Examining the Technology Acceptance of the iCOP Application Among Police Officers

By Monique Allen

ABSTRACT

The problem is the lack of research that had yet to examine the benefit of iCOP cell phone application in Ventura County among police officers in participating agencies. The purpose of this study was to ascertain the perceived usefulness and ease of use officers had for the iCOP cell phone application and database technology. The research questions and hypothesis related to how two determinants of the officers' reported choice and knowledge of the iCOP application, gender, age, professional policing experience and educational background predicted the reported frequency of use of the iCOP application. Findings concluded that field officers accepted and benefitted from the iCOP cell phone application and database technology. The social change implication was how police practitioners, as a positive ripple effect from the impact of CIT training, developed ways to help officers cope with CIT encounters using evidence-based care technology.

Keywords: iCOP, Crisis Intervention Team (CIT), Encounters, Mental Illness, Connection, Evidence-Based Care, Evidence-Based Technology

PROBLEM IDENTIFICATION

There is a rarity of known law enforcement officer communications that convey established field connections made by crisis intervention team (CIT) trained police officers that involved persons with mental illnesses, with other CIT-trained field officers. CIT training entails teaching police officers verbal de-escalation skills that help eliminate agitation and decrease injuries during CIT field encounters (Allen & Campbell, 2018). De-escalation techniques develop when officers establish the connection with a person in mental crisis. Unfortunately, CIT-trained police officers only had one officer liaison to discuss CIT field encounters who regularly consulted with the local mental health evaluation team to discuss mental disease (Allen, 2018). Additionally, disposition codes did not adequately convey the appropriate outcomes for CIT field encounters (Rodriguez, 2016; Weller, 2015). Therefore, the problem was the lack of database knowledge of CIT encounter connections made that facilitated the decision-making process for fellow responding CIT-trained field officers.

In Northern California, CIT-trained police officers in Contra Costa County in particular, expressed displeasure with the tiny mental health-related (5150) forms for psychiatric hospital referrals that did not allow officers to make a full account of CIT encounters (Allen, 2018). To expand the learning team's knowledge of CIT-trained officers, a real-time peer-to-peer application and database for CIT-trained field officers to communicate CIT encounter details amongst one another must exist. Not only did police officers not feel forced into a technology change, but many suggested that technology could be useful in motivating changes in work practices and in the organization, particularly regarding performance standards (Tanner & Meyer, 2015). That said, Southern California Ventura Sheriff's office police practitioner's development of the iCOP cell phone application and database was recently modified to assist CIT-trained officers with CIT encounters.

Moreover, the iCOP application was developed by police practitioners to give officers a chance to demonstrate professional and evidence-based policing with evidence-based care. The problem is the lack of research that has yet to examine the benefit of iCOP cell phone application in Ventura County among police officers in participating agencies (Allen, 2018). Therefore, this correlative quantitative-based study examined if Ventura County participating police agencies accepted and benefitted from the iCOP tool application and database during CIT encounters. Since the 2014 debut of this innovative technology in Ventura County, scholarly research had yet to explore the application's tenets and technology acceptance by police agencies in the county. That said, the iCOP cell phone application and database was refined in 2016 to help officers with CIT encounters and provided a fuller picture of CIT-trained officer responses to persons with mental illnesses in crisis among peers. Data collection for the innovative cell phone technology gave officers the ability to take took notes, make soft diagnosis, referrals, and create history for other officers. The purpose of this study was to ascertain the level of acceptance officers had for the iCOP cell phone application and database technology. The value of the iCOP cell phone application presents first-leg incident accounts during field CIT encounters.

BACKGROUND AND SIGNIFICANCE

Typically, cell phone technology is often associated with cop watching, whereby citizen activists' devices witness police incidents of wrongdoing. That is, while it makes use of smartphone cameras, the social value of cop watching is only partly tied to its images, as the routines of purposeful witnessing present a unique form of activism (Bock, 2016). Organized cop watching was different than police-worn cameras because it combined public participation and accountability into a single practice (Simonson, 2015). In fact, Simonson declared that civilians set the terms of engagement by deciding when and where to record, which recordings to save, who could have access to the footage, and how to frame the narratives surrounding the release of any recordings. In response, police officers were inevitably tempted to equip themselves with personal technology for counter-surveillance (Tanner & Meyer, 2015). Tanner and Meyer concluded that faced with the risk of losing control over how a situation is presented, and to reaffirm the officer's side of the story, some officers noted a personal portable camera as an effective device.

In contrast, when considering the need for CIT-trained field officers who must establish a connection with persons in crises during CIT encounters, officers require access to real-time field peer-to-peer based data technology. The purpose of this access is to gain pertinent information, such as verbal queues from CIT encounters that could enforce the communication of learning teams in the field. The effectiveness of attempts to develop police knowledge were much more reliant on having practitioners critically engaged with police work and the ability to apply professional discretion (Wood, Cockcroft, Tong, & Bryant, 2018). Therefore, peer-to-peer databases that included notes entered from mental health specialty trained field officers should benefit fellow peers who need help ascertaining the appropriate course of action to achieve mental stability during CIT field encounters.

