

March 2018

# The Role of Organizational Justice in Predicting Attitudes Toward Body-Worn Cameras in Police Officers

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The Role of Organizational Justice in Predicting Attitudes Toward Body-Worn Cameras in  
Police Officers

by

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A thesis submitted in partial fulfillment  
of the requirements for the degree of  
Masters of the Arts in Criminology  
Department of Criminology  
College of Behavioral and Community Sciences  
University of South Florida

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Date of Approval:  
March 23, 2018

Keywords: procedural justice, distributive justice,  
interactional justice, technology in policing

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## ABSTRACT

Body-worn cameras are a promising new development in policing. They have been linked to positive outcomes such as decreases in use of force and complaints against officers. However, this new technology has produced a number of issues that could thwart a successful body-worn camera program implementation. One issue is the extent in which officers possess positive attitudes toward using body-worn cameras. If officers do not view body-worn cameras positively, cameras may not be used to their full potential.

A promising factor that has emerged from past research in explaining attitudes toward body-worn cameras is organizational justice. Broadly, organizational justice is defined as the extent in which members of an organization are treated fairly and believe this to be the case. Organizational justice has been linked to positive organizational outcomes such as increased compliance with organizational directives and positive evaluation of organizational leadership.

The purpose of this study was to examine the relationship between organizational justice and attitudes toward body-worn cameras in police officers across three agencies. Findings indicated that there was no observable relationship between perceptions of organizational justice and attitudes toward body-worn cameras. There were a number of competing explanations for the findings, including potential measurement issues, possible intervening variables, and the possibility that there is no relationship between organizational justice and attitudes toward body-worn cameras.

## INTRODUCTION

The United States is currently in the midst of a police legitimacy crisis (Gest, 2016; Todak, 2017). This crisis has been characterized by civil unrest in Ferguson, St. Louis, and Milwaukee, among other U.S. cities, as a response to multiple police-involved shootings of unarmed black men and suspicious deaths of black males in police custody. A Gallup poll taken in 2015 of 1,527 randomly selected adults nationwide showed that the percentage of those who indicated they possess “a great deal” or “quite a lot” of confidence in the police has decreased during the period 2012-2013 to 2014-2015 from 57% to 53% (Jones, 2015). For context, the last time public confidence in police was this low was in 1993, according to the same Gallup poll (Jones, 2015). These changes of opinions were greatest for those who were nonwhite, dropping from 49% in 2012-2013 to 42% in 2014-2015 (Jones, 2015). A more recent version of that poll found that confidence in police rebounded to the national average of 57% indicating “a great deal” or “quite a lot” of confidence in police. Confidence in police dropped for some groups, such as young people (56% to 44%), liberals (52% to 44%), Hispanics (59% to 45%), and African-Americans (35% to 30%) (Norman, 2017). The problem of diminished police legitimacy has been exacerbated by the influx of readily available citizen-captured video of controversial officer interactions with other citizens. These videos have the potential to “go viral” and be framed in ways that may discredit police officers (Kyle & White, 2017; Mohler, 2017; Todak, 2017).

As a response to deteriorating legitimacy of law enforcement agencies amongst the public, President Barack Obama established the President’s Task Force on 21st Century Policing.

One issue that the task force addressed was the role that technology should take in policing (President's Task Force on 21st Century Policing, 2015). The task force supported body-worn cameras for police officers and concluded that they were promising when implemented correctly, citing a recent study as evidence (Ariel, Farrar, & Sutherland, 2015). The idea of body-worn cameras resonated with police agencies: 95% of agencies in a recent survey of 70 mid-sized to large police agencies across the U.S. intend to implement or have already implemented body-worn cameras (Major Cities Chiefs Association & Major Counties Sheriffs Association, 2015). Furthermore, using data from the 2013 Law Enforcement and Administrative Statistics (LEMAS) survey, the Bureau of Justice Statistics reported that 32% of 12,326 local agencies surveyed have implemented a body-worn camera program in some capacity (Reaves, 2015).

Body-worn cameras used by police produce positive outcomes: decreased incidence of use of force, decreased incidence of complaints against police, improved training opportunities, and improved evidence for arrest and prosecution (Ariel, Farrar, & Sutherland, 2015; Ariel et al., 2017; Farrar & Ariel, 2013; Hedberg, Katz, & Choate, 2017; Jennings, Lynch, & Fridell, 2015; Jennings et al., 2017; Miller, Toliver, & Police Executive Research Forum, 2014; White, 2014). The premise behind the use of body-worn cameras in policing is that, overall, officer use of force should decrease when they are aware that their moment-to-moment actions are being documented (Bateson, Nettle, & Roberts, 2006; Miller, Toliver, & Police Executive Research Forum, 2014). Additionally, body-worn cameras may improve the behavior of citizens in interactions with police officers (Miller, Toliver, & Police Executive Research Forum, 2014) although this evidence is purely anecdotal as it is difficult to disentangle how body-worn cameras affect officers and citizens independently (White, 2014).



The second main construct of interest in the present research is organizational justice. This is defined as effort from an organization to ensure that its members are treated fairly (Greenberg, 1990). Organizational justice is comprised of three components: distributive justice, procedural justice, and interactional justice. Interactional justice is further delineated into informational and interpersonal justice (Bies & Moag, 1986; Colquitt, 2001; Colquitt et al, 2001; Leventhal, 1976; Thibaut & Walker, 1975). Distributive justice is cultivated when organizational resources (e.g. pay, paid time off, benefits, etc.) are distributed fairly among members (Colquitt, 2001). Another way to characterize distributive justice is when organizational outcomes are perceived to be fair among members (Cohen-Charash & Spector, 2001). Cohen-Charash and Spector (2001) define procedural justice as the perceived fairness of processes in which outcomes are determined in an organization (as cited in Lind & Tyler, 1988). It is important to note that procedural justice applies to perceptions of the organization as a whole rather than leaders or supervisors (Cohen-Charash & Spector, 2001). Perceptions of members of an organization who represent leadership (e.g.. a supervisor) fall under the category of interactional justice. Interactional justice is produced when representatives of an organization treat members with respect and dignity, in addition to providing adequate information about procedures and decisions made within an organization (Cohen-Charash & Spector, 2001; Colquitt et al., 2001).

Organizational justice and its dimensions have been shown to be an important factor in a number of positive organizational outcomes. These outcomes include improved compliance with organizational policies, improved quality of work, organizational commitment, and positive evaluation of authority within the organization (Colquitt et al, 2001; Lambert, 2003; Tyler, Callahan, & Frost, 2007; Tyler, Dienhart, & Thomas, 2008; Tyler, 2009). One such

organizational policy that has been a recent focus in policing is the proliferation of body-worn cameras.

Organizational justice has been shown to be a significant factor in attitudes toward body-worn cameras (Kyle & White, 2017). However, there have been no other studies that examine this link. The relationship between organizational justice and body-worn cameras is important because it may have the ability to explain disparate findings between studies of body-worn camera effectiveness. Specifically, organizational justice may have the capacity to explain why body-worn cameras are effective in decreasing use of force and citizen complaints in some agencies (Ariel, Farrar, & Sutherland, 2015; Farrar & Ariel, 2013; Jennings et al., 2017) and has little to no effect on use of force and citizen complaints in others (Ariel et al., 2016; Yokum, Ravishnakar, & Coppock, 2017). Officers who perceive their organization to treat them in a just manner may be more likely to possess positive attitudes toward body-worn cameras and use them more effectively.

Even though body-worn cameras have been shown to produce positive results, the benefits of body-worn cameras may never manifest if officers do not support their use. It is important to ensure that officers experience a smooth implementation period to increase the likelihood that officers will support the change in policy (Jennings, Fridell, & Lynch, 2014). When body-worn cameras are introduced to an agency and officers are required to comply, officers who do not support the new directive may attempt to undermine the implementation process, while officers who support the new directive may aid in the implementation process (Jennings, Fridell, & Lynch, 2014). Due to the increased compliance with policies and trust in leadership that organizational justice is associated with, it follows that officers who perceive their organization as possessing organizational justice should have better attitudes toward body

cameras than officers who do not perceive their agency to apply organizational justice (Tyler, Callahan, & Frost, 2007; Tyler, Dienhart, & Thomas, 2008; Tyler, 2009). To illustrate, an agency that actively involves their line officers in key decisions, treats employees fairly, and listens to their concerns may have more success implementing body-worn cameras compared to an agency that does not take such actions.

This study addresses the following research question: does officer perceptions of organizational justice affect attitudes toward body-worn cameras? This research question is particularly relevant because there has only been one study on this topic to date (Kyle & White, 2017). Furthermore, with the growing popularity of body-worn cameras being used in policing, it will become important for agencies to use the best practices for producing the most officer buy-in possible (Major Cities Chiefs Association & Major Counties Sheriffs Association, 2015). In summary, due to fact that body-worn cameras represent a new policy that originates from the organization at large, the perceptions of that organization and its leadership should be an important factor in police attitudes toward body-worn cameras.

## **BODY-WORN CAMERAS**

The first known implementation of police body-worn cameras was in the United Kingdom in 2005 (White, 2014). However, body-worn cameras did not capture the widespread attention of agencies in the U.S. until the police-involved shooting of Michael Brown in Ferguson. Due to opposing accounts between Michael Brown's friend, Dorian Johnson, and Officer Darren Wilson of the events that occurred, a call for police transparency in use of force emerged. The logic in this case was that had there been video footage of what happened, citizens could make more informed decisions on how events transpired. To aid in this venture, the Obama administration announced that they would spend \$75 million on helping agencies implement body-worn cameras nationwide (Office of the Press Secretary, The White House, 2014). Nineteen percent of the 70 mid-sized to large police departments that completed a recent survey reported that they have a fully implemented body-worn camera program (Major Cities Chiefs Association & Major Counties Sheriffs Association, 2015).

Functionally, body-worn cameras are worn by the officer on the uniform, on the shoulder, on sunglasses, or on a hat, and take a video and audio recording of what the officer sees. Most are able to switch on and off via a power button, and battery power can last from 12-14 hours on some models (White, 2014). Some cameras are equipped with a feature that takes a rolling 30 seconds of video when the camera is switched off and then saves that video when the camera is switched on. At the end of a shift, the video footage is uploaded to a local server where it can be stored and encrypted. Some systems can also upload video while officers are still in the field

(Bureau of Justice Assistance, 2015). This video can then be used as evidence for prosecution, review of adherence to agency policy, and training other officers, to name a few potential uses.

