WASHINGTON Traffic Safety COMMISSION

Procedural Justice and Traffic Stops: Analyzing Police and Community Perspectives through Survey and Recorded Observational Research

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The current study explores procedural justice in the context of traffic stops in Washington. Specifically, work for this project was conducted in conjunction with three municipal police agencies within the state. The short-term goals of this project were to examine procedural justice in traffic stops from multiple perspectives, as most research has focused narrowly on community perspectives. Data collected as part of this project include officer and driver perspectives, as well as third party evaluations of procedural justice. In addition, this project lays the groundwork for long-term research examining the efficacy of procedurally just police interactions in preventing future driving offenses.

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1. INTRODUCTION

The concept of procedural justice has taken an increased importance in contemporary law enforcement and law enforcement scholarship in the United States. In December 2014, in the face of significant civilian unrest regarding policing practices, President Barrack Obama signed an executive order creating the President's Task Force on 21st Century Policing (COPS Office, 2015). Though the task force generated a lengthy set of recommendations, one of the most prominent suggestions was to reorient policing to be more procedurally just. According to the final report, procedural justice refers to four basic principles: 1) treating people with dignity and respect, 2) giving individuals voice during encounters, 3) being neutral and transparent in decision making, and 4) conveying trustworthiness. The report maintains that engaging in procedurally just policing will decrease tension between communities and the police, and ultimately should increase law abiding behavior. The report notes that "People are more likely to obey the law when they believe that those who are enforcing it have the legitimate authority to tell them what to do … The public confers legitimacy only on those they believe are acting in procedurally just ways" (COPS Office, 2015, p. 9).

While the President's Task Force wrote their report in response to significant unrest in areas like Ferguson, MO and ongoing fear of a "Ferguson Effect" in which police withdraw from their communities (Wolfe & Nix, 2016), for many people, their most likely contact with the police occurs in the form of a traffic stop. Though traffic stops may seem trivial in comparison to the use of force situations inspiring much of the aforementioned unrest, there are several reasons to view traffic stops as a key area to examine procedural justice. First, police conduct traffic stops when drivers violate laws which have been written with the goal of promoting traffic safety. Traffic safety represents a considerable public safety concern, as National Highway Traffic Safety Administration (NHTSA) data show that 30,000-40,000 people die in motor vehicle crashes in the United States per year (NHTSA, 2017). Though not all traffic safety offenses represent an imminent risk of a fatal crash, there is evidence that many of the behaviors for which people are pulled over are significant risk factors for crashes, including distracted driving (Stavrinos et al., 2018) and speeding (Farmer, 2017). It is conceivable, therefore, that increases in procedurally just policing might encourage future law-abiding behavior among the part of drivers and therefore improve public safety.

Second, traffic stops are thought to be dangerous events for police officers (Fridell and Pate, 1997) and, as such, are incidents in which compliance and respect might improve officer and citizen safety. The United States Supreme Court has historically argued that a routine level of danger is inherent in traffic stops (Pennsylvania v. Mimms, 434 U.S. 106, 1977; Maryland v. Wilson, 117 U.S. 882, 1997), thereby legally allowing police officers to order both drivers and passengers to exit vehicles during traffic stops. Though it is difficult to describe the full scope of danger faced by officers during traffic stops, the National Association of Police Organizations noted that, as of 2001, "thousands of officers have been assaulted, and at least 300 officers have been feloniously killed by drivers or other occupants of vehicles involved in traffic stops or pursuits" (McSpadden, 1998, p. 5). Procedurally just interactions might help to mitigate the risk of a traffic stop escalating to violence between the police and a suspect.

Third, traffic stops are important to the issue of race and policing. Research shows that minority drivers are pulled over at disproportionate rates and are at an increased risk for receiving citations, searches, arrests, and uses of force than other groups (Engel & Calnon, 2004). Qualitative research suggests that traffic stops can be particularly traumatic for people of color, with some individuals noting that they are concerned about their ability to survive these types of law enforcement encounters (Bell et al., 2014). Improving levels of procedural justice in traffic stops might be an important step toward decreasing tension between the police and minority groups, especially given that minority drivers are less likely to indicate that the police provided a legitimate reason for the stop and that the police acted properly (Lundman & Kaufman, 2003), which are key tenants of procedurally just policing.

The current study explores procedural justice in the context of traffic stops in Washington. Specifically, work for this project was conducted in conjunction with three municipal police agencies within the state. The short-term goals of this project were to examine procedural justice in traffic stops from multiple perspectives, as most research has focused narrowly on community perspectives. Data collected as part of this project include officer and driver perspectives, as well as third party evaluations of procedural justice. In addition, this project lays the groundwork for long-term research examining the efficacy of procedurally just police interactions in preventing future driving offenses. Below, we summarize the literature on procedural justice, supplying a general overview of the concept and a more detailed review of the procedural justice literature as it applies to traffic safety. Then we describe the design of this study, including how key items were measured using surveys and recorded observational data. Next, we provide a descriptive overview of the samples collected as part of this research and then provide a chapter of results related to procedural justice. Lastly, we provide preliminary conclusions regarding our data, information on important limitations, and identify steps for future research.

2. LITERATURE REVIEW

The concept of procedural justice was first suggested by Thibaut and Walker (1975) through their emphasis of citizen participation during the procedural decision-making process, and their subsequent assertion that the process through which individuals' disputes and problems are resolved – not just the outcome – is significant in shaping these individuals' perceptions of justice and fairness (Blader & Tyler, 2003). The concept and measurement of procedural justice in a policing context specifically has been refined in the field by Tyler (2003), and has often been linked to the concept of police legitimacy, as citizens' evaluation of fairness and justice in the police decision-making process is likely to influence these citizens' perceptions of the police (Blader & Tyler, 2003; Tyler, 1990; 2003), both during the specific incident, as well as in their more general judgments of the police overall (Lowrey, Maguire, & Bennett, 2016; Mazerolle, Antrobus, Bennett, & Tyler, 2013).

Research on procedural justice, in a policing context, largely assesses the concept through four main components: dignity and respect demonstrated from the officer towards the citizen; neutrality of the officer; trustworthy motives demonstrated by the officer; and the degree of participation (or voice) allowed to the citizen to provide input into the decision-making process (Sunshine & Tyler, 2003; Tyler, 2004; Jonathan-Zamir, Mastrofski, & Moyal, 2015; Mazerolle, Bennett, Antrobus, & Eggins, 2012). These components are typically measured through surveys of community members' (and sometimes officers') self-reported perceptions of a police-citizen interaction, and of the police in general. Randomized controlled trials of procedural justice have also assessed the concept through the creation of dialogue and behavior scripts for officers to follow during a police-citizen interaction, with follow-up surveys administered to the stopped citizens to assess both incident-specific and general perceptions of the police. Limited research considers the perceptions of the officer and no research that we are aware of makes use of third-party appraisals. These are important gaps in the literature, as the perceptions of procedural justice for a person stopped by the police might be shaped by any number of factors, including their prior experiences and perceptions of the police, their ability to recall details from the encounter with the police, and perhaps most importantly, the result of a particular encounter.