Cell Phone Technology

Paradoxical to cop watching, the iCOP cell phone application and database technology as well as its purposeful intention, do not equate to the same desired outcome. The tenets of the iCOP application technology provide police officers with the authority to input field data during CIT encounters into a peer-to-peer database. Officers who utilize this technology make notes that specify soft diagnosis, types of disorders, and other pertinent information that educates fellow CIT -trained field officers about persons with mental illnesses during CIT encounters (Ventura Sheriff's Office, personal communication, December 17, 2018). CIT-trained officers retrieve contact history from the iCOP database of persons in mental crisis that may reveal ways that help establish a quicker connection with CIT encounters. The iCOP cell phone application is an innovative technology example of the ripple effect of CIT training where evidence-based policing embraces evidence care. Current literature pertained to technology advancements such as body-worn cams and personal cell phones used to video CIT and non-CIT encounters that focused on citizen cop watching versus defense counter-surveillance by officers (Obasi, 2018; Simonson, 2015, 2016), even though, cop watchers infused the views of citizens into what was considered reasonable or fair into everyday interactions with police officers in neighborhoods (Simonson, 2016). This research addressed the gap in literature regarding the lack of scholarly articles where authors discussed the applications of cell phones designed specifically to help with the expressed needs of law enforcement field officers.

iCOP Cell Phone Application and Database

Unlike field interview entries, CIT entries do not see the inside of a courtroom as evidence. Believed to be the first of its kind in the nation, this mobile application interfaced with Ventura County's criminal justice system, allowed officers to securely search by person, address, or vehicle (California State Association of Counties, 2014). Information was returned to the field in a matter of 20 seconds or less and results included demographics, mug shots, tattoo images, warrant information, booking history, calls for services, arrest reports and property reports (California State Association of Counties, 2014). In 2016, the same Ventura County Sheriff's Office police practitioners modified the iCOP technology to assist CIT-trained officers with CIT field encounters in the county. Given this, it is clear why local police officers feel they need to have some control, or even final authority, over technological initiatives (Tanner & Meyer, 2015). Before the iCOP technology, when CIT-trained officers respond to CIT field encounters, the ability to effectively note the 5,150 referrals to psychiatric treatment facilities and adequately code field dispositions were not available. The iCOP application allowed CIT staff to identify persons who had mental problems and who represent

frequent contacts (CIT International, n.d.). Therefore, the iCOP cell phone application and accommodating database that was substantially more equipped to the satisfy needs of field officers was a welcomed change. Consequently, the iCOP cell phone application provided a peer-to-peer database that enhanced the documentation capabilities for CIT field encounters for all participating police agencies.

Peer-To-Peer Database Policing

Officers do not feel disconcerted by peer-to-peer database systems. A data-based policing model seems attractive to most officers, eliminates the need to leave the street and return to the station, and supplies limitless access to provide support for officers making decisions while on the beat (Tanner & Meyer, 2015). The moral consideration of CIT training enabled the elevation of evidence-based policing. To that end, the consensual goal of improving officers' capacity for action through use of new security devices was challenged by individual or local perceptions regarding the relevance of technology in police work (Tanner & Meyer, 2015). The uptake of and benefit from mobile phone-enhanced practices rested partially on training in and acceptance of the tenets of evidence-based care practices with frontline service delivery in general (Jones et al., 2015). The professional use of private mobile phones is clearly a practical response to the police goal of quick and effective service to the population as an economical and important way to adopt a technology by utilizing a kind of spontaneous 'osmosis' from private device to work device (Tanner & Meyer, 2015). Further, Jones et al. highlighted how critical it was to be ready when the opportunity to deliver evidence-based mobile phone-enhanced practice presented itself. Therefore, enigmatic technology would not help CIT-trained field officers who require immediate support for CIT encounters.

Evidence-based policing in Ventura County encompassed evidence-based care that accompanied CIT-trained field officers to appropriately respond to CIT encounters. Unfortunately, IT services for the county cannot fund staffing to share the application with other counties (Ventura Sheriff Office, personal communication, September 4, 2018). Tanner and Meyer dictated that when institutions cannot, or are unwilling to, support the adoption of technology for financial, legal or technical reasons, officers assume and accept the responsibility of filling the technology gap by themselves. That said, when police practitioners invest in the opportunity to fill the technology gap, the level of officers' acceptance improves. Optimal field contact outcomes from mental health special trained police officers during CIT encounters who utilize the iCOP cell phone application represent the product of evidence-based care and evidence-based policing.

Contact Theory

The principles of the iCOP cell phone application adhere to the tenets of the contact theory. Allport's 1954 contact theory reflected contact between two groups promoted tolerance and acceptance, only under certain conditions, such as equal status among groups and common goal (Jacoby, 2018). Allport posited that exposure to racial and out-group members decreased conflict, stereotyping, and prejudice (Jacoby, 2018). CIT-trained officers in constant contact with persons in mental crises (out-group) in the field may have a stronger sense of compassion due to familiarity of the connection made from repetitive CIT encounters. Therefore, field officers who frequently use the iCOP application may demonstrate actions synonymous with the contact theory in that CIT-trained police officers share the common goal of mental health stabilization with persons in mental crisis. By having access to information uploaded by peers that helps officers reach mental stability within a cell phone application and database, officers may experience improved field contact outcomes. Perceived ease of use and technology acceptance based on frequency of usage directly correlates to the frequency of CIT encounter field contacts.