Body-worn cameras are becoming more commonplace in law enforcement. In 2013, the Police Executive Research Forum sent out surveys to 500 police departments nationwide, of which 254 departments responded. Of those departments who responded, approximately 25% of agencies indicated that they use body-worn cameras (Miller, Toliver, & Police Executive Research Forum, 2014). In another survey given by the Major Cities Chiefs and Major Counties Sheriffs Associations (2015), 18% of the 70 mid-sized to large-sized agencies have implemented a body-worn camera program and 77% of agencies indicated that they in the process of implementing body-worn cameras. The Bureau of Justice Statistics published a report in 2015 using the 2013 LEMAS (Law Enforcement Management and Administrative Statistics) data showing that 32% of 12,326 agencies surveyed in data have a body-worn camera program (Reaves, 2015). This is the most recent report of the LEMAS data and is the most comprehensive survey of body-worn camera programs to date.

As prefaced in the introduction, body-worn cameras may produce a number of favorable outcomes. Among these outcomes is evidence that body-worn cameras have been promising in reducing police use of force toward the public in addition to complaints against officers from citizens (Ariel, Farrar, & Sutherland, 2015; Jennings, Lynch, & Fridell, 2015; Jennings et al., 2017). For example, Ariel, Farrar, and Sutherland (2015) studied a police department in Rialto, California and found that officer use of force doubled in control shifts versus experimental shifts that utilized body-worn cameras. There was also a significant decrease in citizen complaints between the two shift assignments. Similar results were found in two other studies that examined the effect of body-worn cameras on officer response-to-resistance (Jennings et al., 2017;

Jennings, Lynch, & Fridell, 2015). Both studies found significant decreases in officer response-to-resistance. Also notably, one study found that body-worn cameras were effective in reducing officer use of force outside of the U.S. (Henstock & Ariel, 2017).

While most research has found that the use of body-worn cameras have decreased use of force and citizen complaints against officers, a recent study showed no effect (Yokum, Ravishankar, & Coppock, 2017) and in one study it increased assaults against officers wearing them (Ariel et al., 2016). These disparate findings indicate that the impact of body-worn cameras on policing outcomes is not yet fully understood.

When implementing a body-worn camera program, there are a multitude of issues that arise. One consideration is whether wearing a body-worn camera would be required for all frontline officers, or whether wearing one would be voluntary. Regarding this issue, the Police Executive Research Forum recommended that implementing body-worn cameras incrementally as the best practice (Miller, Toliver, & Police Executive Research Forum, 2014). Another important implementation concern is when officer are supposed to activate or deactivate cameras. For example, some policies prohibit recording a confidential informant to protect his/her privacy. An additional implementation consideration applies to data storage. For instance, it is up to the agency to determine when and if to delete video. Timing of video deletion often hinges on the evidentiary value of the recording. If a video may prove useful in an investigation, it may be stored for a lengthy period of time. For context, a recording that may prove useful in a homicide investigation may be stored indefinitely according to some state laws, but a video capturing a traffic citation may only be stored for a few months (Miller, Toliver, & Police Executive Research Forum, 2014). Usually, the threshold is about 60 to 90 days that non-evidentiary footage will be stored (Miller, Toliver, & Police Executive Research Forum, 2014).

Other issues include policies on releasing body-worn camera video, when/if to record inside of private homes, and dealing with financial costs of implementation (Miller, Toliver, & Police Executive Research Forum, 2014). There is one last key implementation issue examined in this study: officer attitudes toward using body-worn cameras.

Officer attitudes toward body-worn cameras are an important consideration in implementation: if officers possess negative attitudes toward body-worn cameras and their application, they may not use them effectively (Jennings, Fridell, & Lynch, 2014). Overall, past research shows that officer opinion of body-worn cameras has been positive. For example, Jennings, Fridell, & Lynch (2014) found that officers in Orlando, Florida Police Department indicated that they generally support the usage of body-cameras. More specifically, officers indicated that they support the adoption of body cameras, they believe that citizens would improve their behavior if an officer were wearing a body camera, and they believed that the behavior of fellow officers would improve as a result of using body-worn cameras (Jennings, Fridell, & Lynch, 2014). Two studies conducted in the United Kingdom found similar positive perceptions of body-worn cameras. In surveys administered to citizens and police on the Isle of Wight, both citizens and police indicated support for body-worn cameras and considered them to be effective police tools (Ellis, Jenkins, & Smith, 2015). One other study that addressed the effectiveness of body-worn cameras on criminal justice outcomes in domestic abuse incidents found that officers were supportive of cameras, and found them useful in investigating domestic assault. (Owens, Mann, & Mckenna, 2014). Lastly, Ready and Young (2015) found that officers who wore body cameras thought them helpful in encounters with citizens, especially in encounters involving an arrest, citation, warning, or a stop-and-frisk.

However, officer attitudes toward body-worn cameras may also be negative, and vary agency-by-agency. Gramaglia and Philips (2017) surveyed two different police departments in New York State. They found significant differences in officer opinion toward body-worn cameras in Rochester and Buffalo. Specifically, more officers in Buffalo than Rochester indicated that they thought that body cameras would be easy to use (Gramaglia & Philips, 2017). They also found that under half of officers in Buffalo indicated that body-worn cameras would be a distraction to their duties, while 59% of officers in Rochester thought that body-worn cameras would be a distraction (Gramaglia & Philips, 2017). Gaub and colleagues (2016) surveyed personnel within three different police departments to measure opinions of body-worn cameras before and after implementation. Prior to implementation, personnel within one department were skeptical about body cameras; the personnel in another department were lukewarm toward their use. Personnel in the last department favored body-worn cameras. After implementation, within-department opinions overall did not change. However, each department's officers reported improved perceptions of body-worn camera ease of use after implementation but became more skeptical on body-worn cameras' impact on citizens' reactions toward body-worn cameras (Gaub et al., 2016).



## ORGANIZATIONAL JUSTICE

A potential explanation for differing views about body-worn cameras is organizational justice. While many factors may have the potential to encourage positive attitudes toward body-worn cameras, organizational justice is a promising predictor of said attitudes (Kyle & White, 2017). As explained in brief earlier, organizational justice is a term that encompasses perceptions of fairness in the workplace (Colquitt et al., 2001). Organizational justice consists of three components: distributive justice, procedural justice, and interactional justice, which is further demarcated into interpersonal and informational justice (Bies & Moag, 1986; Colquitt, 2001; Colquitt et al, 2001; Leventhal, 1976; Thibaut & Walker, 1975).

Organizational theory first centered on distributive justice (Leventhal, 1976). Distributive justice is defined as the extent in which "...outcomes are consistent with implicit norms for allocation, such as equity or equality" (Colquitt, 2001). For example, distributive justice would be found in an organization that distributes resources fairly among its members. Members who are similar in qualification and rank should receive the same amount of resources. Resources could encompass healthcare, pay, paid time off, or any other resource that could be distributed by an organization. Another example of an outcome that would involve distributive justice would be disciplinary measures that are perceived to be fair in the context of the infraction committed. Basically, distributive justice is found where employees perceive fairness in what they receive in exchange for what they give (Lambert, 2003).

Later research examined the process in which outcomes were distributed; known as procedural justice (Leventhal et al. 1980). Cohen-Charash & Spector (2001) define procedural

justice as the extent that members in an organization perceive fairness in the process in which outcomes were achieved (as cited in Lind & Tyler, 1988). One example of procedural justice is the ability for members to have a voice in key decisions and outcomes that affect the organization (Colquitt, 2001). Procedural justice could also take the form of supervisors being objective in decision-making (Cohen-Charash & Spector, 2001).

The last component of organizational justice is interactional justice, which is further separated into interpersonal and informational justice (Bies & Moag, 1986; Colquitt, 2001). Interactional justice is defined as the extent in which decision-makers within an organization treat others with respect and explain the reasoning behind decisions (Bies & Moag, 1986; Colquitt, 2001). Interpersonal justice is defined as the extent in which members of an organization are treated with dignity, respect, and politeness by authority figures (Bies & Moag, 1986; Colquitt, 2001). Informational justice is described as the quality and clarity of explanations by authority figures (Bies & Moag, 1986; Colquitt, 2001). In summary, distributive justice, procedural justice, and interactional justice all characterize the concept of organizational justice.

Organizational justice and its dimensions have been linked to numerous positive outcomes. For example, employee perceptions of organizational justice are a protective factor against workplace deviance (Henle, 2005; Sigurd, Mearns, & Eid, 2014). Other outcomes include improved compliance with organizational policies, improved quality of work, improved organizational commitment, and respect for organizational leadership (Colquitt et al, 2001; Lambert, 2003; Tyler, Callahan, & Frost, 2007; Tyler, Dienhart, & Thomas, 2008; Tyler, 2009).

Procedural justice has been an especially strong predictor of positive organizational outcomes. For example, procedural justice has been shown to be a more important factor than distributive justice in explaining both rule acceptance and perceptions of legitimate leadership

(Tyler, Dienhart, & Thomas, 2008). Moreover, procedural justice had a strong and significant positive relationship with employee perceptions of organizational support in comparison to distributive justice, which had a weaker effect (Akremi, Vandenberghe, & Camerman, 2010). Additionally, it has been shown to have a negative relationship with belief that organizational rules are illegitimate (Zoghbi-Manrique-de-Lara, 2010).

Organizational justice has also been studied within the context of policing, as opposed to other studies that examine other workplace contexts. Especially relevant for the current study: some studies have examined rule compliance as a relevant outcome. Tyler, Callahan, and Frost (2007) used structural equation modeling and found that procedural justice shaped officer values of organizational legitimacy, which then was positively associated with rule compliance. Additional research regarding rule compliance as an outcome of procedural justice found similar results (Haas et al., 2015). Wolfe and Piquero (2011) found that officer perceptions of organizational justice had a significant and negative relationship with attitudes toward believing in a “code-of-silence” and belief in police corruption in pursuit of a noble cause. Importantly, belief in organizational justice was also significantly associated with three outcomes of police misconduct. Specifically, officers who indicated higher degrees of organizational justice in their agency were less likely to have citizen complaints filed against them, be the subject of an internal affairs investigation, or have departmental disciplinary charges filed against them (Wolfe & Piquero, 2011).