There is some variation in the operationalization of the four comprising concepts. For example, Skogan and colleagues (2015) assess the component of trust as the measure to which the police trust community members, while much of the police procedural justice research assesses trust in the reverse direction (that is, the degree to which members of the public report the police to be trustworthy). Regardless of the minor variations in operationalization and measurement of the concept, research on procedural justice is largely consistent in its positive relationships with public perceptions of police legitimacy (Mazerolle et al., 2013), citizen compliance or obligation to obey officers' directives (a measure of police legitimacy) (Mastrofski, Snipes, & Supina, 1996; McCluskey, Mastrofski, & Parks, 1999; Sunshine & Tyler, 2003), and public satisfaction with the police in general (Murphy, 2009; Sunshine & Tyler, 2003). Indeed, a recent meta-analysis by Mazerolle and colleagues (2013) examining the effects of procedurally just police dialogue on citizen outcomes found that procedural justice positively affected outcome measures including satisfaction in the police, citizen cooperation, and perceptions of police legitimacy (though the latter was found not to be statistically significant).

2.1 Procedural Justice in Traffic Stops

As most officer-initiated public contacts occur during basic traffic enforcement, much of the police procedural justice literature examines the concept in the context of a police-citizen interaction during traffic stops. Earlier research specifically examining procedural justice during traffic stops relied on citizen surveys concerning their perspectives of their treatment during stops. For example, Tyler's (1990; 2001) surveys of different communities' residents (Chicago and Oakland) found that the degree of dignity and respect demonstrated by an officer was influential on citizens' perspectives of justice, and that there were no variations across race and ethnicity in the importance citizens placed on equitable and respectful treatment by the police. Expanding survey-based research to include more details specific to police-citizen interactions during traffic stops, Engel (2005) found police use of force and police searches during traffic stops to be the strongest predictors of citizens' perceptions of procedural injustice, particularly for citizens who are African-American. In the same vein, Gau (2012) found that consent search requests made by officers and being stopped for any traffic violation other than speeding were significant predictors of citizens' feelings of procedural injustice, with African-American citizens being more likely to feel that the police were unjust than non- African-American drivers.

More recent research has been able to determine the causal relationship of procedural justice during traffic stops on citizens' perceptions of the police fairness and legitimacy by way of randomized controlled trials (RCTs). The first RCT – the Queensland Community Engagement Trial (QCET) – utilized a procedural justice dialogue script – crafted to communicate the four major concepts of respect, neutrality, trustworthiness, and citizen participation – that officers in the experimental condition followed during roadblock stops to conduct randomized breathalyzer tests (RBTs) on a random selection of drivers (Mazerolle et al., 2013). Officers in the experimental group also followed certain behaviors (such as providing stopped citizens with community bulletins to elicit citizen participation or voice, and thanking the citizen at the conclusion of the stop), and citizens stopped under both the experimental and control conditions were provided with a questionnaire to assess incident-specific and general perceptions of police procedural fairness, legitimacy, and the citizen's general orientation towards cooperating with police requests (Mazerolle et al., 2013). Mazerolle and colleagues (2013) found that citizens stopped in the experimental condition were significantly more likely to have positive perceptions of police procedural justice, and that these positive perceptions influenced more general positive feelings of the police. However, an RCT replication of the QCET in Scotland (the Scotland Community Engagement Trial, or ScotCET), found contrary effects, with citizens exposed to the experimental, procedurally just traffic stop conditions reporting lower levels of incident-specific trust and satisfaction in the police than those exposed to the control conditions (MacQueen & Bradford, 2015).

A third RCT was conducted as a dissertation study by Sahin (2014), examining perceptions of procedural justice following routine speeding-related traffic stops in a large city in Turkey. Like the QCET, the experimental condition required officers to follow a dialogue script crafted to communicate the principles of procedural justice, while the control condition conducted the routine stops as typically done by officers in the department; in both conditions, drivers were asked to complete a questionnaire inquiring about both their incident-specific and general views of the police (Sahin, 2014). Sahin (2014) found that those citizens who experienced the experimental procedural justice traffic stop condition were more likely to report incident-specific positive

perceptions of the police and of police treatment, than were the citizens exposed to the control condition traffic stops. However, no differences were found for general levels of satisfaction and trust in the police (Sahin, 2014).

Lowrey and colleagues (2016) conducted a fourth RCT to specifically assess public perceptions of procedural justice when viewing video clip scenarios of a traffic stop in which actors (both the officer and driver) depicted a control condition, procedural justice condition, and overaccommodation condition (where the officer amended his speech patterns to emulate those of the stopped citizen, as test of a linguistic concept known as the communication accommodation theory). Randomly assigned viewers then rated their assessments of several measures – including obligation to obey the law or legal authorities, willingness to cooperate with legal authorities, and general trust and confidence in the police (operationalized into both general survey questions and incident-specific questions). Lowrey and colleagues (2016) found that viewers of the procedural justice video condition were significantly more likely to report incident-specific levels of trust, cooperation, and willingness to obey the law (no significance was found for the general ratings) compared to the control condition. No significance was found for the overaccommodation condition, indicating that procedurally just treatment from officers has a stronger influence on citizens' perceptions than when officers match their speech patterns with the citizen as an attempt to build rapport (Lowrey et al., 2016).

In concert, these RCTs have aided in establishing how procedural justice – particularly procedurally just dialogue delivered by officers during traffic stops – may positively affect the incident-specific levels of citizen trust in and satisfaction with the police, as well as their perceived obligation to follow police directives. However, the causal relationship between officers' procedurally just traffic stop dialogue and behavior with citizens' general perceptions of police trust, satisfaction, and legitimacy remains unestablished (with positive significance having only been found by Mazerolle et al., 2013). Additionally, procedurally just dialogue may be influenced by location and contextual factors – such as preexisting high levels of positive public perceptions of the police, as observed prior to the implementation of the ScotCET (MacQueen & Bradford, 2015) – which may also influence the effects of procedural justice on citizens' perceptions during traffic stops. Beyond this, it is not clear how procedural justice works outside of the carefully crafted dialogs.

Most recently, Demir and colleagues (2018) conducted a quasi-experimental controlled trial assessing procedural justice specific to traffic stop conditions, specifically examining the impact of body-worn cameras (BWCs) on citizen perceptions of procedural justice, incident-specific police legitimacy, and general police legitimacy. As BWCs are believed to affect officers' behavior by increasing their likelihood of being more courteous and respectful in their interactions with citizens (via a deterrence mechanism), Demir and colleagues (2018) hypothesized that citizens may be more likely to perceive officers who wear BWCs as being more procedurally just and legitimate. Demir and colleagues (2018) found that citizens exposed to the treatment (BWC) traffic stop condition were significantly more likely to report perceptions of procedural justice and both incident-specific and general perceptions of police legitimacy.

To date, however, no study has assessed both citizens' and officers' perceptions of incident-specific and general police procedural justice and legitimacy, while also monitoring an objective record of the traffic stop through BWC footage. This study provides a first effort at addressing this gap.

3. METHODS

The data for this project were collected in two forms: survey data and recorded observational data (in the form of unredacted body-worn camera footage). At the onset, the goal of this project was to capture multiple data points on procedural justice within traffic stops. While most prior studies focus on citizen appraisals, we attempted to gather driver *and* officer perceptions through surveys and to provide a third-party review of levels of procedural justice using recorded observational data in the form of body worn camera footage.

3.1 Survey Administration

The survey data involved three questionnaires. The first administered questionnaire gathered data on the officers participating in this project, the second gathered data on officer perceptions following a traffic stop, and the third questionnaire was designed for community members who had been involved in one of these traffic stops. The questionnaires were designed with Qualtrics to enable mobile formatting (paper questionnaires were also provided upon request). All survey items were reviewed and approved by the Washington State University Institutional Review Board.

Meetings with each of the three agencies were scheduled upon the completion of an MOU with Washington State University and each agency. Officers interested in taking part in the research were sent a link to the first questionnaire to gather background information on the officers participating in this research.