Technology Acceptance Model (TAM) Instrument

This quantitative correlational study used the Davis, Baggozi, and Warshaw (1989) TAM survey instrument to examine participating police officers' acceptance and perceptions of the iCOP application and database. Dr. Davis gave permission to modify the TAM for this study. TAM modifications involved name replacement of the technology and the demographics inclusion of race, education, and age, for the purposes of this study and future research. In previous studies, authors believed that the TAM explained perceived usefulness and usage intentions in terms of social influence and cognitive instrumental processes (Venkatesh & Davis, 2000). Recently, the TAM was used to examine police perceptions and acceptance of the body-worn cameras as it contributed to the frequency of their use in everyday policing (Obasi, 2018). Body-worn cameras were initiated

by the government after the tragedy of the officer involved shooting of an unarmed African-American teenager in Ferguson, Missouri. Therefore, body-worn cameras did not originate from the police practitioners. However, Obasi concluded that officers with more positive attitudes toward the cameras were more likely to indicate more use of the body-worn cameras than do officers with less positive attitudes. Obasi found that the relationship between usefulness and years of service was negative; as officers' length of service increased, perceptions of body-worn cameras decreased, and gender was not a significant correlation.

RESEARCH QUESTIONS

The research questions and hypothesis related to how two determinants of the officers' reported choice and knowledge of the iCOP application, gender, age, professional policing experience, and educational background predicted the reported frequency of use of the iCOP application. The following research questions were analyzed:

RQ1. To what extent do police officers' reported choice of iCOP technology usage predict officers' frequency of use of the iCOP application as a component of regular job duties?

$H_1$1. Police officers' choice to use the application is a predictor of frequency of use of the iCOP application as a component of regular job duties.

$H_0$1. Police officers' choice to use the application is not a predictor of frequency of use of the iCOP application as a component of regular job functions.

RQ2. To what extent do police officers' reported knowledge of the iCOP application predict officers' frequency of use of the iCOP application technology as a component of regular job duties?

$H_1$2. Police officers' application knowledge is a predictor of frequency of use of the iCOP application as a component of regular job duties.

$H_0$2. Police officers' application knowledge is not a predictor of frequency of use of the iCOP application as a component of regular job functions.

RQ3. To what extent do police officers' demographics (gender and professional policing experience) predict police officers' frequency of use of the iCOP application as a component of regular job duties?

$H_1$3. Police officers' demographics (gender and professional policing experience) are predictors of frequency of use of the iCOP application as a component of regular job duties.

$H_0$3. Police officers' demographics (gender and professional policing experience) are not predictors of frequency of use of the iCOP application as a component of regular job functions.

RQ4. To what extent do police officers' demographics (age and highest level of education) predict police officers' frequency of use of the iCOP application as a component of regular job duties?

$H_1$4. Police officers' demographics (age and highest level of education) are predictors of frequency of use of the iCOP application as a component of regular job duties.

$H_0$4. Police officers' demographics (age and highest level of education) are not predictors of frequency of use of the iCOP application as a component of regular job functions.

Perceived Usefulness and Ease of Use

Participants of this study belonged to a convenience sample that consisted of Ventura County CIT-trained officers who used the cell phone iCOP application and database. Asserted perceived usefulness referred to the belief that using the new technology enhanced the individual's job performance (Lee, Hsieh, & Chen, 2013). While perceived usefulness refers to the belief that using the new technology enhanced the individual's job performance, perceived ease of use refers to the belief by an individual that using a technology instrument required little or no effort (Obasi, 2018). Measuring perceived ease of use included how clear and understandable, controllable, skillful, along with ease of learning, using, and remembering (Godoe & Johansen, 2012; Lee et al., 2013). TAM scales measured the perceived usefulness of the application and database that

included (a) work more quickly, (b) better job performance, (c) increased productivity, and (d) effectiveness in making the job easier.

RESEARCH DESIGN AND RATIONALE

In this quantitative study, the survey contained items regarding the iCOP cell phone application technology. McCusker and Gunaydin (2014) asserted that quantitative researchers examined relationships between variables and used a correlational design. The contact theory aligned with the cross-sectional quantitative design based on the interaction between officers and the cell phone application technology. The decision to use a quantitative method arose from the need to understand how police officers perceived and accepted the iCOP application technology during daily job duties. Quantitative methodology permitted me to collect and analyze numeric data to determine relationships between variables (Bernard, 2013). To this end, the data analysis conducted a hierarchical multiple regression analysis that determined which independent variables predicted frequency of use of iCOP cell phone application. Research data analysis involved the cross-sectional design since the data collection occurred from a sample at one single point in time (Bhattacherjee, 2012; Hagan, 2013; McCusker & Gunaydin). The one-time survey used a convenience sample comprised of two participating police agencies in Ventura County with the iCOP cell phone application technology experience.