Organizational justice can also lead to more positive attitudes toward leadership in an organization, in addition to improved interactions with communities. Srivastava (2009) surveyed individual officers in a single police organization in India. Results indicated that organizational justice (specifically, interpersonal and distributive justice) was positively related to trust in

leadership (Srivastava, 2009).. As it pertains to officer attitudes toward serving communities, officers' perceptions of agency organizational justice was both directly related to positive attitudes toward serving the public and mediated by their attitudes toward community policing (Myhill & Bradford, 2013).

Job satisfaction of officers has also been a positive outcome of organizational justice. Undercover officer perceptions of distributive justice and procedural justice were positively related to measures of job satisfaction, job performance, and organizational commitment (Farmer, Beehr, & Love, 2003). In another study, Crow, Lee, & Joo (2012) found that the relationship between distributive justice was mediated by job satisfaction. Interestingly, both interactional justice and procedural justice had positive and direct effects on distributive justice in their model.

Organizational justice has also been indicated as an important factor in officer evaluation of internal affairs inquiries. De Angelis and Kupchik (2007) investigated how officer perceptions of procedural justice and perceived legitimacy affected officer satisfaction with the process of investigating citizen complaints against officers in their jurisdiction. They found that procedural justice and perceived legitimacy of the organization influence officers' perceptions of fairness of the citizen complaint investigation process more so than the actual outcome of said process. Put another way, officers were more likely to be satisfied with the citizen complaint process if they thought the process was fair, regardless of the outcome of the investigation.

Overall, the past literature displays that organizational justice plays a key role in producing positive organizational outcomes for police. Roberts and Herrington (2013) conducted a meta-analysis of literature that addresses organizational justice and policing.

They concluded that agencies that are organizationally just lead to outcomes such as positive evaluation of authority, greater cooperation between staff, and more positive attitudes toward the public (Roberts & Herrington, 2013).

## THE PRESENT STUDY

The current study attempted to examine the relationship between perceptions of organizational justice and attitudes toward body-worn cameras. Also, it will attempt to replicate Kyle and White's (2017) results. This study advances both theory and practice and will add to both organizational justice and body-worn camera literatures.

As outlined above, prior organizational justice literature indicated that employees would be more inclined to follow organizational directives if they perceived the organization to treat them fairly (Haas et al., 2015; Tyler, Callahan, & Frost, 2007; Tyler, Dienhart, & Thomas, 2008; Tyler, 2009). An organizational directive is defined as an official or authoritative instruction. Body-worn cameras represent a new technology that is implemented with rules and regulations regarding their use. The leadership of a police agency directs the implementation of body-worn cameras. Therefore, the implementation of body-worn cameras can be considered an organizational directive created by the leadership in an agency. Because implementation is an organizational directive, attitudes toward body-worn cameras should be subject to perceptions of organizational justice within an agency.

The sole study that directly measures the influence that organizational justice has over police attitudes toward body-worn cameras has some promising results, which the current study builds upon. Kyle and White (2017) found that organizational justice: a latent construct made up of three dimensions including procedural justice, interpersonal justice, and informational justice, had a significant effect on officer attitudes toward body-worn cameras. However this study noted

a limitation that the current study addresses: distributive justice was not measured. This is an essential factor to organizational justice and should be included. Distributive justice has shown to be an indicator of job satisfaction (Crow, Lee, & Joo, 2012; Farmer, Beehr, & Love, 2003), an important component in a measure of organizational justice that predicts less adherence to a code of silence and less belief in police corruption in pursuit of a noble cause (Wolfe & Piquero, 2011), and is a predictor of trust in leadership (Srivastava, 2009). Therefore, in order to gain a more complete understanding of the role that organizational justice plays in body-worn camera attitudes, distributive justice should be measured and included in any models. The current study includes indicators for distributive justice, in addition to sampling in a different U.S. geographical region than Kyle and White (2017).

Sampling a different geographic region is an important step in strengthening the argument that organizational justice is an important factor in producing positive attitudes toward body-worn cameras. Gaub and colleagues (2016) found that perceptions of body-worn cameras differed across agencies, and these perceptions mostly held after the implementation of body-worn cameras. Additionally, factors such as location of a police agency and the volume of the population served play a role in determining the foci of public safety concerns (Kuhns, Maguire, & Cox, 2007). Due to the possibility that agencies could differ in support for body-worn cameras, it is vital to replicate results using different agencies to advance our understanding of this phenomenon.

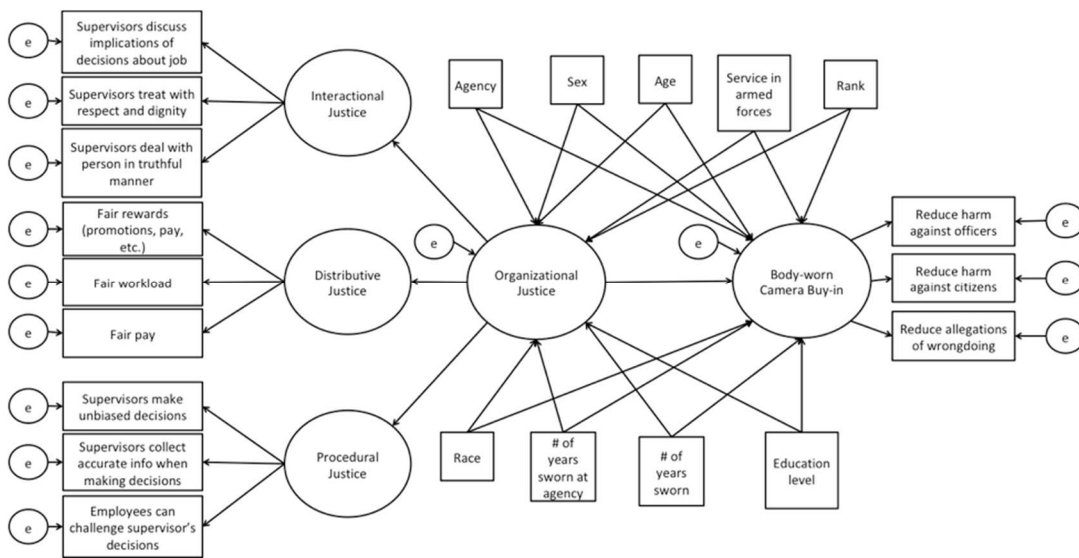
Due to the importance of organizational justice in past work with policing, organizational justice (made up of distributive justice, procedural justice, and interactional justice) should be a significant predictor of attitudes toward body-worn cameras. This is based on the findings of Kyle and White (2017) in addition to the findings of other studies, which indicate that

components of organizational justice are important factors in predicting job satisfaction (Crow, Lee, & Joo, 2012; Farmer, Beehr, and Love, 2003) and trust in police leadership (Srivastava, 2009) which could logically extend to acceptance of a program that introduces body cameras to officers. Furthermore, implementing body-worn cameras is an organizational directive and therefore, beliefs surrounding them are subject to perceptions of organizational fairness.

Taking into account past research, the hypothesis for the current study is as follows:

*Officer perceptions of organizational legitimacy will be positively associated with attitudes toward body-worn cameras.*

The hypothesis detailed above is illustrated in Figure 1, which includes the measurement model of the predicted relationships between variables. In Figure 1, circles represent latent factors, rectangles represent observed variables, and circles with the letter “e” represents measurement error. Arrows indicate one-way relationships between factors, while a curved arrow represents a two-way correlation.



**Figure 1: Hypothesized Path Model**



## METHODOLOGY

A survey was distributed at roll call to officers in three different agencies. The survey was created in order to address a different research question that was not relevant to the current research. Two subscales were used: the organizational justice subscale and a subscale created by using three questions about attitudes toward body-worn cameras. There was a total of nine indicators for the organizational justice subscale (three indicators for each dimension of organizational justice) and three indicators for body-worn camera attitudes.

The sample comprised of three agencies located in a mid-sized metropolitan area in the southeastern U.S. There were a total of 492 officers included in the sample. The sample was mostly white (76.89%) and male (85.08%). The sample was educated, with 51.55% indicating that they had earned a Bachelor's degree.

### *Sampling*

The target population of interest was police officers in the United States. This population was selected for two reasons. First, the data being used for this study were taken from a larger study identifying structural and cultural factors in police departments that contribute to or protect against organizational accidents, such as a police shooting of an unarmed citizen, a police pursuit resulting in the death of an uninvolved citizen, or police serving a search warrant on the wrong property. The survey included measures of the elements of organizational justice, in addition to opinions on police policies, strategies, and reforms.

The sample used for this study was police officers in three different agencies in a mid-sized metropolitan area in Florida (pseudonyms were used in order to keep the identities of the agencies confidential): Petal Beach Police Department, Daisyville Police Department, and Rosewood Police Department. While the selection of these three police departments was based on convenience, the officers were randomly selected (in two agencies) or represented the population of officers (in one agency). Random selection was used to sample officers at Petal Beach Police Department and Rosewood Police Department. For Daisyville Police Department, surveys were given to officers who were attending a required continuing education class. This allowed for most Daisyville officers to be included in the sample. In that case, random sampling of roll call sessions was not needed as most of the population of officers was captured in the surveys.

### *Measurement*

For both Petal Beach Police Department and Rosewood Police Department, a short survey intended to take 20 minutes to complete was distributed during roll call, along with a manila envelope for officers to put their survey in to hand to the researchers. For Daisyville Police Department, surveys were distributed before the continuing education class started. After handing out surveys, researchers gave a short explanation about the nature of the survey, in addition to highlighting that taking the survey or answering any questions in the survey is voluntary. Researchers also addressed how the data would be stored and kept safe. Officers were also given the option of taking the survey home with them to complete at a later time. Those who chose this option could turn in the survey in a lockbox owned by the researchers that was located in the roll call room. After those who elected to take the surveys were finished, all surveys were

collected, including surveys that were blank as a result of the participant electing not to take the survey.

There is one salient ethical concern associated with this study: the risk of violating anonymity. At the end of the survey, demographic questions were included for use as control variables. These demographic variables included: sex, race, years as a sworn officer in total, years as a sworn officer within their current agency, highest level of education completed, whether or not the officer served in the armed forces, and rank (dichotomized). These questions, taken together, may be used to identify an individual. However, it is impossible to identify any officer who chose to answer the demographic questions because agencies do not have access to the data. All data is stored on a password-protected computer locked in a filing cabinet off-site. Officers were not asked to provide any specific identifiers, such as name or badge number. In order to further disassociate surveys from the officers who took them, officers turned in the surveys in manila envelopes. If officers did not feel comfortable turning in surveys to the researchers in person, a lockbox was available in or near the roll call room for at least a week after the researchers had finished collecting data.