Traffic stop information was collected in partnership with three police agencies in the Pacific Northwest. Of the three agencies, officers who volunteered to participate in the project in in Agency A and Agency B were assigned to targeted traffic enforcement on specified roadways and received compensation for conducting these emphasis patrols. Specifically, these officers were asked to conduct over-time compensated emphasis patrols on a specific highway that linked the two cities covered by these agencies. Officers were instructed to focus on distracted driving stops, though were given discretion to make any legal traffic stops during these hours. Traffic stops for these agencies were conducted from March 2018 to August 2018. Data were obtained from these agencies via public information records requests. Agencies A and B are small municipal agencies near each other on the west side of Washington.

Officers in Agency C were not involved in emphasis enforcement and did not receive overtime compensation as part of this grant. Agency C agreed to take part in the project to provide unredacted body worn camera footage of traffic stops (see the BWC section for more information). The addition of Agency C was necessary given that Agencies A and B did not have body-worn cameras and therefore their stops could not be used to generate third-party appraisals of procedural justice. Like Agencies A and B, Agency C is a small municipal agency, though its jurisdiction is in the eastern side of Washington. The officers from Agency C were asked to complete the post-stop survey as part of their normal duties following a traffic stop. As with Agencies A and B, all officers taking part in this project did so voluntarily. Using a mixture of CAD numbers and proprietary RMS linking data, this agency supplied information on traffic stops to the research team from May 2018 to October 2018, though only instances involving officers who agreed to participate in the project and those for which body-worn camera footage exists are considered data for this project.

After obtaining mailing information (either from a public records request or through a data-sharing agreement with a police agency), survey invitations were submitted to drivers who were pulled over as part of this project. Drivers were initially contacted with a mailed letter inviting them to take part in the survey, with a personalized access code (used to link the questionnaire with the associated unique identifier of the traffic stop) and link to the Qualtrics questionnaire provided both within the initial invitation letter and within an included flash drive. Those community members who did not return the survey within two weeks of the initial contact were sent a postcard reminding them of the survey and providing them again with the questionnaire link and access code.

3.2 Survey Measures

The questionnaires were designed from the body of the procedural justice literature that had specific, observable measures of incident-specific procedural justice activities to provide both citizens and officers with specific instances of behavior to recall. General perceptions of procedural justice and legitimacy were measured through prior survey-based literature on procedural justice. As previously discussed, these measures fall into the four primary components of procedural justice: neutrality, voice/active participation, respect/dignity, and trustworthy motives.

Neutrality has largely been assessed through observations of whether the officer provides the reason for stopping the community member (Jonathan-Zamir et al. 2015; Mazerolle et al., 2012; Skogan et al. 2015), as well as other indications of unbiased decision making, such as the officer stating that they would seek input and viewpoints from all involved in the situation, the officer stating that they would gather all necessary information before making a decision, and the officer not indicating that the initial stop was made on the basis of the community member's age, sex, or race (Jonathan-Zamir et al. 2015). Jonathan-Zamir and colleagues (2015) likewise emphasize that neutrality is characterized by transparency and fairness in the decision-making process. We therefore created several measures attempting to assess observable instances of transparency (see questions 39 and 40 in Appendix A).

Voice/Active Participation has been previously assessed through observational measures including: whether the officer asks or provides opportunity for community member input (Jonathan-Zamir et al. 2015; Mazerolle et al. 2012; McCluskey et al. 2003), whether the officer indicates that they are listening to the citizen/expresses interest in what the citizen has to say (Jonathan-Zamir et al. 2015; McCluskey et al. 2003; Skogan et al. 2015), and – as a reverse indicator – whether the officer cuts off the citizen while the citizen is sharing information (McCluskey et al. 2003). There is some overlap between measures of Voice and Respect/Dignity, specifically in the measure of officers verbally cutting off citizens, interrupting, cursing, and making derogatory remarks (Mazerolle et al, 2012; McCluskey et al. 2003). We divide these measures between officers not providing citizens the opportunity to share or participate in the decision-making process (a reverse indicator of voice/active participation) by interrupting and cutting off conversation, and officers overtly violating civility (a reverse indicator of respect/dignity) through derogatory remarks or curses.

Respect/Dignity has been assessed through observing: whether the officer thanks the citizen at the end of the stop or contact (Mazerolle et al. 2015), whether the officer reminds the citizen of his or her rights (Skogan et al. 2015), and whether the officer addresses the citizen politely (Mazerolle et al. 2012). Several scholars use police violations of civility as a reverse indicator of respect/dignity, with these including curses, derogatory remarks, slurs, and obscene language or gestures (Dirikx et al. 2015; McCluskey et al. 1999; Reisig et al. 2004).

Trustworthy Motives has been previously measured by observing whether the officer asks the citizen about his or her wellbeing (Jonathan-Zamir et al. 2015; Mazerolle et al. 2012), whether the officer offered the citizen comfort or reassurance (Jonathan-Zamir et al. 2015), and whether the officer promises to do something for the citizen (such as filing a report, providing advice, or providing assistance) (Jonathan-Zamir et al. 2015). Due to the requirement of officers being honest or upstanding to gain citizen trust, we also include measures that assess citizen perceptions of honesty in police officers.

Community Member Questionnaire

The community member questionnaire was designed to capture both incident-specific and general perceptions of procedural justice, as well as citizen perceptions of both their own and officers' emotional states throughout the stop. Several questions regarding citizens' feelings towards certain laws were also included as a measure of Tyler's (1990) definition of police legitimacy as including citizens' perceived obligations to cooperate with and obey the law and legal authorities. The questionnaire had both Likert response scales, as well as multiple choice selections to record community members' responses (see the Appendix A for added details on the sections and questions contained in the questionnaire). Background and demographic information were also collected, with additional questions included to inquire about years lived in the community, prior interactions with the police, traffic accident involvement, and political leanings.

Neutrality was operationalized through five measures, divided into three measures of the community member's incident-specific perceptions of the officer's neutrality (questions 7, 8, and 10 in the Community Questionnaire in the Appendix A), and two measures of general perceptions of police neutrality (questions 39 and 40).

Voice/Active Participation was operationalized through seven measures with the first five gathering incident-specific perceptions (questions 3, 4, 11, 12, and 13) and the latter two gathering general perceptions of officers' commitment to citizen voice and participation (questions 44 and 45).

Respect/Dignity was operationalized through eight measures, with the first six questions gathering incident-specific perceptions of officer respect towards citizens (questions 1, 2, 14, 15, 16i, and 17) and the last two questions gathering citizen perceptions of police officer respect in general (questions 43 and 46).

Lastly, *Trustworthy Motives* was measured through four questions, with two gathering incident-specific perceptions (questions 5 and 6) and two gathering general perceptions (questions 41 and 42).

Police Officer Questionnaires

The shorter of the police officer questionnaire was designed to capture officers' reports of their and the community member's behavior immediately following the traffic stop. This is presented in Appendix B. The first question assessed the officer's overall perception of how well the interaction went, and the next seven questions inquired about specific procedurally just behaviors, as discussed above. The next three questions inquired about officers' perceptions of both citizen and the officer's emotional states (whether angry or fearful). The final question asked the officer to provide their level of agreement with whether they felt they adhered to the principles of procedural justice.