VARIABLES

The independent (or predictor) variables were police officers' acceptance of the iCOP application technology, as measured by (a) usage as choice not required, (b) officers' knowledge of the iCOP application technology, and the officers' (c) gender, (d) educational background, (e) age, (f) policing experience, and (g) education. The TAM survey instrument measured the police officers' perceived ease of use, perceived usefulness, and attitudes toward the iCOP application technology. Demographic questions collected participants' gender, professional policing experience, race, age, and education. However, race was not used during data analysis for this study. The police officers' self-reported frequency of use of the iCOP application technology was the dependent variable. The dependent variable, frequency of use, was obtained using a scale that ranged from (1) *don't use at all*, (2) *use less than once each week*, (3) *use about once each week*, (4) *use several times each week*, (5) *use about once each day,* and (6) *use several times each day.* The range of the scale, therefore, was from 1 *(not at all)* to 6 *(frequently)* and was used as a continuous variable in the analyses.

Procedures and Sampling Size

The population was a convenience sample for this study that involved the inclusion of Ventura County police officers who used the iCOP technology in participating police agencies. The excluded population included Ventura County non-police first responder agencies with iCOP application experience. In calculating the sample size, the set the effect size f^2 to .15, alpha to .05, power to .80, and the number of predictors to five where the calculated sample size through G*Power equated to 92 participants for this study. The large size precinct (J) had 225 officers and the small size precinct (L) had 12 out of 22 officers total who qualified to participate in this study. As a result, the survey was distributed to 237 officers who met the criterion of the study.

DATA ANALYSIS

To test the research hypotheses, SPSS was used to perform the statistical analyses. An ANOVA test determined the relationship among the independent variables (individual choice, knowledge of iCOP application and database technology; age, gender, highest education and policing experience). The choice of usage and knowledge of the iCOP application were entered initially for evaluation. Next entered were the demographic variables, age, gender, highest education level, and professional policing experience. Multiple regression was based on the statistical assumptions of linearity, normality distributed errors, and homoscedasticity (constant error variance), scatterplots of the regression standardized residual values and the regression standardized predicted variables were evaluated to assess the tenability of the statistical assumptions (Mertler & Vannatta, 2013). The validity in this study referred to the accuracy of Davis's 10-item, 7-point Likert scale, which measured perceived ease of use and perceived usefulness, and a 7-point semantic differential rating scales was used to measure attitude. Several researchers who employed TAM found it to be valid and dependable in predicting and understanding information usage by individuals (Godoe & Johansen, 2012; Lee et al., 2013; Obasi, 2018).

FINDINGS AND RESULTS

The independent variable collected but not

analyzed for this study was participant race. The problem was the lack of research that examined the benefit of iCOP cell phone application in Ventura County among police officers in participating agencies (Allen, 2018). Therefore, this study examined if Ventura County participating police agencies accepted and benefitted from the iCOP application during field encounters. The electronic survey was distributed to 237 officers in two police agencies located in Ventura County in January 2019 and remained open for two weeks where 71 responses were retuned completed and 4 responses returned only partial data. Thus, 166 officers did not respond to the iCOP application modified 1989 TAM survey. Nix, Pickett, Baek and Alpert (2017) noted that inviting a greater number of officers to participate in surveys was associated with lower response rates and that a low response rate was an insufficient reason to dismiss a study's merit. Table 1 demonstrated data from 67 completed surveys that were used to analyze the research questions. Most (93%) of the participants were male, almost half earned a bachelor's degree and were between 35-44 years of age (49%), half of the participants were White (51%) while about a third (39%) represented the Latino race, and a majority (45%) of the officers had served between 11 and 20 years. Less than a quarter of the respondents (12%) had 2 or fewer years of service with the department. Over half of the respondents (61%) reported using the iCOP application and database several times a day. Almost one third (24%) of the officers reported using the technology several times a week.

Participants' Responses to Survey Items

Tables 2 through 6 contain the participants' responses to items on the three scales. The responses ranged from *(strongly disagree)* to *(strongly agree)*. For descriptive purposes, the disagree ratings were collapsed into a category called *disagree* and the agree ratings were collapsed into a category called *agree*. The neutral rating remained a separate category.

Participant Usage of the iCOP Application Database

Table 2 displayed the iCOP application database that was available for (82%) of the participants and not for (2%), which left (17%) of officers who were unsure. Nearly all officers (91%) of officers spent between 1-6 hrs. using the iCOP application database, (6%) spent 6-12 hrs., and a fraction (2%) of officers spent either 12-18 hrs. or 24 and more per week. More than half of the officers had used the iCOP application database (70%) for more than a year, (19%) between 6-12 months, (2%) between 3-6 months, (3%) between 1-3 months, and (6%) had less than one month of iCOP application database experience. Over 90% of officers agreed that the use of the iCOP application database (91%) was a choice and not a job requirement, whereas (9%) felt neutral, and no one (0%) disagreed. Lastly, most officers (76%) felt quite knowledgeable about how to use the iCOP application database, (10%) had neutral feelings, and (13%) disagreed.