*Dependent Variable: Attitudes Toward Body-Worn Cameras*

The main endogenous dependent variable of interest for this study was police attitudes toward body-worn cameras. This dependent variable was measured from responses to three different questions. These three questions were part of a larger set of indicators intended to measure opinions about various police strategies, policies, and reforms. These questions were original creations of the authors of the survey (Burruss, Schafer, & Giblin, unpublished manuscript). Officers indicated their level of agreement with three statements: (1) *Equipping officers with body cameras helps reduce physical harm against them.* (2) *Equipping officers with*

*body cameras helps reduce physical harm against citizens. (3) Equipping officers with body cameras helps reduce the likelihood of allegations of wrongdoing against officers.* A five-point Likert scale was used and consisted of the following responses: 1 = *Strongly disagree*; 2 = *Disagree*; 3 = *Neither agree nor disagree*; 4 = *Agree*; 5 = *Strongly agree*. The latent factor for attitudes toward body-worn cameras were measured by these three items. These questions were similar to questions that have been asked in past research about opinions toward body-worn cameras (Ellis, Jenkins, & Smith, 2015; Gaub et al., 2016; Jennings, Fridell, & Lynch, 2014). The discriminate validity of the latent factor was evaluated by four SEM goodness-of-fit indices (see analysis section below).

#### *Independent Variable: Organizational Justice*

The independent variable for this study was organizational justice measured as a latent factor. Organizational justice was measured using nine different items. All items were derived from Niehoff & Moorman's (1993) scale measuring organizational justice. Three items each measured interactional justice, distributive justice, and procedural justice. For interactional justice, officers indicated their level of agreement with three statements: (1) *Concerning decisions made about my job, supervisors/managers discuss the implications of the decisions with me.* (2) *When decisions are made about my job, supervisors/managers treat me with respect and dignity.* (3) *When decisions are made about my job, supervisors/managers deal with me in a truthful manner.* To measure distributive justice, officers indicated their level of agreement with three statements (1) *Overall, the rewards (e.g. promotions, pay, etc.) I receive here are quite fair.* (2) *I consider my workload to be quite fair.* (3) *I think that my level of pay is fair.*

Lastly, to measure procedural justice, officers indicated their level of agreement with three statements: (1) *Job decisions are made by supervisors/managers in an unbiased manner.*

(2) *To make job decisions, supervisors/managers collect accurate and complete information.* (3) *Employees are allowed to challenge or appeal job decisions made by supervisors/managers.* A five-point Likert scale was used and consisted of the following responses: 1 = *Strongly disagree*; 2 = *Disagree*; 3 = *Neither agree nor disagree*; 4 = *Agree*; 5 = *Strongly agree*. Each of these items was used to create a first-order latent factor.

Each of these first-order latent factors was used to measure organizational justice, which is a second-order latent factor; that is, the first-order latent factors were expected to measure a single second-order latent factor. Organizational justice was measured as a second-order latent because of results from past literature (Greenberg & Colquitt, pgs. 128-140; Kyle & White, 2017). As stated in the literature review, organizational justice consisted of three types of justice (interactional, distributive, and procedural). In order to test discriminant validity of the sub-dimensions of organizational justice, each type of justice will be tested as its own latent factor and the correlations among them should be fairly high. If not, then a second-order latent factor is rejected.

#### *Control Variables*

Variables included as controls in this analysis were: male, (male, female), white, (white, black/African-American, Hispanic/Latino, Asian, American Indian/Native American/Alaska Native, and other, number of years the officer worked as a sworn officer, and rank (front-line or supervisor).

There are some expected relationships that were found in the past research between the controls and the variables of interest. Officer rank should be a significant predictor in police attitudes toward body-worn cameras (Kyle & White, 2017). Gender seems to have an influence on opinions about body cameras, but there is currently not enough evidence to make a directional

hypothesis. For example, Jennings, Lynch and Fridell (2014) reported that male officers were more likely than females to perceive that body cameras would improve their behavior. In contrast, they found that female officers were more likely to indicate that body-worn cameras would decrease internal and external complaints against officers. However, Kyle and White (2017) found that gender was a significant predictor in body-worn camera buy-in, with female officers perceiving more benefits to body cameras than males. Therefore, gender should have an effect on body camera buy-in, but it is unknown what direction that effect will take.

## ANALYSIS

The research method utilized was structural equation modeling (SEM) (Bowen & Guo, 2011). SEM was preferable in this study for a couple of reasons. First, SEM allows for the confirmation of the existence of a latent factor (e.g., attitudes toward body-worn cameras; organizational justice) through use of indicators (the three questions described earlier about attitudes toward body-worn cameras; subscales measuring each component of organizational justice). This allows the researcher to measure unobservable variables. This method has been used in past research involving organizational justice (Crow, Lee, & Joo, 2012; Kyle & White, 2017; Myhill & Bradford, 2013). Due to the relatively untested nature of the organizational justice scale used in this study, SEM allows for the construction of a measurement model that can help establish validity of the measure.

Second, SEM analysis allows for multiple variables to simultaneously act as predictors and be predicted in the model. For example, organizational justice is both an exogenous and endogenous variable in this study, while attitudes toward body-worn cameras is an endogenous dependent variable. This feature of SEM is desirable for this study because it provides the ability to test organizational justice theory in addition to examining the relationship between organizational justice and body-worn camera attitudes. Lastly, SEM allows for the purging of measurement error. This is in contrast to ordinary least squares regression, which assumes that there is no error in measuring the observed variables. Together, these qualities of SEM make it the most appropriate type of analysis for this study.

Before testing the hypotheses, a confirmatory factor analysis was performed on the measurement model (refer to figure 1). The purpose of this confirmatory factor analysis was to confirm that: all indicators of each first-order latent factor of organizational justice are highly correlated, all indicators of first-order latent factors have high factor loadings, the covariance matrix of the data fits the implied covariance matrix of the model, and that discriminant validity is present between latent factors (Bowen & Guo, 2011). Multiple statistics were examined, including: correlations between indicators of the same latent factor in order to establish convergent validity, correlations between latent factors to check for discriminant validity, and indices of model fit including CFI, TLI, RMSEA, and an endogenous variable's  $R^2$ .

When the CFA provided evidence that the latent factors were well specified, a general structural model was specified. This model tested the hypothesis (Officer perceptions of agency organizational legitimacy will be positively associated with body-worn camera buy-in). The hypothesis was tested using the predicted direction of regression coefficients, statistical significance of each regression coefficient, and the amount of variance explained by the model ( $R^2$ ).

To determine whether the model fits the data, four goodness-of-fit indices were used. First, a chi-square test tested the null hypothesis that the model input and implied matrices were equivalent (Bowen & Guo, 2011)<sup>1</sup>. For this test, the p-value should be nonsignificant, therefore indicating that the model is consistent with the data on hand (Bowen & Guo, 2011). Second, the root mean square error of approximation (RMSEA) determined how well the implied matrix and the observed variance-covariance matrix aligned (Bowen & Guo, 2011). It should be less than or

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<sup>1</sup> It should be noted that the chi-square test, like all tests of significance, is influenced by the sample size; that is, in large samples, trivial deviations between the model-implied covariance matrix and the data matrix will be flagged as significant. Consulting several classes of fit are therefore recommended to evaluate model fit.



equal to 0.050 to indicate a good fit. A RMSEA value should not be greater than 0.100, indicating a poor fit (Bowen & Guo, 2011). Third, both the Tucker-Lewis index (TLI) and the comparative fit index (CFI) were used to further determine model goodness-of-fit with the data. For both the TLI and CFI, values should be above 0.950 to indicate a good fit, and at least 0.900 to indicate a reasonable fit (Bowen & Guo, 2011). Altogether, these fit indices indicated whether the specified model fits the data collected.

### *Participants*

Participants were 492 officers from three different agencies located in the southeastern United States<sup>2</sup>. Table 1 lists descriptive statistics for each demographic variable. A majority of participants were male (85.08%) as opposed to female (14.92%). Participants who identified their race were overwhelmingly white (76.89%) as compared to African-American (8.02%), Hispanic (9.67%), Asian (1.18%), Native American (0.71%), and other (3.54%). The sample was also educated, with 51.55% indicating they have obtained a Bachelor's degree, 4.65% indicating they had taken some graduate courses, and 7.52% answering that they have obtained a graduate degree. Just over 14 percent (14.16%) of participants indicated that they have taken some college courses, but not obtained a degree. Over 22 percent (22.12%) indicated they had obtained an associates degree. As for officers' position within the agency, 76.92% reported that they were front-line personnel, and 23.08% indicated they were supervisors. The average year in which participants started working as sworn personnel at any agency was 2005. The average year in which they started working at their current agency was 2007.

Table 2 is a polychoric correlation matrix of the ordinal observed variables included in the analysis. In this case, polychoric correlations were used due to the ordinal nature of some of

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<sup>2</sup> At each agency's request, they were given pseudonyms in order to protect their identities.

the data. Notably, all three questions about body-worn camera attitudes used to create a latent factor were positively related with high correlation values. Some indicators across dimensions were also moderately to highly correlated, including indicators for DJ and IJ, (from distributive justice and interactional justice subscales, respectively) indicators for DJ and PJ, (from distributive justice and procedural justice subscales, respectively) and indicators for IJ and PJ (from interactional justice and procedural justice subscales, respectively).

### ***Confirmatory Factor Analysis***

As previously established, structural equation modeling (SEM) was the method used for this analysis. Any cases with missing values in the variables of interest were dropped from the analysis. Analyses were run with and without the missing cases and results were virtually identical. The analysis was conducted using Mplus 7 (Muthén, & Muthén 2017). The measurement and structural models were estimated using Mplus's weighted least squares mean and variance adjusted estimator (WLSMV). The reason this estimator was used instead of maximum likelihood was because WLSMV is more appropriate for ordinal data. Maximum likelihood assumes that indicators are continuous and normally distributed. By nature, ordinal data is likely to break these assumptions (Savalai, 2011). The WLSMV estimator makes no assumptions about observed data, and instead assumes an underlying normal latent distribution (Li, 2015)<sup>3</sup>. Due to the use of WLSMV, all unstandardized regression equations are probit coefficients.