The second, long-form officer questionnaire was designed to gather officers' perspectives on procedurally just approaches, as well as other perspectives. This is presented in Appendix C. The first eleven questions were directly adapted from Skogan and colleagues' (2015, p. 324-325) survey items on police officers' perceptions of their relationship with community members and contain all four dimensions of procedural justice from an officer's perspective. Questions were also included to directly reflect questions 1-5 of the community member questionnaire, with language amended for an officer's perspective. Four Likert-scale items assessed officers' perspectives of community-oriented policing. Officers were also asked to rate statements regarding approaches to solving disputes, ranging from social skills to use of force; five of these Likert-scale items were adapted with some word changes from Kop and Euwema (2001, p. 650). The final part of the officer questionnaire was designed to assess officers' levels of stress and burnout. Questions 29-47 were adapted directly from McCreary and Thompson's (2006, p. 506) Operational Police Stress Questionnaire (PSQ-OP) to assess which aspects of the responding officer's duties were contributing to stress. Lastly, levels of burnout were adapted from Schiable and Six's (2016, p. 25) adaptation of the Maslach Burnout Inventory (MBI) (Maslach, Schaufeli, & Leiter, 2001) to assess officers' ratings of emotional exhaustion, depersonalization, and personal accomplishment (questions 48-59). Lastly, demographic information was collected from responding officers, including years worked as a sworn law enforcement officer, age, gender, race/ethnicity, and education. Officers were also asked if they had received any specialized trainings, such as procedural justice training, crisis intervention training, or other trainings.

3.3 Body-Worn Camera Footage

One of the major contributions of this research for examining procedural justice in traffic stops was the analysis of body-worn camera footage. Body-worn cameras have proliferated over past 10 years in law enforcement (Nowacki & Willits, 2018). Though the vast majority of research on body-worn cameras focuses on how they are implemented (Jennings, Fridell, & Lynch, 2014; Makin, 2016) and what effect they might have on officer use of force and complaints against police officers (Ariel, Farrar, & Sutherland, 2015; Lum et al., 2019), body-worn camera footage represent a valuable source of recorded observational data on police-citizen interactions. To date, limited research has made use of body-worn camera footage as data. The only published peer-reviewed research making use of such data is Willits and Makin (2018) and Makin et al (2018). These studies use body-worn camera footage to examine police use of force and emotionality within police-citizen encounters. We follow the model of how to manage and code body-worn camera footage into usable data described by these two studies and apply to the topic of procedurally just policing in traffic stops.

The use of recorded observational data within this project had two distinct goals. First, we

fundamentally believe that external appraisals of procedural justice provide an important vantage point that has, yet, gone unexplored in research on procedural justice. By identifying specific objective markers of procedurally just actions, such data provides a potentially more unbiased source of information on the level of procedurally justice policing within a given traffic stop. We were able to obtain and code 36 traffic incidents from Agency C and argue that these data enable us to achieve that first goal. Our second goal was to link our coded body-worn camera footage to officer and citizen appraisals of how procedurally just a given encounter was, as a means of triangulating on the measurement of procedural justice. As noted in the results section, this analysis was not possible, as officers in agency C did not complete a sufficient number of post-stop surveys.

Measuring procedural justice within the observational data (BWC footage) emphasized objective indicators. For each observational measure, we collect the time point that each event occurred. Subsequently, we are better able to contextualize the nature of the interaction by indicating at what time within the interaction each procedural justice item occurred. Indeed, as Willits and Makin (2018), and Makin et al. (2018) argue, understanding timing is a vital component of situational analysis. For example, it is entirely possible an officer could meet all objective measures for procedural justice, though could be evaluated by a citizen as low in procedural justice. Here, understanding how procedural justice occurred could provide insight into the factors contributing to a lower assessment. In fact, as Bottoms and Tankebe (2012) argue, how the interaction unfolds is equally as important as if specific elements of procedural justice are present.

Recognizing the importance of understanding both if and how procedural justice occurs within these traffic stops, analysis of the observational footage emphasizes the practice of procedural justice, detailing if and when specific practices occurred, and then examines how these practices were conveyed. In Appendix D, we include the specific codebook used to annotate the BWC footage, which were then connected to the officer and driver questionnaire responses. The actual coding process is quite robust and has been refined over a two-year research period. For this project, each traffic incident was coded twice by separate coders. These codes were then compared for consistency by a third party. As most of the items in this codebook are objective, the inter-coder agreement tends to be high, though there is some between-coder variation in the timing of events (for example, one coder will note that a profanity occurred at 6:30, while the second coder will note it occurred at 6:34). The third-party reviewer, who is typically the lab manager or other senior members of the complex social interaction lab, resolves any discrepancies by review and, where necessary, by consulting with the original coders.

Concerning the practice of procedural justice, we objectively measure the presence of procedural justice practices associated with trustworthy motives and neutrality. Specifically, we assess if the officer stated the reason for the stop and how the person responded. Annotation (or coding) of this procedural justice item included the following options: no reason given; reason given, suspect agreed; reason given, suspect did not respond; and reason given, suspect disagreement. Connecting to this item, annotators marked if the officer included an explanation for the stop, (yes/no), requested input from the community member concerning the reason for the stop (yes/no), acknowledged their input (yes/no), and reminded the citizen of their rights (yes/no). Specific to trustworthy motivations, annotators examined the presence of the officer's concern for the citizen's wellbeing and included a reverse indicator if the officer threatened arrest for non-compliance. Lastly, annotators indicated if the officer explained the next steps within the process

and thanked the citizen.

To better contextualize how these interactions unfolded, we place an emphasis on objective measures associated with the procedural justice items voice/active participation and neutrality. Specifically, we inventory the number of times an officer or citizen interrupts the other person, communication balance (officer does the majority of talking, balanced talking between officer and citizen, and citizen does the majority of talking), and measure the presence of empathy statements made by the officer. Recognizing the broad body of literature suggesting the application of procedural justice is associated with more civil interactions, we measure the intensity of the communication for each participant within the interaction, using a scale of regular communication (non-adversarial), slightly adversarial, and highly adversarial, and generate additional information if either the suspect or officer changes intensity. Complementing these assessments, the annotations include the presence of racial/derogatory language, incivility, profanity, and disrespect on the part of the officer, citizen, and other participants. Lastly, we measure the emotional state of all participants in the interaction, including the discrete observed emotion, and the time point in which these emotional states are observed.

In concert, the annotation of the observational data provides an objective measure of procedural justice practices, while providing important contextual information often missing from prior research. Additionally, this observational data provides an important third-party assessment of the presence of procedural justice.

4. DATA

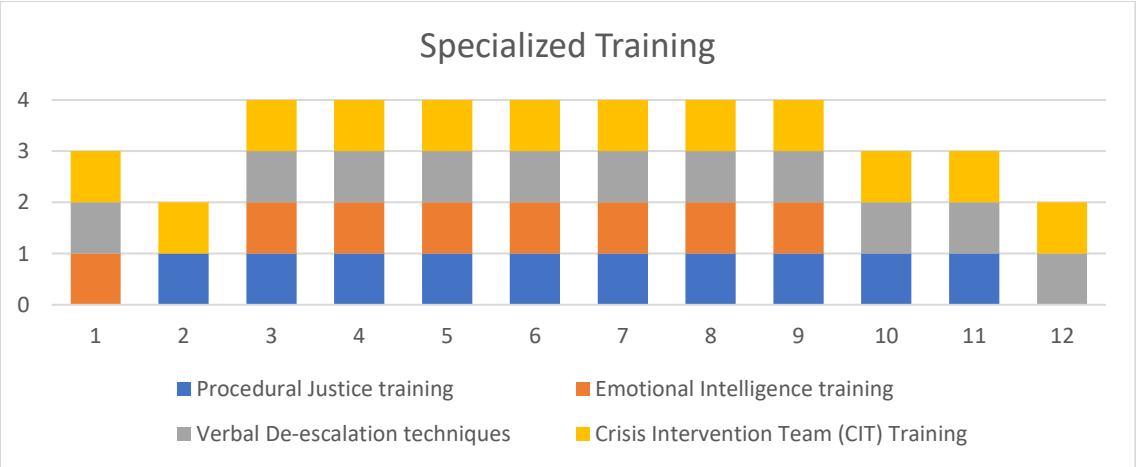
4.1 Sample Sizes

Over the course of the research period, 12 officers in total across the three agencies agreed to take part in the research. These officers completed 602 post-traffic stop surveys evaluating levels of procedural justice for each stop, though 8 of these surveys were not fully completed and unusable, resulting in a sample size of 594. In total, 51 citizens completed the community questionnaire. In addition, we were able to obtain and code unredacted body worn camera footage on 36 traffic stops completed by Agency C. This represents a response rate of 8.5%. Descriptive statistics and analyses of each of these data sources are provided below.