Ease of Use of the iCOP Cell Phone Application

Nearly all of the respondents (see Table 3, on page 17) indicated that learning to operate the iCOP ap-plication was easy (94%), interaction with the iCOP application was clear and understandable (97%), and overall it was easy to use (94%). The respondents *disagreed* that the iCOP application was cumbersome to use (64%), frustrating to interact with (72%), or require a lot of mental effort (88%). However, a little over a third of the officers either *agreed* or were *neutral* that the iCOP application was cumbersome to use (35%) and it is rigid and inflexible to interact with (39%). A fraction of the officers *disagreed* or were *neutral* that the iCOP application was easy to get to do what the officers' want it to do (5%) or that it was easy to remember how to perform tasks (5%).

Ease of Use of the iCOP Database

Most of the respondents (see Table 4, on page 18) indicated that learning to operate the iCOP database was easy (88%), interaction with the iCOP database was clear and understandable (88%), and overall it is easy to use (88%). The respondents *disagreed* that the iCOP database was cumbersome to use (55%), frustrating to interact with (56%), or required a lot of mental effort (67%). However, almost half of the officers either *agreed* or were *neutral* that the iCOP database was cumbersome to use (46%) and it is rigid and inflexible to interact with (48%). Less than half the officers disagreed or were neutral that the iCOP database was easy to get to do what the officers' wanted it to do (20%) or that it was easy to remember how to perform tasks (13%).

Table 1. Description of the sample.

Characteristic	*n*	%
Gender		
Female	5	7.46
Male	62	92.54
Years of service		
2 or fewer	8	11.94
3 to 5	7	10.45
6 to 10	10	14.93
11 to 20	30	44.78
21 or more		
Race		
White	34	50.75
African-American	0	0
Latino	26	38.81
Asian	2	2.99
Native American	0	0
Pacific Islander	3	4.48
Middle Eastern	0	0
Other	2	2.99
Age		
18-24	3	4.69
25-34	17	25.37
35-44	33	49.25
45-54	14	20.90
55-64	0	0
65+	0	0
Highest Education		
High School Diploma	0	0
Some College but No Degree	16	23.88
Associate Degree	12	17.91
Bachelor's Degree	33	49.25
Master's Degree	5	7.46
Doctoral Degree	1	1.49
Professional Certificate	0	0
Frequency of use		
Do not use at all	4	5.63
Use less than once each week	2	2.82
Use about once each week	1	1.41
Use several times each week	17	23.94
Use about once each day	4	5.63
Use several times each day	43	60.56

Usefulness of the iCOP Cell Phone Application

More than 90% of the respondents (see Table 5, on page 18) indicated that using the iCOP application improved the quality of officers' work (92%), supported critical aspects of officers' jobs (88%) and was useful in officers' jobs (96%). More than three quarters of the officers indicated that using the iCOP application gave officers greater control over officers' work (87%), enhanced officers' effectiveness on the job (93%) or made it easier to do officer' jobs (96%). In addition, about a quarter of officers either *disagreed* or were *neutral* that the iCOP application enabled officers to accomplish tasks more quickly (7%), increased officers' productivity (10%), improved officers' job performance (15%), or allowed officers to accomplish more work than would otherwise be possible (27%).

Usefulness of the iCOP Database

More than 80% of the respondents (see Table 6, on page 18) indicated that using iCOP database improved the quality of officers' work (83%), supported critical aspects of officers' jobs (78%), and was useful in officers' jobs (91%). Over three quarters of the officers indicated that using the iCOP database gave officers greater

Table 2. Responses to items in ease of use scale for iCOP application.

Item	Percent of repsonses		
	Disagree	Neutral	Agree
1. I find iCOP application cumbersome to use.	63.77	5.80	30.43
2. Learning to operate the iCOP application is easy for me.	1.45	4.35	94.21
3. Interacting with the iCOP application is often frustrating.	72.46	8.70	18.84
4. I find it easy to get the iCOP application to do what I want it to do.	4.41	4.41	91.18
5. The iCOP application is rigid and inflexible to interact with.	20.30	18.84	60.87
6. It is easy for me to remember how to perform tasks using the iCOP application.	1.45	4.35	94.20
7. Interacting with the iCOP application requires a lot of mental effort.	88.40	10.14	1.45
8. My interaction with the iCOP application is clear and understandable.	0.00	2.90	97.11
9. I find it takes a lot of effort to become skillful at using the iCOP application.	82.60	7.25	10.15
10. Overall, I find the iCOP application easy to use.	1.45	4.35	94.21

Table 3. Responses to items in ease of use scale for iCOP database.

Item	Percent of repsonses		
	Disagree	Neutral	Agree
1. I find iCOP database cumbersome to use.	54.55	10.18	27.28
2. Learning to operate the iCOP database is easy for me.	3.03	9.09	87.88
3. Interacting with the iCOP database is often frustrating.	56.06	12.12	31.83
4. I find it easy to get the iCOP database to do what I want it to do.	4.55	13.64	81.83
5. The iCOP database is rigid and inflexible to interact with.	53.03	18.18	28.79
6. It is easy for me to remember how to perform tasks using the iCOP database.	1.52	10.61	87.88
7. Interacting with the iCOP database requires a lot of mental effort.	66.66	16.67	16.68
8. My interaction with the iCOP database is clear and understandable.	0.00	12.12	87.88
9. I find it takes a lot of effort to become skillful at using the iCOP database.	70.78	12.31	16.92
10. Overall, I find the iCOP database easy to use.	7.62	7.69	87.69

control over their work (77%), enhanced officers' effectiveness on the job (78%) or made it easier to do officers' jobs (86%). In addition, less than one third of officers either *disagreed* or were *neutral* that the iCOP database enabled them to accomplish tasks more quickly (18%), increased officer productivity (27%), improved officers' job performance (25%), or allowed officers to accomplish more work than would otherwise be possible (25%).