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<sup>3</sup> This is the same principle as used in ordered logistic regression — though measured on an ordinal scale, the dependent variable is considered to have an underlying continuous distribution, which is divided by thresholds used to categorized the data into specific bins.

**Table 1** Descriptive Statistics – Officer Demographics

	Frequency	Percent		
<b>Department</b>				
Daisyville	198	40.24		
Petal Beach	228	46.34		
Rosewood	66	13.41		
<b>Gender</b>				
Female	67	14.92		
Male	382	85.08		
<b>Race</b>				
White	326	76.89		
Black	34	8.02		
Hispanic	41	9.67		
Asian	5	1.18		
Native American	3	0.71		
Other	15	3.54		
<b>Education</b>				
Some college, but no degree	64	14.16		
Associate degree	100	22.12		
Bachelor's degree	233	51.55		
Some graduate course but no graduate degree	21	4.65		
Graduate degree	34	7.52		
<b>Current Position</b>				
Front-line	350	76.92		
Supervisor	105	23.08		
	Mean	SD	Min	Max
Year in which officer was sworn in at current agency or another	2005.312	8.439	1977	2017
Year officer started working for current agency as sworn	2007.728	8.021	1977	2017

**Table 2 Polychoric Correlation Table of Indicators of Body-Worn Camera Attitudes and Organizational Justice**

	BC1	BC2	BC3	DJ	IJ	PJ	MALE	RANK
BC1	1.0000							
BC2	0.6931	1.0000						
BC3	0.4353	0.4029	1.0000					
DJ	0.0787	0.0793	0.0966	1.0000				
IJ	0.0653	0.0730	0.0893	0.5533	1.0000			
PJ	0.0457	0.0175	0.0663	0.6615	0.6882	1.0000		
MALE	-0.1852	-0.0571	-0.0504	-0.0062	-0.0087	-0.0133	1.0000	
RANK	0.1832	0.1702	0.1350	0.0736	-0.0900	0.0330	0.0504	1.0000

The first step to SEM was specifying the measurement model. One issue that needed to be addressed was the presence of zero cells. Because categorical variables are not normally distributed, they tend to violate linear regression assumptions. Therefore, one way to analyze categorical variables is to treat them as having a underlying (latent) continuous variable where the categories of the variable represent discrete cutoff values, similar to the way an ordered logistic regression model is estimated. The SEM software estimates these cutoff values, called thresholds, and the latent continuous variable is used in SEM estimation.

Categorical variables can also cause estimation issues when there are zero cases that fall into one of the variable's categories. When in a bivariate contingency table among model variables has no counts in a table's cell (called zero count), estimation can be problematic. For example, suppose there is a survey with two items. Each item is measured on a four-point Likert scale. If no participant answered a four on either question, a zero cell is created. This often happens when there are extreme answers that not many participants indicated, or if a small sample was used (Savalai, 2011).

The reason why zero cells can be problematic is because they can dramatically alter results by producing inaccurate thresholds by affecting polychoric correlations (Savalai, 2011). These thresholds define the predicted latent response variables. When these thresholds change, the overall model will change. To reiterate, due to the changing threshold points, the underlying continuous version of the ordinal variables may fall between different thresholds than they would if the zero cells had been eliminated.

**Table 3****Percentage of Officer Attitudes for Indicators of Attitudes Toward Body-Worn Cameras and Organizational Justice Across Response Categories**

<b>Indicator</b>	<b>Strongly Disagree or Disagree %</b>	<b>Neutral %</b>	<b>Strongly Agree or Agree %</b>	<b>Factor Loading</b>
<b>Attitudes Toward Body-Worn Cameras</b>				
BC1: Equipping officers with body cameras helps reduce physical harm against them.	69.96	21.60	8.44	0.87
BC2: Equipping officers with body cameras helps reduce physical harm against citizens.	64.89	25.67	9.45	0.75
BC3: Equipping officers with body cameras helps reduce the likelihood of allegations of wrongdoing against officers.	28.07	20.90	51.02	0.51
<b>Organizational Justice</b>				
DJ (distributive justice): Overall, the rewards (promotions, pay, etc.) I receive here are quite fair.	33.13	17.18	49.69	0.77
IJ (interactional justice): When decisions are made about my job, supervisors/managers deal with me in a truthful manner.	17.65	24.58	57.77	0.81
PJ (procedural justice): To make job decisions, supervisors/managers collect accurate and complete information.	24.95	28.12	46.93	0.91

To rid the model of zero cells, each indicator was condensed from five-point to three-point scales. “Strongly disagree” and “disagree” answers were coded as “1”, “neutral” answers were coded as “2”, and “agree” and “strongly agree” were coded as “3”. The indicators that were ultimately used to predict organizational justice and body-worn camera attitudes are listed in Table 3. When the hypothesized model was tested, the model did not converge. Each dimension of organizational justice fit the data, but a second-order latent factor was not feasible (model could not be estimated). Another model was constructed where all three dimensions of organizational justice were measured as first-order latent factors with no second-order latent factor. This model was also not a good fit ( $\chi^2 = 81.068, p < 0.001$ ; RMSEA = 0.072; CFI = 0.955; and TLI = 0.932).

The originally conceived model may not have converged properly for a few reasons. First, a second-order latent factor may not be acceptable for the data in this study. In the past, organizational justice specified as a second-order latent factor has worked in some contexts, but not in others (Greenberg & Colquitt, 2005, pgs. 128-140; Kyle & White, 2017). For example, Greenberg and Colquitt (2005, pg. 140) specify a model where a second-order latent factor with four dimensions of organizational justice is feasible. However, they explain that in Judge and Colquitt (2004) a second-order latent factor with the same four dimensions did not fit the data (Greenberg & Colquitt, 2005). In the present study, correlations between latent factors were robust, therefore suggesting that a second-order latent factor may have been feasible, but the fit indices indicated that it was not.

Differing measurement methods and model specification decisions between studies may account for these differing findings. In this study, due the limitations inherent in utilizing data from a survey meant to address a different topic, measuring organizational justice as a four-

factor model was not possible (see Colquitt, 2001 for four-factor model). Instead, the survey used for this study included indicators for procedural justice, distributive justice, and interactional justice.

Another model was constructed utilizing the indicators with the strongest factor loading from each dimension of organizational justice. The indicators used are listed in Table 3. This model fit the data well and was subsequently used for the rest of the analysis.

The measurement model for organizational justice and attitudes toward body-worn cameras is displayed in Figure 2. Standardized coefficients are shown (DJ = distributive justice; IJ = interactional justice; PJ = procedural justice). All indicators for organizational justice were significant and above the accepted cutoff (DJ:  $\lambda = 0.771, p < .001$ ; IJ:  $\lambda = 0.807, p < .001$ ; PJ:  $\lambda = 0.908, p < .001$ ). For attitudes toward body-worn cameras, factor loadings were also high, except for BC3, which loaded moderately (BC1:  $\lambda = 0.873, p < .001$ ; BC2:  $\lambda = 0.750, p < .001$ ; BC3:  $\lambda = 0.510, p < .001$ ). Furthermore, goodness-of-fit indices indicated a good-fitting model ( $\chi^2 = 4.289, df = 8, p = n.s.$ ; CFI = 1.000; TLI = 1.006<sup>4</sup>; RMSEA = 0.000). Once the measurement model was established, the structural model was then estimated.

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<sup>4</sup> The TLI indicated that the model was a bit over fit. However, this was not a cause for concern.



## RESULTS

The structural model is depicted in Figure 3. Probit coefficients for the structural model are located in Table 4. All goodness-of-fit indices indicate an excellent fit ( $\chi^2 = 20.479$ ,  $df = 28$ ,  $p = n.s.$ ; CFI = 1.000; TLI = 1.016<sup>5</sup>; RMSEA = 0.000). Factor loadings for indicators of organizational justice were high ( $\lambda > .700$ ) and significant ( $p < .001$ ). For attitudes toward body-worn cameras, factor loadings were also high ( $\lambda > .700$ ) except for BC3 (reducing allegations of misconduct) ( $\lambda = 0.512$ ), but all factor loadings were significant ( $p < .001$ ). The model was able to explain 19.1% of the variance in organizational justice ( $R^2 = 0.191$ ). However, the model was unable to explain much of the variance in attitudes toward body-worn cameras ( $R^2 = 0.041$ ). Hypothesis 1 was not supported by the data ( $b = 0.094$ ,  $p = 0.310$ .); that is, perceptions of organizational justice were not significantly associated with attitudes toward body-worn cameras.

Although the main hypothesis was not supported, there were some other relevant findings. Officer rank was not significantly related to attitudes toward body-worn cameras ( $b = 0.211$ ,  $p = 0.155$ .). This means that attitudes toward body-worn cameras did not differ between those who identified as supervisors and those who identified as front-line officers. Also, gender did not have a significant effect on attitudes toward body-worn cameras ( $b = -0.170$ ,  $p = 0.378$ .). These results are contrary to those of Kyle and White's (2017).

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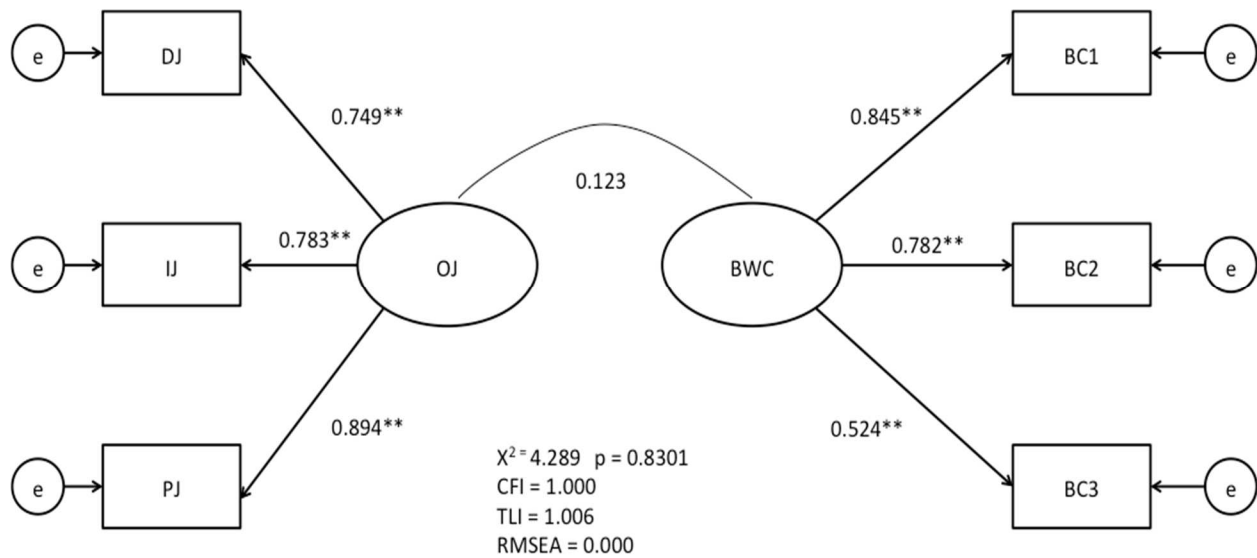
<sup>5</sup> The same fit issue carried into the structural model. This value is still not large enough to warrant caution.