4.2 Police Officer Information

A total of 12 officers participated in this project (2 were from Agency C). Of the 12 participants, the majority were male (83%) and white (100%). The average age is 40, with a minimum age of 29 and a maximum of 55. Educational attainment was the most balanced across the demographic categories with 33-percent having earned some college credit and no degree, and 25-percent having earned either an associate degree or bachelor's degree. One participant reported earning trade/technical/vocational training and one participant held a master's degree. Officers in this sample represented 14 years of sworn service, with a minimum of 4 and a maximum of 31. As visualized in Figure 4.1, most of the respondents reported having completed some special trainings, with procedural justice training being the most common training (n=10). This is an important descriptive result, as it suggests that the officers who participated in this project should do well at meeting the principles of procedural justice (assuming the training was successful). Only two of the officers indicated that they had not completed procedural justice training, with all the officers from Agency A indicating that they had completed this training). Though this bodes well for the results of this study, this may indicate a need to do this type of research with other agencies where fewer officers have completed procedural justice training.

Figure 4.1: Specialized Training by Officers



Procedural Justice Inventory

The first inventory tasked respondents with assessing their level of agreement, using a five-point Likert scale, with twenty-eight (28) statements associated with each of the four primary components of procedural justice: neutrality, voice/active participation, respect/dignity, and trustworthy motives. For ease of presentation, Table 4.1 presents an ordered scaling of the officers' views on procedural justice. As indicated, the officers who participated in this study largely agreed with principles of procedural justice. Officers indicated that they were reluctant to use force and officers tended to strongly disagree with the sentiment that community-oriented policing is not real policing and working in partnerships with the community was a waste of time. Officers also largely agreed with statements indicating that how they interact with and treat people affects their jobs. Officers were less uniformly supportive of some specific sub-elements from our questionnaire. For example, officers were less likely to agree that treating citizens as if they can be trusted is the right thing to do (mean score 3.25).

Table 4.1: Officer Perceptions of Procedural Justice

Variable	Mean	Corresponding Average Value Label
I try not to use any type of physical force unless I absolutely have to.	5.00	Strongly agree
I think talking to civilians is an essential part of policing.	4.75	Somewhat agree
I try to treat every citizen with respect, regardless of the reason why I'm talking to them.	4.67	Somewhat agree
When citizens speak with me, I try to really listen to what they're saying.	4.58	Somewhat agree
I try my best to make sure that the citizen understands what I am telling them.	4.58	Somewhat agree
It is important to give everyone a reason why we are stopping them, even if there is no need.	4.42	Somewhat agree
I always try to allow the citizen the opportunity to express their side of the story.	4.42	Somewhat agree
I think social skills are the most important tool for a police officer.	4.42	Somewhat agree
Listening and talking to people is a good way to manage most situations.	4.33	Somewhat agree
I try to express empathy and care for the citizens that I interact with.	4.33	Somewhat agree
I think most situations can be de-escalated verbally instead of through force.	4.25	Somewhat agree
People should be treated with respect regardless of their attitude.	4.17	Somewhat agree
Officers should at all times treat people they encounter with dignity and respect.	4.17	Somewhat agree
It is important to remind people that they have rights and that we follow them.	3.92	Neither agree nor disagree
If people ask why we are treating them the way we are, we should stop and explain.	3.83	Neither agree nor disagree
It is very important that officers appear neutral in their application of legal rules.	3.83	Neither agree nor disagree

Variable	Mean	Corresponding Average Value Label
Officers need to show an honest interest in what people have to say, even if it is not going to change anything.	3.83	Neither agree nor disagree
Departments have a lot to gain from working together with the community.	3.83	Neither agree nor disagree
Using the principles of Community-Oriented Policing really improves most interactions with community members.	3.75	Neither agree nor disagree
I think that most cases can be solved by using good social skills.	3.67	Neither agree nor disagree
When dealing with the community, police officers have a responsibility to explain what happens next in the legal process.	3.50	Neither agree nor disagree
Officers should treat citizens as if they can be trusted to do the right thing.	3.25	Neither agree nor disagree
Police have enough trust in the public for them to work together effectively.	3.17	Neither agree nor disagree
I can tell at first glance whether de-escalation will work in a given situation.	3.08	Neither agree nor disagree
Sometimes a bit of force is necessary to bring someone to their senses.	2.58	Somewhat disagree
I prefer to use a formal tone of address with every citizen I interact with.	2.42	Somewhat disagree
Community-Oriented Policing is not *real* policing.	1.92	Strongly disagree
Trying to work in partnership with the community is generally a waste of time.	1.67	Strongly disagree

Police Perceptions of Stressors and Stress

The second inventory concerned perceptions of stressors and stress. Using a five-point Likert scale, respondents were asked to state to what extent a range of organizational and individual factors contributed to their stress. The Likert ranged from “Not at all stressful” to “Extremely stressful”. Interestingly, in our sample, no respondent indicated any stressor as extremely or moderately stressful, with only three of the stressors rated as “Somewhat stressful”. Most respondents reported slightly stressful stressors with six (6) reflecting “Not at all stressful”. Full descriptive results are presented in Table 4.2.

Table 4.2: Officer Perceptions of Stress

Variable	Mean	Corresponding Average Value Label
Risk of being injured on the job	3.08	Somewhat stressful
Traumatic events occurring on the job	3.08	Somewhat stressful
Job-related health issues (e.g. back pain)	3.08	Somewhat stressful
Working alone at night	2.75	Slightly stressful
Fatigue (e.g. from shift work, overtime)	2.67	Slightly stressful
Not enough time to spend with family and friends	2.58	Slightly stressful
Paperwork	2.50	Slightly stressful
Eating healthy at work	2.42	Slightly stressful
Shift Work	2.33	Slightly stressful
Overtime demands	2.17	Slightly stressful
Work related activities on days off	2.17	Slightly stressful
Managing your social life outside of work	2.17	Slightly stressful
Finding time to stay in good physical condition	2.17	Slightly stressful
Lack of understanding from family and friends	1.92	Not at all stressful
Making friends outside the job	1.83	Not at all stressful
Upholding a “higher image” in public	1.75	Not at all stressful
Feeling like you are always on the job	1.67	Not at all stressful
Family and friends feel the effects of the stigma associated with your job	1.67	Not at all stressful
Limitations on your social life	1.50	Not at all stressful

Feelings Towards Driving Behaviors

As this research study concerned traffic stops, officers were presented with a range of driving behaviors associated with impaired driving and unsafe driving practices. The five-point Likert scale ranged from “Not at all dangerous” to “Extremely Dangerous”. Respondents reported that impaired driving, both under the influence and via direct distraction (texting while driving), are very dangerous. Talking on a cellphone, while driving, and texting at a stoplight or stop sign were viewed as “Somewhat dangerous” behaviors.