Attitude Survey Scales

Although officers had slight reservations about some of the specific items in the previous scales, the overall attitude toward the use of iCOP application and database was positive (see Table 7, on page 19). More than 85% of the respondents indicated that use of the iCOP application and database was good (90%), wise (92%), and beneficial (94%). At least 90% of the officers indicated that the use of iCOP application and database was positive (94%) and favorable (94%). The survey consisted of items that the participants used to rate individual perceived ease of use, perceived usefulness, and attitude toward use of the iCOP application and database separately. Scale scores were created by calculating the mean of the completed items in each scale. Table 7 displays the descriptive statistics that consisted of the attitude score, which was created by calculating the mean of five differential rating scales. The attitude score ranged from 1 *(poor attitude)* to 7 *(good attitude)*. The combined attitude for the iCOP application and database was good ($M = 6.42$). Two of the scale scores (perceived ease of use and perceived usefulness) ranged from 1 *(strongly disagree)*

Table 4. Responses to items in usefulness scale iCOP application.

Item	Percent of repsonses		
	Disagree	Neutral	Agree
1. Using the iCOP application improves the quality of the work I do.	1.45	5.80	92.75
2. Using the iCOP application gives me greater control over my work.	1.45	11.59	86.95
3. The iCOP application enables me to accomplish tasks more quickly.	0.00	7.25	92.75
4. The iCOP application supports critical aspects of my job.	4.50	4.35	88.41
5. Using the iCOP application increases my productivity.	2.90	7.25	89.85
6. Using the iCOP application improves my job performance.	2.90	11.59	85.51
7. Using the iCOP application allows me to accomplish more work than would otherwise be possible.	5.80	20.29	73.91
8. Using the iCOP application enhances my effectiveness on the job.	1.45	5.80	92.75
9. Using the iCOP application makes it easier to do my job.	0.00	4.35	95.65
10. Overall, I find the iCOP application system useful in my job.	0.00	4.35	95.65

Table 5. Responses to items in usefulness scale iCOP database.

Item	Percent of repsonses		
	Disagree	Neutral	Agree
1. Using the iCOP database improves the quality of the work I do.	3.08	13.85	83.08
2. Using the iCOP database gives me greater control over my work.	3.08	15.38	76.92
3. The iCOP database enables me to accomplish tasks more quickly.	3.08	13.85	83.08
4. The iCOP database supports critical aspects of my job.	1.56	20.31	78.13
5. Using the iCOP database increases my productivity.	1.56	25.00	73.45
6. Using the iCOP database improves my job performance.	1.56	23.44	75.01
7.Using the iCOP database allows me to accomplish more work than would otherwise be possible.	3.13	21.88	75.00
8. Using the iCOP database enhances my effectiveness on the job.	3.13	18.75	78.13
9. Using the iCOP database makes it easier to do my job.	1.56	12.50	85.95
10. Overall, I find the iCOP database system useful in my job.	0.00	9.38	90.63

Table 6. Responses to items in attitude scale.

Item	Percent of repsonses		
	Disagree	Neutral	Agree
Good/ Bad	0.0	10.45	89.55
Wise/Foolish	0.0	7.58	92.42
Favorable/Unfavorable	0.0	6.06	93.94
Beneficial/Harmful	0.0	6.06	93.94
Positive/Negative	0.0	6.06	93.94

to 7 *(strongly agree)*. The iCOP application and database ease of use scores were neutral to slightly agree ($M = 4.58$). The iCOP application and database usefulness average scores were positive ($M = 5.56$).

Table 8 represents the Cronbach's alpha coefficient from a Pearson test. The Pearson Product moment correlations determined there was a relationship among the independent variables (ease and usefulness of iCOP application and database, and attitude toward the application and database). The strength of a correlation coefficient could be described as *very weak* (.00 –.19), *weak* (.20 –.39), *moderate* (.40 –.59), strong (.60 –.79), or *very strong* (.80 –1.00) (Evans, 1996; Obasi, 2018). Based on factors from the scale, this study obtained reliability and validity. A strong relationship exists among police officers and independent variables (ease of use, usefulness, and attitude).

The dependent variable wasfrequency of use of the iCOP technology. The dependent variable was examined to determine if heteroscedasticity and multicollinearity were present, the relationships between the independent and dependent variables were linear, and that the residuals of the dependent variable were normally distributed. SPSS multiple regression syntax was used to test these assumptions. By testing the data for assumptions, the validity of the data was verified. Independent variables were officers' choice and knowledge of the iCOP technology, and the officers' age, gender, highest education level, and professional policing experience.