**Table 4****Structural Model Probit Coefficients for Officer Attitudes Toward Body-Worn Cameras and Perceptions of Organizational Justice***Organizational Justice*

<b>Indicators</b>	<b>b</b>	<b>S.E.</b>	<b><math>\beta</math></b>	<b>S.E.</b>	<b>p-value</b>
Male	0.083	0.132	0.036	0.056	0.528
Rank	0.198	0.111	0.104	0.057	0.075
Rosewood	-0.487	0.145	-0.206	0.059	0.001
Daisyville	-0.251	0.105	-0.151	0.062	0.017
Year Sworn In	-0.038	0.006	-0.385	0.055	0.000

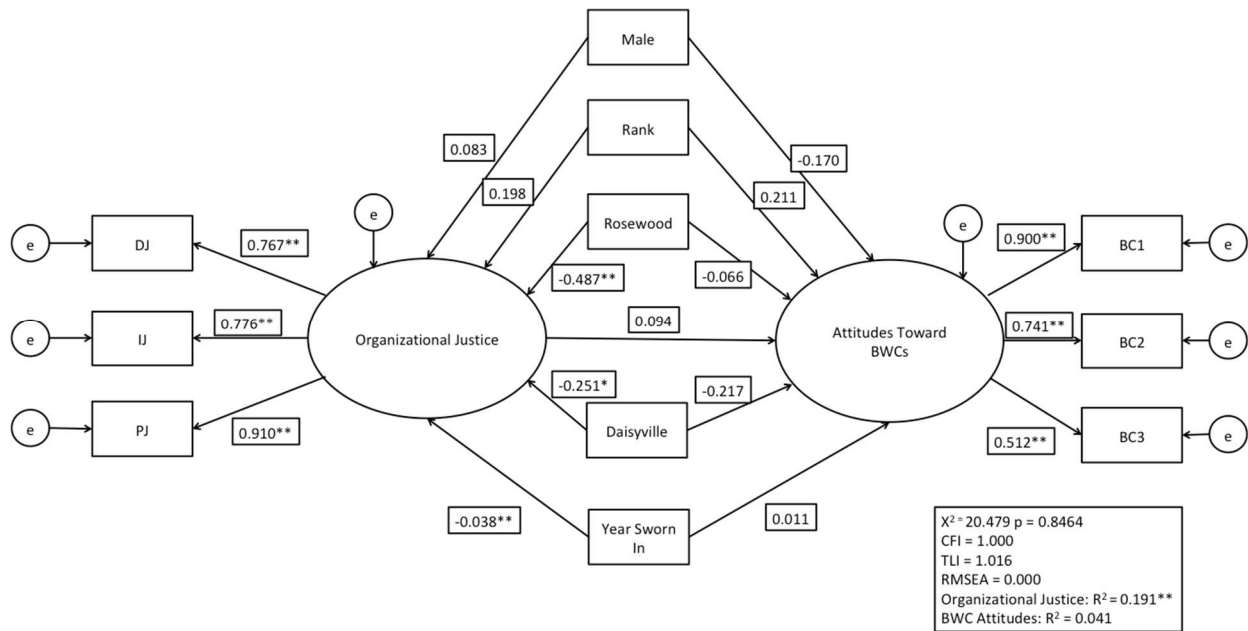
*Attitudes Toward Body-Worn Cameras*

<b>Indicators</b>	<b>b</b>	<b>S.E.</b>	<b><math>\beta</math></b>	<b>S.E.</b>	<b>p-value</b>
Male	-0.170	0.193	-0.065	0.073	0.378
Rank	0.211	0.148	0.098	0.068	0.155
Rosewood	-0.066	0.185	-0.025	0.070	0.721
Daisyville	-0.217	0.135	-0.116	0.072	0.108
Year Sworn In	0.011	0.008	0.104	0.074	0.161



**Figure 2: Measurement Model**

Findings were more robust for predictors of organizational justice. First, the amount of time an officer has worked as sworn personnel at any agency had a small negative and significant effect on perceptions of organizational justice ( $b = -0.038, p < .001$ ). This meant that the longer officers had been on the force, the less likely they were to perceive organizational justice. Second, officers who identified as supervisors did not differ in perceptions of organizational justice from those who identified as front-line officers, ( $b = 0.198, p = 0.075$ ). Third, officers in Rosewood PD had lower perceptions of organizational justice in their agency as compared to Daisyville PD and Petal Beach PD ( $b = -0.487, p < .001$ ). Also, officers in Daisyville PD had lower perceptions of organizational justice than those in Rosewood PD and Petal Beach PD ( $b = -0.251, p < .05$ ). This means that officers in Petal Beach PD perceived their agency to be more organizationally just than Rosewood PD and Daisyville PD. There were also some interesting findings in regards to how officers responded to the indicators about body-worn cameras. Figure 4 displays findings regarding these questions.



**Figure 3: General Structural Model**

The letter “A” refers to Daisyville, the letter “B” refers to Rosewood, and the letter “C” refers to Petal Beach. Overall, a majority of officers from each department either disagreed or strongly disagreed with the statement, “Equipping officers with body cameras helps reduce physical harm against citizens.” For the second statement, “Equipping officers with body cameras helps reduce physical harm against them,” similar results were found. Most respondents either disagreed or strongly disagreed with this statement. Most respondents agreed or strongly agreed with the third statement, “Equipping officers with body cameras helps reduce the likelihood of allegations of wrongdoing against officers.” This finding was surprising, as the literature indicated that officers generally regard body-worn cameras as useful tools and possess positive attitudes toward them (Ellis, Jenkins, & Smith, 2015; Jennings, Fridell, & Lynch, 2014; Owens, Mann, & Mckenna, 2014; Ready & Young, 2015).

The descriptive statistics for organizational justice indicators had more variation. These results are shown in Figure 5. Just as in Figure 4, the letter “A” refers to Daisyville, the letter “B” refers to Rosewood, and the letter “C” refers to Petal Beach. For the distributive justice indicator, Petal Beach tended to perceive more fairness in pay than both Daisyville and Rosewood. Respondents between all three agencies perceived fairly high levels for the interactional justice indicator. For the procedural justice indicator, officers in Rosewood agreed with the procedural justice indicator less so than Petal Beach and Daisyville.