Table 4.3: Officer Perceptions of Driving Behaviors

Variable	Mean	Corresponding Average Value Label
Driving right after consuming alcohol is…	4.50	Very dangerous
Driving right after smoking marijuana or using consumables is…	4.50	Very dangerous
Texting and driving is…	4.25	Very dangerous
Driving without a seatbelt is…	4.17	Very dangerous
Talking on a cellphone (not hands-free) while driving is...	3.42	Somewhat dangerous
Texting at a stoplight or stop sign is…	3.00	Somewhat dangerous

Police Perceptions of Emotional States

The prominence of positive emotionality within effective interpersonal communication and the associated research on the extent to which negative emotionality and emotional burnout impedes this communication and by extension the use and detection of procedural justice within the interaction is the basis for this last inventory. Officers were presented with twelve (12) statements and were asked to what extent each were true using a five-point Likert scale of "Never", "Once in a while", "Some of the time", "Most of the time", and "All of the time". As displayed in Table 4, there were no particularly unusual responses to these statements.

Table 4.4: Officer Perceptions of Emotional States

Variable	Mean	Corresponding Average Value Label
In my work, I deal with emotional problems very calmly.	4.08	Most of the time
I have accomplished many worthwhile things in this job.	3.92	Some of the time
I deal very effectively with the problems of people I deal with.	3.67	Some of the time
I feel I'm positively influencing people's lives through my work.	3.58	Some of the time
I can easily understand how people I deal with feel about things.	3.33	Some of the time
I feel very energetic.	3.25	Some of the time
I feel the people I deal with blame me for some of their problems.	2.58	Once in a while
I feel emotionally drained from my work	2.42	Once in a while
I feel burned out from my work.	2.33	Once in a while
I've become more callous towards people since I took this job.	2.25	Once in a while
Working with people all day is really a strain for me.	2.08	Once in a while
Working with people directly puts too much stress on me.	1.67	Never

4.4 Driver Data

A total of 51 driver responded to our mailed survey. Though response rates for survey research are declining in general (National Research Council, 2015), this response rate is particularly low at 8.5%). While we are unable to assess the specific reasons for this high rate of non-response, there are several potential factors which might help explain this response rate.

First, while drivers were mailed a survey invitation which included a USB drive, they did not receive any formal incentives to participate in the study, which have been demonstrated to increase response rates (James & Bolstein, 1990). Though some drivers may view the USB drive (which included the link to the survey) as an incentive, there is no research on this topic that we are aware of it and it does not appear to have driven up response rates. Second, there was a considerable delay in sending out surveys for drivers who were pulled over by officers from Agencies A and B. To obtain address information for drivers pulled over to these agencies, public records requests were required. For example, the research team had a request out for 70 records requests on the last push of the data collection effort. We were informed that these records would be sent to us by mid-October 2018. By October 22nd, we had received only 15 of the final 70 records received and have been informed that the remaining records will not be submitted to us until December 2018. As of December 1st, we were will still awaiting 45 of the final records. There are two important implications of this. First, though officers completed a total 602 surveys, we have only been able to mail out 557 of these surveys to drivers (meaning that our effective total response rate is 9.2%). Second, it is likely that the delay in sending surveys to drivers further hampered our success rate. Timeliness has previously been defined as one aspect of issue salience, which is known to positively predict survey response rates (including online surveys) and has been shown to have a strong effect on response rates (Sheehan, 2001). Unfortunately, as there was considerable delay in mailing surveys to some drivers, the surveys may have no longer been timely, which might have decreased the salience to the respondents and their overall desire to participate in the research.

Third, the response to the community survey was further driven down by undeliverable surveys. Specifically, we were unable to successfully deliver 41 surveys (our invitations were returned by the United States Postal Service as either having an error in the address or indicated that the driver did not live at this address). It is difficult to state why these surveys were undeliverable and there are likely multiple reasons. For example, it is possible that officers recorded driver address information from driver's licenses, which are sometimes out of date. Additionally, some of the drivers may have moved prior to receiving the invitation. Lastly, some drivers may have simply declined to accept some of our mailings. For example, one driver who was pulled over by an officer participating in this project contacted one of this report's authors and was extremely suspicious of our mailed invitation and opted to throw away the invitation. In any event, these 41 undeliverable surveys mean that the final effective response rate for this project is 9.9% (51 out of 516).

Even accounting for undeliverable surveys and not receiving public records requests within the project period, the response rate for this portion of the survey is quite low. The primary concern regarding low response rates is the potential for response bias. However, recent research suggests that low response rates are generally not a substantial concern in this regard (af Wåhlberg & Poom,

2015; Rindfuss et al., 2015). Still, in our case, the low response rate presents an additional problem in that it limits the power of any potential statistical analyses and generally limits the utility of matching our various data sources.

In terms of the drivers who did respond, there was a handful (5) who supplied too little information to be included in the analysis. These individuals started the survey and agreed to take part but answered less than 10% of all questions. We present descriptive information on the remaining 46 driver respondents in Table 4.5 below. As per the Washington State University Institutional Review Board approved protocol, respondents were not required to answer any specific questions. Though most of these 46 respondents answered all questions, we indicate non-response with "Did not disclose" in this table.

Of the 46 respondents, half who reported their sex self-identified as male and half self-identified as female. Overall, the drivers who participated in the mailed survey were slightly older than the state average and had typically lived in their current residence for several years. The respondents also generally had higher incomes than the state median, though this may be reflective of the populations which live in the areas covered by agencies A and B. Still, it is surprising that over 30% of the respondent drivers reported incomes of $100,000 or more, indicating that these results may be skewed toward a more affluent population. In terms of politics, very few of the respondents identified as liberal, which is somewhat surprising giving Washington's general overall political trends. This may be because the stops conducted as part of this project were not done in the major metropolitan hubs within Washington, which are known to be more liberal.

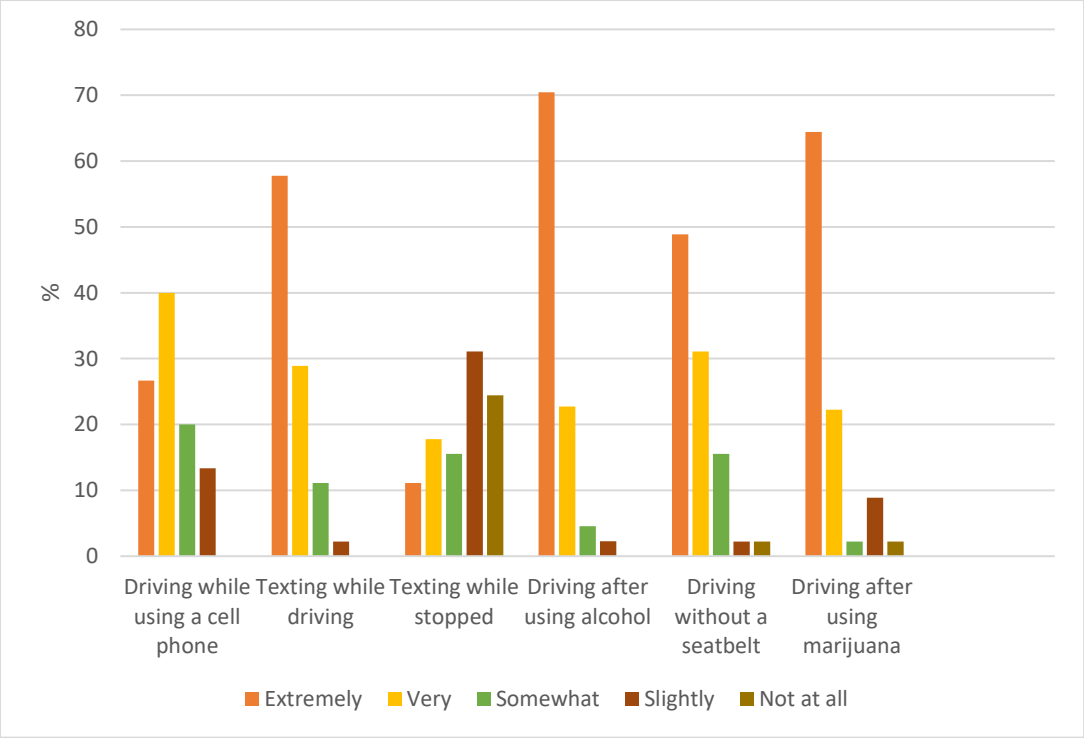
In terms of race, the sample was overwhelmingly white, which reflects general trends in Washington (where approximately 70% of the population is white). In this regard, the data are fairly representative by race and ethnicity, though the small sample sizes for most racial and ethnic groups preclude any sort of racial disparity-based analysis. This is a substantial limitation as there is a sizable body of research on racial disparities by traffic stops that this study is not able to fully engage due to sample size and response rate issues.