Research Question 1-2

Research Questions 1 and 2 were designed to test if a number of independent variables were predictors of the officers' frequency of use of iCOP technology. A succinct approach to the analysis was taken, officers' individual choice and iCOP knowledge were predictors of officers' frequency of use of the iCOP technology. Research Questions 1 and 2 were also designed to determine if the factors of choice and knowledge were predictors of the frequency of use of the iCOP technology. Table 9 demonstrated the ANOVA linear multi-regression test resultsw ($N = 68$) where no significance exists between frequency of use and the individual choice of using the iCOP technology ($p = .125$), and there was significance between the frequency of use and individual knowledge of iCOP technology ($F = 10.2$; $p = .001$). As a result, the null hypothesis for Research Question 1 was accepted and the null hypothesis for Research Question 2 was rejected and the alternative hypotheses was accepted.

Research Questions 3-4

Research Questions 3 and 4 were equally designed to test if a number of independent variables were predictors of the officers' frequency of use of iCOP technology. A hierarchical approach to the analysis was taken, first asking if the officers' gender and length of policing experience, then age and educational background and length were predictors of officers' frequency of use of the iCOP technology. Research Questions 3 and 4 were designed to determine if the contribution of the demographic variables were predictors of officer frequency of use of the iCOP technology. Table 10 demonstrated the ANOVA linear multi-regression test results ($N = 66$) with no significance exists between gender and frequency of use ($p = .309$), there was significance between professional policing experience and frequency of use ($F = 6.31$; $p = .001$), there

Table 7. Ranges, means, and standard deviations of scale scores.

Scale	Minimum	Maximum	*M*	*SD*
Ease of use	1.90	7.00	4.58	1.18
Usefulness	2.15	7.00	5.56	1.12
Attitude	4.00	7.00	6.42	0.76

Table 8. Reliability of the scales.

Scale	Items in scale	Cronbach's alpha coefficient
Ease of use	4.58	1.18
Usefulness	5.56	1.12
Attitude	6.42	0.76

Table 9. Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.355	1.273		.279	.781
	Usage of the iCOP Application Database	.801	.192	.450	4.183	.000
	Usage of the iCOP Application Database	-.311	.200	-.167	-1.555	.125

a. Dependent Variable: iCOP Frequency of Usage

Table 10. Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	6.065	.678		8.945	.000
	Gender	.620	.605	.119	1.026	.309
	Professional Policing Experience	-.452	.128	-.407	-3.519	.001

a. Dependent Variable: iCOP Frequency of Usage

was significance between the frequency of use and the officers' age ($F = 8.9$; $p = .002$), and no significance between the officers' highest level of education ($p = .007$) and frequency of use. Research Question 3 results concluded that the null hypothesis was accepted for gender, the null hypothesis was rejected for professional policing experience, and the alternative hypothesis was accepted. Similarly, Research Question 4 concluded that the null hypothesis was accepted for highest level of education and the null hypothesis was rejected for age and the alternative hypothesis was accepted.

Connections and Discussions

The results of this study proved that officers' acceptance of iCOP technology was heightened among a small population of field police officers in participating Ventura County police agencies. Findings also concluded that iCOP modified technology developed by police practitioners for distribution to patrolmen was considered as a positive ripple effect from the impact of CIT training. Mental health specialty trained officers who deal with CIT field encounters make constant contact with persons in mental crisis. In fact, the contact theory addressed the hybrid response from police practitioners who were influenced by CIT training and developed an enhanced system of approach to facilitate CIT encounters for CIT-trained police and non-police agencies. To offset the degree of contact with efficient support, police practitioners developed ways to help officers cope with CIT encounters using evidence-based care technology.

Assumptions and Limitations

One assumption was associated with the use of multiple regressions analysis that included (a) the relationship between the independent and dependent variables was linear, (b) the error between observed and predicted values were normally distributed, (c) there was little or no multicollinearity in the data, and (d) there was little or no autocorrelation in the data (Uyanik & Guler, 2013). The modified TAM was limited and I assumed that the combined perceived ease of use and perceived usefulness were sufficient units of measurements. Research studies that utilized a convenience sampling, regarded a non- representative subset of a large population in that study, where the inability to generalize the results existed (Bernard, 2013). Convenience sampling strategy used in this study was another limitation in that it did not allow the generalizability of results. This limitation was also reflected and discussed in the findings of the study.

CONCLUSIONS

Future qualitative research should explore the perceptions of all participating agencies that utilize the iCOP application and database technology as it relates to CIT encounters. However, the recommendation is that police agencies develop in-depth program and budget narratives that seek funding assistance from individual federal grant solicitations. Agencies interested in duplicating the police practitioners' tools developed as a result of evidence-based practices will entail a joint collaboration with the mental health network and will require significant subsidized support. Budgeting for this evidence-based care cell phone application technology should not be absolved by the inability to fund such crucial catch projects. Federal and mental health grants supply the required monetary support for exceptional evidence-based technology narratives. The Office of Justice Programs (OJP)(n.d.) financed approved projects for up to and not limited to 3 years via the OJP Grant Management System (GMS). The implication for social change of this study is that policymakers should consider financing the national implementation of this technology's tenets as an iCOP expansion project.