### Attitudes toward body-worn cameras

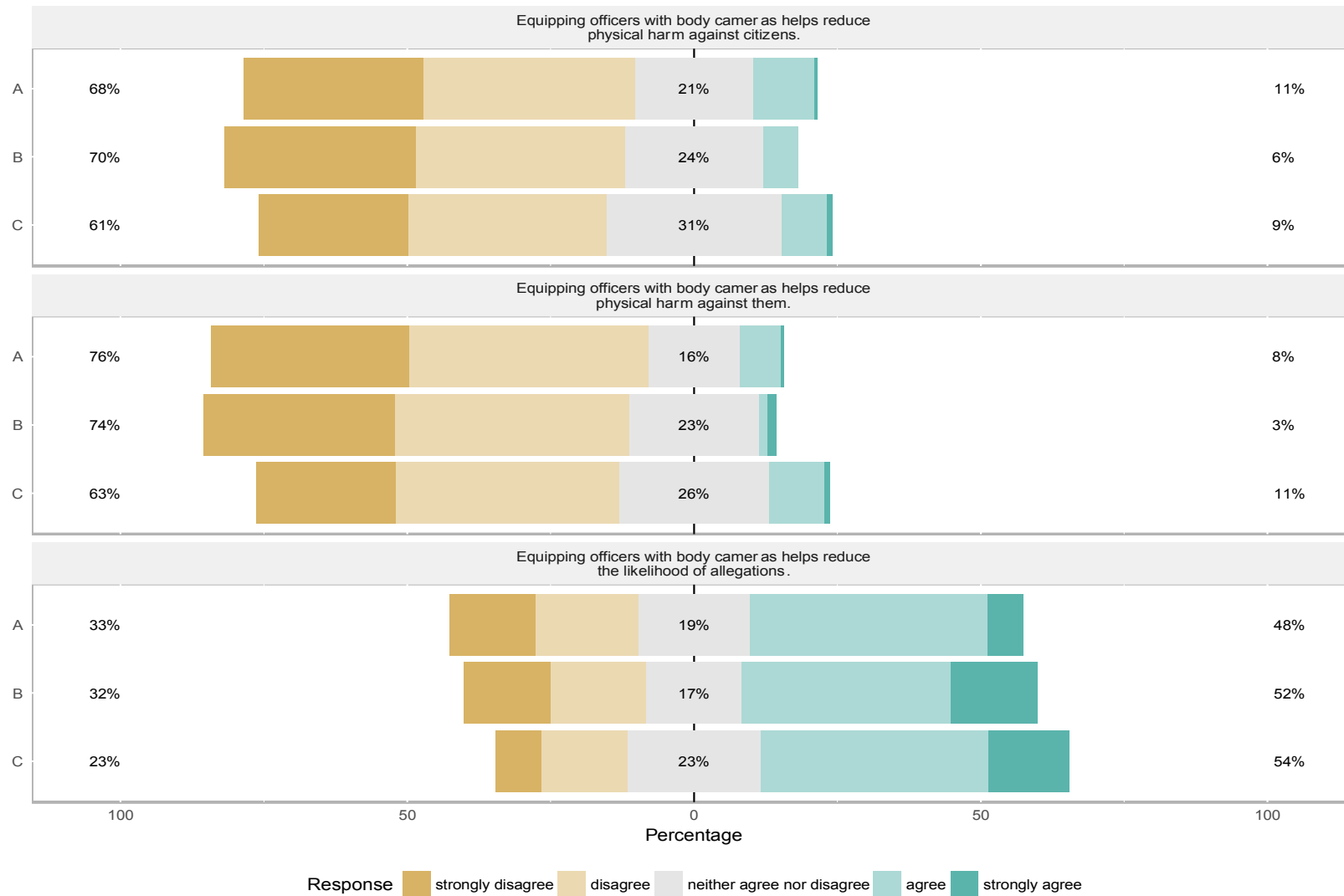


Figure 4

### Perceptions of organizational justice

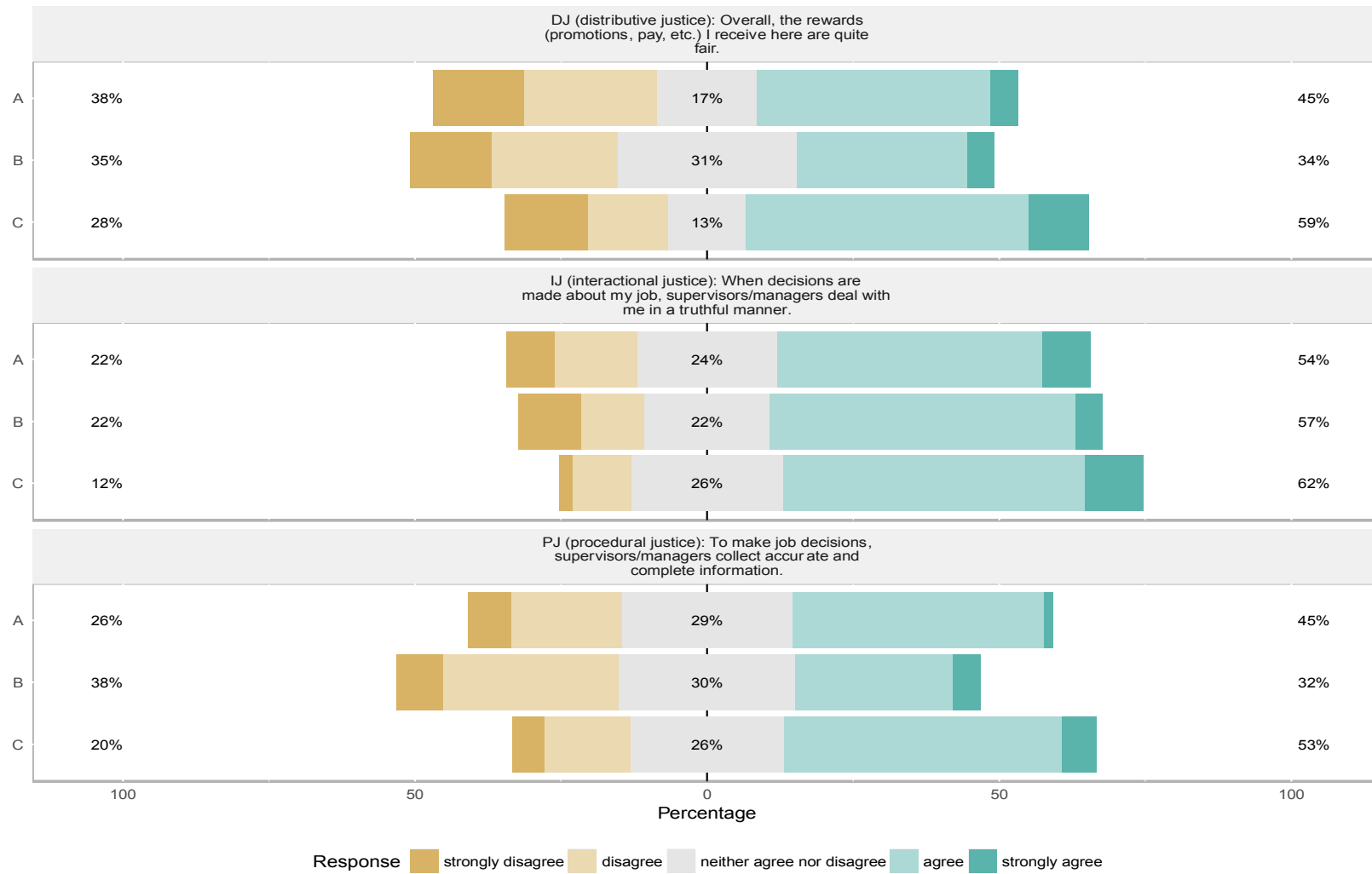


Figure 5

## DISCUSSION

The finding that organizational justice explained little variation in attitudes toward body-worn cameras was surprising given that Kyle and White (2017) found that organizational justice was a strong and significant predictor of attitudes toward body-worn cameras. This finding was also contrary to theory and prior research. This section will first interpret the results in the context of theory and prior research. Then, three possibilities for why these results were found will be offered.

The results found in this study did not follow the relationships established by research in organizational theory and directly contradict some studies (Haas et al., 2015; Kyle & White, 2017; Quinton et al., 2015; Tyler, Callahan, & Frost, 2007; Tyler, Dienhart, & Thomas, 2008; Tyler, 2009). In this study, attitudes toward body-worn cameras were assumed to reflect compliance with organizational directives, being that body-worn cameras were considered to be an organizational directive. Due to that assumption, I expected organizational justice to be related to those attitudes. However, there may be a key distinction between my measure and the construct that it was actually measuring. The attitudes toward body-worn camera measure used in this study may have been more reflective of attitudes toward a directive rather than compliance with a directive. However, positive attitudes toward body-worn cameras should produce compliance with the directive to use them. Otherwise, officers would be cognitively dissonant. Thus, the attitudinal measure used in this study served well as a proxy for actual compliance with organizational directives.



There are three possibilities that could explain the results of this study. First, measurement of key variables differed between this study and Kyle and White's (2017). Kyle and White (2017) utilized a summed index of six indicators for attitudes toward body-worn cameras while this study measured attitudes toward body-worn cameras as a latent factor with three indicators. Kyle and White (2017) also include more indicators that may cover a wider range of issues that affect body-worn cameras than the indicators used for this study. For comparison Kyle and White (2017) used six indicators: "I would feel safer using a body-worn camera", "Equipping officers with body-worn cameras would protect both the officer and the agency", "I would feel comfortable using a body-worn camera", "I believe that my agency should equip all officers with body-worn cameras", "The use of body-worn cameras would increase citizen compliance with officer directives", and "Equipping officers with body-worn cameras would reduce citizen complaints against officers" (Kyle & White, 2017; see Jennings, Fridell, & Lynch, 2014 for original questions). While there is some overlap with the indicators used in this study and those in Kyle and White's (2017), overall they cover a wider array of issues that could affect attitudes toward body-worn cameras. It may be the case that some important indicators are missing; therefore the latent factor for attitudes toward body-worn cameras may not be a wholly comprehensive measure. Put another way, the indicators used in this study may not have captured the full breadth of attitudes toward body-worn cameras.

The limited breadth of indicators used in this study may have affected measurement validity. The three indicators used to measure attitudes toward body-worn cameras may have been measuring perceptions of body-worn camera *effectiveness* rather than general attitudes toward them. Belief in effectiveness is only one aspect of attitudes toward body-worn cameras. Indicators of attitudes toward body-worn cameras in other studies cover a wider range of aspects

that may result in a more valid measure (see scale used in Jennings, Fridell, & Lynch, 2014). The scale used in Jennings, Fridell and Lynch (2014) assesses multiple properties of attitudes toward body-worn cameras. These properties include perceptions of comfort with wearing a body-worn camera, perceptions of its effectiveness in reducing use of force (of themselves and of others), and perceptions of its effect on responding to calls for service. A measure that includes these indicators may be more indicative of general attitudes toward body-worn cameras, rather than only attitudes toward effectiveness.

Organizational justice was also measured differently. In Kyle and White's (2017) measurement model, organizational justice was specified as a second-order latent factor. In the model specified in this study, organizational justice could not be specified as a second-order latent factor, even though all three dimensions of organizational justice were highly correlated. The data simply did not fit the hypothesized model. Measurement of the three dimensions of organizational justice also differed. Kyle and White (2017) included indicators for procedural justice, interpersonal justice, and informational justice. They did not include distributive justice, which was included in the model in the current study. Distributive justice provided an important contribution to the latent factor ( $\lambda = 0.767$ ).

Second, there was a risk of model misspecification. A missing variable may have been able to explain more variance in the data. Specifically, this variable may take the form of either organizational commitment or organizational legitimacy. Both variables could be included in the model as covariates. For example, Tyler (2009) explained that if members of an organization believe the organization possesses legitimacy, they are more likely to adhere to the organization's directives. Tyler (2009) synthesizes existing literature and concludes that organizational justice, and particularly procedural justice, may lead to an increase in perceived

organizational legitimacy, which in turn leads to an increase in adherence to organizational policies. Moreover, organizational justice was significantly associated with organizational identification (Quinton et al., 2015). Procedural justice also had a significant positive relationship with organizational commitment (Lambert, 2003). Lastly, a meta-analysis that examined relationships between the dimensions and indicators of organizational justice found that emotional commitment to an organization was related to all dimensions of organizational justice, with procedural justice having the strongest relationship (Cohen-Charash & Spector, 2001). Unfortunately, the survey used was not purposively designed to answer the research question and this line of thinking was unable to be explored. There were no indicators for measurement of organizational commitment or organizational legitimacy available in the survey that was administered.

Third, there may be no observable effect of perceptions of organizational justice on attitudes toward body-worn cameras. As already stated, it is well documented that organizational justice influences compliance to organizational directives. It may be the case that organizational justice does not necessarily extend to attitudes toward body-worn cameras and, therefore, directives surrounding body-worn cameras. Body-worn cameras may be too new and controversial for attitudes toward them to be influenced by organizational justice. Figure 4 shows that officers do not believe that body-worn cameras are effective in decreasing use of force. The reason that body-worn cameras were recommended to begin with was because they were believed to decrease use of force. As shown, there was significant disagreement with the central mission that body-worn cameras are supposed to carry out, even though research proves otherwise. On the other hand, officers mostly agreed with the statement concerning body-worn cameras decreasing the likelihood of allegations against officers. This finding indicated that there

might be several dimensions of attitudes toward body-worn cameras that future research should attempt to identify. To this researcher's knowledge, this is second time that this phenomenon has been empirically examined. The link between organizational justice and attitudes toward body-worn cameras has yet to be well established. Future research on this topic should focus on replicating Kyle and White's (2017) results in a different policing context using established measures from past literature (Colquitt, 2001; Jennings, Fridell, & Lynch, 2014).