Table 4.5: Demographics of Driver Respondents

Numeric Variable	**Mean (Standard Deviation)**
Age	43.64 (16.07)
Years at Residence	11.32 (8.57)
Categorical Variable	**Frequencies (%)**
Race	African American or Black = 1 (2.2%) Asian = 3 (6.5%) Hispanic or Latino = 2 (4.3%) Middle Eastern or North African = 2 (4.3) Native American = 1 (2.2%) White = 34 (73.9%) Did not disclose = 3 (6.5%)
Gender	Female = 22 (47.8% Male = 22 (47.8) Did not disclose = 2 (4.3%)
Political Preference	Conservative = 13 (28.3%) Independent/Moderate =22 (47.8%) Liberal = 5 (10.9%) Did not disclose = 6 (13.0%)
Annual Income	Less than $20,000 = 2 (4.3%) $20,000 - $34,999 = 4 (8.7%) $35,000 - $49,999 = 4 (8.7%) $50,000 - $74,999 = 5 (10.9%) $75,000 - $99,999 = 5 (10.9%) $100,000 - $149,999 = 8 (17.4%) $150,000 - $199,999 = 5 (10.9%) $200,000 or more = 3 (6.5%) Did not disclose = 10 (21.7%)

Next, we provide basic information regarding how drivers view traffic safety laws and the police in their community. Figure 4.2 presents drivers perceptions on the safeness of various driving behaviors. Specifically, drivers were asked to indicate how dangerous (ranging from “Not at all Dangerous” to “Extremely Dangerous”) they believe the following behaviors are: talking on a cellphone while driving (not hands-free), texting and driving, texting while at a stoplight or stop sign, driving right after consuming alcohol, driving right after using marijuana, and driving without a seatbelt.

Figure 4.2: Driver Perceptions of Driving Behaviors in General



Much like the officers, the citizens tend to view driving while using a cell phone, texting while driving, and driving under the influence of either alcohol or marijuana as highly risky behaviors. Table 4.6 compares the mean scores for citizens to officers. Overall, there is a strong degree of concordance between officer and driver views. For example, the officer mean score for how dangerous it is to drive after consuming alcohol is a 4.5, while it is a 4.61 for drivers. Both values correspond to between "very" and "extremely" dangerous. The largest difference between officers and drivers is for texting at a stoplight or stop sign. Though neither group views this behavior as being as dangerous as the other listed options, the officers view this as slightly more dangerous than citizens. It is difficult to state the degree to which this difference matters, however, as only 10 officers participated in this study and only a small subset of drivers responded to their survey invitations.

Table 4.6: Officer and Driver Views on Specific Driving Behaviors

Variable	Officer Mean	Citizen Mean
Driving right after consuming alcohol is…	4.50	4.61
Driving right after smoking marijuana or using consumables is…	4.50	4.38
Texting and driving is…	4.25	4.42
Driving without a seatbelt is…	4.17	4.22
Talking on a cellphone (not hands-free) while driving is...	3.42	3.80
Texting at a stoplight or stop sign is…	3.00	2.60

Next, we present basic information on how drivers perceive police in their community. Table 4.7 shows driver average responses to a variety of items about policing in their community.

Table 4.7: Driver Perceptions of Police in the Community

Variable	Mean	Corresponding Average Value Label
The police in my community generally make the right decisions for people in my neighborhood	3.24	Neither agree nor disagree
The police in my community provide opportunities for unfair decisions to be corrected.	3.20	Neither agree nor disagree
The police in my community generally try to be fair when making decisions.	3.17	Neither agree nor disagree
The police in my community always allow citizens to explain their side of the story or issue before making an decision.	3.17	Neither agree nor disagree
The police in my community make decisions based on facts, rather than on their own personal opinions.	3.11	Neither agree nor disagree
In general, the police in my community are upstanding officers.	3.11	Neither agree nor disagree
The police in my community are always polite when dealing with citizens.	3.11	Neither agree nor disagree
The police in my community would treat you with respect if you had contact with them for any reason.	3.07	Neither agree nor disagree
The police in my community would really listen to you if you had contact with them for any reason.	2.87	Disagree
The police in my community are generally honest.	2.70	Disagree

The data presented in Table 4.7 show that the drivers who participated in the study have mixed views about the police in their communities. The average value for 8 of the 10 items suggest that, on average, drivers neither agreed nor disagreed with statements regarding the tendency of officers in their communities to follow the principles of procedural justice. For two of the items ("The police in my community are generally honest" and "The police in my community would really listen to you if you had contact with them for any reason") the scores are slightly lower, suggesting that, on average, respondents have a slight tendency to disagree with these statements. It is important to remember that these values are based on a subset of 46 drivers and should not be taken as representative of the communities as a whole.

4.5 Body-Worn Camera Data

To obtain third party appraisals of the levels of procedural justice in traffic stop encounters, we obtained data on 36 traffic stops conducted by Agency C. This agency provided the research team with unredacted footage on the 36 incidents conducted by the officers who agreed to participate in this project. Footage was coded as described in Chapter 3. The coding process is extremely time intensive. The 36 incidents resulted in a total of just under 836 minutes of footage. As per the coding strategy used by the Complex Social Interaction lab, these videos were watched twice by two coders, taking over 55 hours of coding time to complete the annotation. This estimate does not include the additional time spent developing and testing the codebook, training coders, and resolving coding disagreements.

One significant difference between the body worn camera recorded traffic stops conducted by Agency C and the emphasis patrol stops conducted by Agency A and B is that the recorded traffic stops for Agency C only included those which resulted in a detention, citation, or arrest. Though officers in this agency used their cameras for stops that involved verbal or written warnings, the records management system was not setup in such a manner that these incidents could be forwarded to the research team.

We present basic information on the nature of the stops in Table 4.8, including data on the length of each interaction, whether the traffic stop occurred at day or night, and information on whether the driver was detained, arrested, or cited. Table 4.9 provides frequency information on the sex and race/ethnicity of the 36 drivers who were pulled over by agency C. Detailed information on the levels of procedural justice present in a given interaction are presented in Chapter 5.

