to operational practice and their perspectives on the reality of the simulation scenario and environment is that these novice learners have a limited repertoire of similar experiences as reference points to which to turn when confronted with real situations. Their experience in the simulation exercise becomes their point of reference.

Professor Crego, a lead in simulation design for police education, suggests that simulations have the capacity to expose novices to experiences which are impossible to create in the training environment. Furthermore, the suggestion by Crego that simulations provide a significant "experiential element enriching the stock of experience (1996, p.84) to aid in recognition-primed decision-making (Crego, 1996; Flin & Arbuthnot, 2002; Flin & Slaven, 1996) resonates with the learning experience articulated by the participants in this case study. This notion of building a reference point from their use-of-force simulation experience is evidenced in the comments presented in Table 5. Here participants commented on the value to their learning achieved by participation in the use-of-force simulation.

Table 4—Areas of policing practice perceived to be influenced by simulation experience.

Question 16: “How do you expect participating in the VirTra simulation will influence your future policing practice in the field?” (n=321)		
Area of Impact	No. of responses	Examples of Responses
Increased confidence	72	“By participating in the VirTra scenarios I have more confidence while in the field” “more confidence on the job”
Improved decision-making	70	“It will improve my decisions” “make better decisions” “help make decisions” “better decision-making, quick thinking; it will improve and test my decision-making skills”
Increased preparedness for real situations	46	“make me more aware of what can happen on the street” “it will give me knowledge of what might occur in the field” “more prepared for real world”
Increased awareness of types of situations and context for decision-making	33	“Better understanding of what is required and expected in certain circumstances” “what to expect in real life”
Increased experience and exposure	22	“Exposure and confidence” “guide us in the choice/decisions we will have to make”
Improved decision-making under stress	17	“It will help greatly with my decision-making under stress, shooting in limited time” “helps to build confidence and how to deal with and handle stressful situations”
Positive impact for the future	15	“In a positive manner; allow me to be more prepared”
Improved reaction time	4	“Will hopefully build up muscle memory so in times of duress I can react quickly and efficiently”
Allows opportunity to relate back to it from the field	4	“Gives me a base I could rely on to get me through situations” “the VirTra gives the student police officer a more realistic idea of the real world, it develops the student to learn from mistakes”
Limited or none	8	“Not sure yet as I am wrapped up in VirTra not being real” “don’t know yet as haven’t been faced with situations but hope that it would help me make the right decision” “not sure how it will affect”

Noteworthy are the comments presented in Table 5, Row G where a direct connection between the value placed on the learning achieved from the use-of-force simulation experience at the time and how this view has changed once the participant had operational experience and realised the value of the simulation experience.

Table 5—Value of VirTra Experience

Participant	Scenario	Valuable	Examples of Rationale Given
a	Homeless man	Absolutely	“The sense of someone coming towards you, had never been put in the situation ... it was totally foreign, you have to react quickly”
b	Warehouse	Definitely	“Encompassed everything you do before going to the field puts it all into perspective”
c	Warehouse	Yes	“Teaches you to scan a lot more ... not to get complacent”
d	Warehouse	Pretty good	“Made you see what was happening in real life”
e	Warehouse	Yes	“I found that for situations that are stressful and we would never be able to have the experience of until it happens at work I thought it was really great”
f	Domestic	Yes	“It was a valuable learning experience to give practice to deal with people who are aggressive and how to use your appointments”
g	Domestic	At the time, no, now I know better	“At the time I didn’t get it because I had never been faced with anything like that before, my natural instinct was to go with my hands and grab him [POI], now I know better and would use communication and use my voice to manage the situation”

A further data source in this case study which underpins the notion of the use-of-force simulation providing/building a reference point for inexperienced police officers is evidenced in the comments provided during field based interviews with the participants who had completed three to four months operational

experience. A sample of the comments are presented in Table 6. It is worthy of note that in these comments there are direct references to the use of the simulation experience as a reference point at the time of making decisions in real time operational situations.

Table 6 presents responses to two post-simulation field based interview questions. Combining the presentation of these responses assisted in collating emerging themes related to the role of the use-of-force simulation experience in operational decision making for the probationary constables.

Table 6—The role of the use-of-force simulation experience on real time operational decision making.

Interview Question 9: “Following your experience in the field in making decisions about the use of your firearm, can you tell me how the simulation training experience affected your decision-making in those incidents?”	
Interview Question 10: “Were you aware at the time of the incident in the field of reflecting on your experience in the simulation unit? How did this impact on your decision in the field? Please explain.”	
Preparation for the unexpected	<p>“The main thing I got out was to be prepared for the unexpected” (P.3)</p> <p>“What I did in the real situation was made sure I was very aware of what was going on and all of the possibilities, just like in the simulation” (P.1)</p> <p>“Made me realize I have to keep sharp and be aware of what is going on around me ... so in the field incident I stayed focused on what was going on around me” (P.13)</p> <p>“In my field job I was going into the unexpected, just like the man on the mobile phone in the simulation, it made me continue to be aware of expecting the unexpected” (P.6)</p>
Heightened awareness of unpredictability	<p>“You might let one thing go but you have to keep thinking about everything else because you don’t know what will happen next, I learnt this from the simulation” (P.9)</p> <p>“Being aware that there is the possibility of a weapon being produced in any situation and how quickly tiny jobs can escalate” (P.6)</p>
Ability to make decisions quickly	<p>“The simulation taught me to consider quickly, you don’t want to shoot the wrong person” (P.3)</p> <p>“In the field it happens so quickly, just like the simulation” (P.1)</p> <p>“The simulation taught me how important it is to react in time, make the decision in time” (P.6)</p>
Confidence in knowledge of use-of-force justifications	<p>“I was less concerned about the firing, because I had prior experience of that, this for me was more about the justifications for use of the firearm in the field” (P.11)</p> <p>“The simulation experience heightened my awareness of the use of appointments and understanding when justified to use it” (P.6)</p>

DISCUSSION AND CONCLUSION

Due to the intrinsic nature of police work, coupled with increasing national and international threats and the duty to protect life and property, it is acknowledged that no two policing response incidents will be identical, although there can be core similarities. These normally revolve around such problems as resolving and managing the threat to people's safety. The learning value of the use-of-force simulation experience for training police recruits therefore cannot be underestimated for its influence in building the library of experience, albeit virtual.

This is more important as a police officer steps into a world of high risk where confidence in making timely and accurate decisions is paramount. As the newly deployed constables' policing career extends, the library of situations in which they have applied their use-of-force decision making skills will expand and provide further guidance and reference to aid them at each new situation.

The evidence in this case study indicates that the key transferred influence from participation in a use-of-force simulation exercise is centred on building their personal reference point for times of crisis. By doing so, when faced with situations that demand high level decision making, officers will be equipped to make appropriate decisions in potential life or death situations. The value of an evidenced based approach to use-of-force education initiatives is highlighted by Klahm & Tiller (2010) in summarising:

...organizational policy, in theory, should be predicated on empirical research. As such, it is imperative that we fully understand the nature and extent of police use-of-force as well as the factors related to its use. Only then can training protocols be tailored to its appropriate use and policy formulated to instruct officers when they can and should use force (p.214).

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ETHICS STATEMENT

I confirm that the results of this study are independent of any relationship with the manufacturer of the VirTra equipment or its representatives.

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