## STRENGTHS AND LIMITATIONS

As with any study, there were certain limitations that should be noted. First, the sample of officers used for this analysis may not generalize to the population of officers in the U.S. While random sampling eliminated some generalizability limitations for intra-agency findings, the narrow sample limited the ability to generalize results to all officers in the country. To eliminate this limitation, all police officers in the U.S. would need an equal chance to be sampled. For purposes of this thesis, this was not a significant limitation.

Second, there was no question asked in the survey about experience using a body-worn camera. The addition of this indicator would have strengthened the study, as it has been shown that experience with body-worn cameras changes opinions about them (Gaub et al, 2016; Owens, Mann, & Mckenna, 2014). This may, however, only affected results from Petal Beach Police Department, as that is the only agency included in the analysis that had implemented a body-worn camera program. This limitation should be kept in mind when interpreting results.

Third, the survey items used to measure attitudes toward body-worn cameras were original creations. As such, they have not been tested for reliability and validity. That said, these indicators do meet the threshold of face validity. Furthermore, they resemble past indicators used to measure this topic (Jennings, Fridell, & Lynch, 2014; Kyle & White, 2017).

Fourth, and as previewed above, the three indicators for attitudes toward body-worn cameras appeared to measure a narrow set of beliefs. Specifically, these indicators appear to cover only the topic of effectiveness of body-worn cameras. Belief in effectiveness of body-worn cameras may not necessarily be associated with positive attitudes toward their use. Gaub et al.

(2016) showed that two agencies in Spokane, Washington and Tempe, Arizona, agreed with most positive statements about body cameras after implementation, including that body cameras were well received by co-workers. But that agreement did not extend to questions about citizen behavior toward officers (e.g. “people will generally be less aggressive”) (Gaub et al., 2016). Caution is necessary in making sweeping conclusions about body camera attitudes from the results of the present study.

The last limitation of this study may affect responses from Rosewood Police Department. Data collection was unfortunately scheduled the two weeks after a natural disaster had passed through the area. Understandably, officer engagement with taking the survey was low. Because of these circumstances, researchers were not able to procure an accurate response rate and accuracy of the responses for organizational justice may be questionable. This is because officers were working long hours to try to recover from the impact of the natural disaster, which could have resulted in increased stress. In order to mitigate this effect, the measurement model was specified while dropping the missing cases. Then, this model was compared to a model in which imputation was used to fill in the missing data. The results were virtually the same. The simplest solution, therefore, was to simply drop the missing cases from the analysis.

There are some strengths to this study design that should also be noted. First, random sampling of officer shifts was used. Random sampling of shifts within departments should have eliminated any overrepresentation issues, and therefore provide more accurate results. To ensure this is the case, subject demographic data by agency from this study could be compared to agency demographic data from the 2013 LEMAS (Law Enforcement Management and Administrative Statistics) dataset (Kyle & White, 2017). This data includes information from agencies the employ 100 or more officers. Information collected includes officer salaries,

education and training requirements, community policing activities, and demographic characteristics of officers, among other factors (Bureau of Justice Statistics, 2013). Another advantage of this sampling method is that it is more cost effective than sampling law enforcement agencies from across the country. An additional strength of this study was that multiple agencies were sampled. This was a fruitful endeavor because it was found that perceptions of organizational justice were different across agencies; but these perceptions did not influence attitudes toward body-worn cameras. This conclusion could not have been reached if only one agency was sampled.

The last strength of this study was the high overall response rate across agencies obtained by administering surveys in-person rather than online. For those in attendance, the response rate was approximately 90%.

## IMPLICATIONS

This study demonstrates that officer perceptions of organizational justice do not necessarily lead to positive attitudes toward body-worn cameras. However, this finding does not follow the findings of past literature, especially when following the logic that implementing body-worn cameras is an organizational directive, and is therefore subject to perceptions of organizational justice (Ellis, Jenkins, & Smith, 2015; Haas et al., 2015; Kyle & White, 2017; Tyler, Callahan, and Frost, 2007). Conclusions about the relationship between organizational justice and body-worn cameras should not be made until this link has been further investigated.

Findings of this study should not be misconstrued to mean that organizational justice in policing is not important. Organizational justice leads to numerous positive outcomes that could apply to policing (Colquitt et al, 2001; Lambert, 2003; Tyler, Callahan, & Frost, 2007; Tyler, Dienhart, & Thomas, 2008; Tyler, 2009). Policing organizations should focus on fostering organizational justice, as it will lead to a stronger and more productive organization. For example, paying officers fairly by taking into account work ethic, experience, and rank could foster distributive justice. Ensuring that officers have a voice in important decisions that could affect their day-to-day operations could produce higher perceptions of distributive justice. Lastly, interactional justice could be produced by providing accurate, timely, and complete explanations for any changes in policy, and superiors treating those on the front-line with respect and dignity. Taken together, these actions should produce a more proactive, positive, and supportive environment for officers to work in. That, in turn, would lead to a better functioning police force.



The results of this study should also not be used to indicate that police do not support body-worn cameras. While at first officers may be ambivalent toward body-worn cameras, they often later realize how useful they are in investigating crime and protecting themselves from complaints (Ellis, Jenkins, & Smith, 2015; Jennings, Fridell, & Lynch, 2014; Owens, Mann, & Mckenna, 2014; Ready and Young, 2015), though this is not always the case (Gaub et al., 2016; Gramaglia & Philips, 2017)

There are multiple directions that future research on this topic should explore.. First, a comprehensive qualitative study on officer attitudes toward body-worn cameras and perceptions of organizational justice would be useful. For context, many of the officers provided additional comments on the bottom of the survey. Interestingly, one officer wrote out a comprehensive response to what they thought about some of the more controversial questions asked. A qualitative study could tap into these attitudes and explore them in-depth. Another potential direction for this line of research could be to explore the attitudes that citizens have toward body-worn cameras. Upon review of attitudes toward body-worn cameras, there was a glaring hole in the literature about citizen attitudes. This could be accomplished through administration of a survey with a qualitative component.

Second, the role of organizational commitment and organizational legitimacy in attitudes toward body-worn cameras and organizational justice should be investigated.. These outcomes have been researched extensively in prior literature and may be key to helping specify the relationship between organizational justice and body-worn cameras. These variables may manifest as either covariates or a mediating variable, due to its role in prior literature.

Third, the current study should be replicated using previously established scales to measure organizational justice and attitudes toward body-worn cameras (Colquitt, 2001;

Jennings, Fridell, & Lynch, 2014). Using past scales will result in a more reliable and complete set of indicators. Third, a repeated measures design with at least two time points would be useful in establishing that beliefs in organizational justice and attitudes toward body-worn cameras are stable. Body-worn cameras in policing are a controversial topic and beliefs may change rapidly over time. This is a potential explanation for differing results between this study and Kyle and White (2017). Controlling for time effects would be useful in investigating why results were different.

## CONCLUSION

This study investigated the link between officer perceptions of organizational justice and attitudes toward body-worn cameras in three different agencies using structural equation modeling. Data was gathered by administering surveys in-person during roll calls. The hypothesized path model based on prior research did not fit the data. This meant that organizational justice could not be specified as a second-order latent factor, despite high correlations between the three different dimensions of organizational justice. While the model that was decided upon could explain 20% of the variance in organizational justice, it could explain almost no variation in attitudes toward body-worn cameras. There was also no relationship between organizational justice and body-worn cameras. Future research should focus on further defining this relationship and investigating the role of organizational legitimacy and organizational commitment.

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## APPENDIX A



RESEARCH INTEGRITY AND COMPLIANCE  
Institutional Review Boards, FWA No. 00001669  
12901 Bruce B. Downs Blvd., MDC035 • Tampa, FL 33612-4799  
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4/3/2017

George Burruss, Ph.D.  
Criminology  
4202 East Fowler Ave.  
SOC 107  
Tampa, FL 33620

RE: **Full Board Approval for Initial Review**  
IRB#: Pro00029086  
Title: Police Organizational Reliability, Resilience, and Safety Survey

**Study Approval Period: 3/17/2017 to 3/17/2018**

Dear Dr. Burruss:

On 3/17/2017, the Institutional Review Board (IRB) reviewed and **APPROVED** the above application and all documents contained within, including those outlined below.

**Approved Item(s):**

**Protocol Document(s):**

[Protocol Changes Clean.docx](#)

**Consent/Assent Document(s)\*:**

[Informed Conset Revised.v1.docx](#)\*\*

[Script for survey.docx](#)\*\*

\*Please use only the official IRB stamped informed consent/assent document(s) found under the "Attachments" tab. Please note, these consent/assent documents are valid until the consent document is amended and approved. **\*\*verbal consent forms are unstamped**

Your study qualifies for a waiver of the requirements for the documentation of informed consent as outlined in the federal regulations at 45CFR46.117(c) which states that an IRB may waive the requirement for the investigator to obtain a signed consent form for some or all subjects if it finds either: (1) That the only record linking the subject and the research would be the consent document and the principal risk would be potential harm resulting from a breach of confidentiality. Each subject will be asked whether the subject wants documentation linking the

subject with the research, and the subject's wishes will govern; or (2) That the research presents no more than minimal risk of harm to subjects and involves no procedures for which written consent is normally required outside of the research context. [Verbal Consent Document]

As the principal investigator of this study, it is your responsibility to conduct this study in accordance with IRB policies and procedures and as approved by the IRB. Any changes to the approved research must be submitted to the IRB for review and approval via an amendment. Additionally, all unanticipated problems must be reported to the USF IRB within five (5) calendar days.

We appreciate your dedication to the ethical conduct of human subject research at the University of South Florida and your continued commitment to human research protections. If you have any questions regarding this matter, please call 813-974-5638.

Sincerely,



John Schinka, Ph.D., Chairperson  
USF Institutional Review Board