Dr. Monique Allen *is a crisis systems analyst – Emergency Management and educational consultant in California. She is a member of the Delta Sigma Chapter of Epsilon Pi Tau.*

REFERENCES

Allen, M. (2018). Crisis intervention team training among CIT-trained police officers. *(Walden University).*

Allen, M., & Campbell, G. (2018). Crisis intervention team training and the protection motivation theory. *Journal of Social Change, 10*(1), 8.

Allport, G. W. (1954). *The nature of prejudice*. Oxford, England: Addison-Wesley.

Bock, M. A. (2016). Film the police! Cop-watching and its embodied narratives. *Journal of Communication*, *66*(1), 13-34.

Babbie, E. R., & Rubin, A. (2017). Research methods for social work (9th ed.). Boston, MA: Cengage.

Bernard, H. R. (2013). *Social research methods: Qualitative and quantitative approaches* (2nd ed.). Thousand Oaks, CA: Sage.

Bhattacherjee, A. (2012). *Social science research: Principles, methods, and practices*. Tampa, FL: University of South Florida.

California State Association of Counties. (2014). Ventura County's new crime-fighting tool – iCOP. Retrieved on Jan 12, 2019 from http://www.counties.org/post/ventura-countys-new-crime-fighting-tool-icop.

Crisis International Team International. (n.d.). How to build a county wide program the Ventura County model. Retrieved on Jan 12, 2019 from http://www.citinternational.org/resources/Documents/How%20to%20Build%20a%20County%20Wide%20CIT%20Program%20The%20Ventura%20County%20Model.ppt.

Davis, F. D., Baggozi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models, *Management Science*, 35(8), 982-1003. doi.10.1287/mnsc.35.8.982

Evans, J. D. (1996). *Straightforward statistics for the behavioral sciences*. Thomson Brooks/Cole Publishing Co.

Gast, D. L, & Ledford, J. R. (2014) *Single case research methodology: Applications in special education and behavioral sciences*, Routledge, New York: NY.

Godoe, P., & Johansen, T. (2012). Understanding adoption of new technologies: Technology readiness and technology acceptance as an integrated concept. *Journal of European Psychology Students*, *3*(1), 38-52. doi:10.5334/jeps.aq

Hagan, F. E. (2013). *Research methods in criminal justice and criminology* (9th ed.). Upper Saddle River, NJ: Pearson Education, Inc.

Jacoby, A. (2018). Out-group threat or inter-group contact theory? Out-group attitudes and interaction in times of diversity growth. CUNY Academic Works. Retrieved from https://academicworks.cuny.edu/gc_etds/2441

Jones, D. J., Anton, M., Gonzalez, M., Honeycutt, A., Khavjou, O., Forehand, R., & Parent, J. (2015). Incorporating mobile phone technologies to expand evidence-based care. *Cognitive and behavioral practice*, *22*(3), 281-290.

Lee, Y., Hsieh, Y., & Chen, Y. (2013). An investigation of employees' use of e-learning systems: Applying the technology acceptance model. *Behaviour & Information Technology*, *32*(2), 173-189. doi:10.1080/0144929X.2011.577190

McCusker, K., & Gunaydin, S. (2014). Research using qualitative, quantitative or mixed methods and choice based on research. *Perfusion*. doi:10.1177/0267659114559116

Mertler, C. A., & Vannatta, R. A. (2013). *Advanced and multivariate statistical methods* (5th ed.). Los Angeles, CA: Pyrczak.

Nix, J., Pickett, J. T., Baek, H., & Alpert, G. P. (2017). Police research, officer surveys, and response rates. *Policing and Society*. doi: 10.1080/10439463.2017.1394300

Obasi, J. E. (2018). Police officers' perceptions of body-worn camera technology. *(Walden University)*.

Rodriguez, V. M. (2016). *The impact of psychiatric emergency response team (PERT) training on law enforcement officers on time and disposition responding to mental health related emergencies in urban, suburban, and rural communities* (Doctoral dissertation, Alliant International University).

Simonson, J. (2015). Beyond body cameras: Defending a robust right to record the police. *Georgetown Law Journal*. *104*, 1559.

Simonson, J. (2016). Copwatching. *California Law Review, 104,* 391.

Tanner, S., & Meyer, M. (2015). Police work and new 'security devices': A tale from the beat. *Security dialogue*, *46*(4), 384-400.

Uyanik, G. K., & Guler, N. (2013). A study on multiple linear regression analysis. P*rocedia-Social and Behavioral Sciences*, *106*, 234-240. doi:10.1016/j.sbspro.2013.12.027

Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management science, 46*(2), 186-204.

Ventura Sheriff's Office. (September 4, 2018).

Ventura Sheriff's Office. (December 17, 2018).

Weller, J. (2015). *Evaluating the responses of San Francisco police officers to mental health-related calls* (Doctoral dissertation, The Wright Institute).

Wood, D., Cockcroft, T., Tong, S., & Bryant, R. (2018). The importance of context and cognitive agency in developing police knowledge: Going beyond the police science discourse. *The Police Journal, 91*(2), 173-187.