Table 4.8: Body-Worn Camera Footage of Traffic Incidents

Variable	Mean	Standard Deviation	Minimum	Maximum
Length of incident (in minutes)	23.21	9.66	4.53	44.97
Night or Day incident (Night =1)	0.53	0.51		
Suspect detained (1 = detained, 0 = not)	0.03	0.17		
Suspect arrested (1 = arrested, 0 = not)	0.42	0.50		
Suspect given a citation (1 = cited, 0 = not)	0.56	0.50		

Table 4.9: Demographics of Drivers in Body-Worn Camera Captured Incidents

Variable	Frequencies (%)
Driver's Sex	Female = 13 (36.1%)
	Male = 23 (63.9%)
Driver's Race/Ethnicity	American Indian or Alaskan Native = 0 (0%)
	Asian = 2 (5.6%)
	Black or African American = 6 (16.7%)
	Hispanic or Latino = 6 (16.7%)
	Native Hawaiian or Other Pacific Islander = 0 (0%)
	Middle-Eastern = 1 (2.8%)
	Other = 1 (2.8%)
	White = 20 (55.6%)

As noted in these tables, most drivers stopped by agency C were given a citation, but nearly as many resulted in arrest. As such, the BWC footage represents a set of more serious incidents. Perhaps unsurprisingly, a larger percentage of these incidents involved male drivers than those recorded by agencies A and B (where the split was roughly even). Like the data generated by other agencies, most of the individuals who were stopped were white, which limits our ability to examine racial disparities, though importantly, there was more variation in race/ethnicity for the BWC sample than for the driver survey data.

5. RESULTS

In this chapter, we provide an overview of how the officers and drivers viewed levels of procedural justice within each traffic stop. In addition, we present the results of third-party appraisals of procedural justice within traffic stops, as well as basic comparisons by race of the driver (when possible). We focus our attention on providing a descriptive summary, though we engage in analytic comparisons where appropriate and provide inferential statistics for only these analyses. It is important to remember that the officer and driver data are predominately drawn from Agencies A and B, while the body-worn camera footage is entirely derived from Agency C. While one goal of this study was to provide multiple perspectives on procedural justice, these results must be viewed holistically and cannot be directly compared from source to source.

5.1 Police Officer Perceptions of Procedural Justice in Traffic Stops

Officers over the three departments completed 602 post-traffic stop surveys, with 594 useable (complete) surveys. Most of these surveys (over 99%) were completed by officers from agencies A and B. This is likely because officers in these agencies were eligible to receive overtime compensation to complete emphasis patrols as part of this project and, as a condition for doing so, were instructed to complete post-stop surveys.

Overall, officers indicated that they were very successful in adhering to the tenants of procedural justice. Table 5.1 provides basic descriptive information on these stops. Officers overwhelmingly viewed the traffic stops as having gone at least good to excellent (97.3% of the time) and largely believed that they adhered to the principles of procedural justice (99.2% of the time they agreed or strongly agreed). Accordingly, officers were nearly universal in explaining the reason for each stop (99.7%), thanked the driver at the end of the stop (96.5%), and explained the next steps to the driver (97.3%). These results indicate that officers perceive themselves as overwhelmingly successful in meeting the procedural justice goals of neutrality (explaining the reason for the stop) and respect (thanking the drivers). Though not as universal, officers also indicated that they allowed the driver to provide input or asked the driver for input (89.9%) and expressed concern for the driver's safety (79.5%) the clear majority of the time. These results indicate that the officers perceive themselves as largely successful at meeting the procedural justice goals of voice (allow for driver input) and trustworthiness (expressing concern for citizens). Though these results are surprising in how skewed the officers' perceptions of achieving procedural justice goals are (Table 4.1), they must be contextualized within the sample of officers who participated in the study. It is important to remember that most of the officers who participated in this study have completed procedural justice training and, by nature of participating in the research, all officers were aware of the study topic which might have exerted a form of the Hawthorne effect on the results (an alteration of behavior by the subjects of a study due to their awareness of being observed).

Given the overwhelmingly positive character of the stops as described by officers, it is unsurprising that the officers describe the citizens as generally not afraid (98.8%), not angry (96.6%), and generally respectful (95.3%). Interestingly, there was considerable variation in how

formal the officers perceived each interaction (78.1% of the time the interaction was described as formal or very formal, while 21.9% of the time it was described as informal or very informal).

Table 5.1: Officer Perceptions of Traffic Stops

Variable	Frequencies (%)
Overall Perceptions of Stop	Excellent = 62 (10.4%) Very Good = 347 (58.4%) Good = 169 (28.5%) Fair = 15 (2.5%) Poor = 1 (0.2%)
Driver's Demeanor	Very Respectful = 436 (73.4%) Somewhat Respectful = 130 (21.9%) Somewhat Disrespectful = 19 (3.2%) Very Disrespectful = 9 (1.5%)
Explained the Reason for Stop	Yes = 592 (99.7%) No = 2 (0.3%)
Tone of Interaction	Very Formal = 60 (10.1%) Formal = 404 (68.0%) Informal = 127 (21.4%) Very Informal = 3 (0.5%)
Driver Input	Asked Driver for Input = 396 (66.7%) Driver Volunteered Input = 138 (23.2%) Did Not Ask Citizen for Input = 60 (10.1%)
Thanked Driver	Yes = 573 (96.5%) No = 21 (3.5%)
Explained Next Steps to Driver	Yes = 578 (97.3%) No = 16 (2.7%)
Expressed Concern for Driver Safety	Yes = 472 (79.5%) No = 122 (20.5%)
Driver Seemed Angry	Yes = 20 (3.4%) No = 574 (96.6%)
Driver Seemed Afraid	Yes = 7 (1.2%) No = 587 (98.8%)
Officer Felt Angry	Yes = 2 (0.3%) No = 592 (99.7%)
Adhered to Principles of Procedural Justice	Strongly Agree = 191 (32.2%) Agree = 398 (67.0%) Neither Agree or Disagree = 3 (0.5%) Disagree = 0 (0%) Strongly Disagree = 2 (0.3%)

5.2 Driver Perceptions of Procedural Justice in Traffic Stops

Next, we examine how drivers viewed elements of procedural justice in the traffic stops. Recall, these perceptions are based on a sample of 46 drivers who completed most parts of the mailed survey. Tables 5.2 and 5.3 presents descriptive information on these drivers' perceptions of the stop and the driver's recollections regarding their interaction with the officer, as well as information on the outcome of each stop.

Table 5.2: Driver Perceptions of Procedural Justice in the Traffic Stop

Variable	Frequencies (%)
Overall Perceptions of Stop	Excellent = 11 (23.9%) Very Good = 9 (19.6%) Good = 9 (19.6%) Fair = 10 (21.7%) Poor = 7 (15.2%)
Treated with Dignity and Respect	Excellent = 17 (37.0%) Very Good = 10 (21.7%) Good = 8 (17.4%) Fair = 4 (8.7%) Poor = 7 (15.2%))
Addressed Politely	Excellent = 19 (41.3%) Very Good = 4 (8.7%) Good = 10 (21.7%) Fair = 7 (15.2%) Poor = 6 (13.0%)
Gave opportunity to present views	Excellent = 17 (37.0%) Very Good = 7 (15.2%) Good = 5 (10.9%) Fair = 12 (26.1%) Poor = 5 (10.9%)
Really listened to me	Excellent = 17 (37.0%) Very Good = 5 (10.9%) Good = 6 (13.0%) Fair = 12 (26.1%) Poor = 5 (10.9%) Did not answer = 1 (2.2%)
Understood concerns	Excellent = 16 (34.8%) Very Good = 7 (15.2%) Good = 8 (17.4%) Fair = 7 (15.2%) Poor = 8 (17.4%)
Seemed genuinely concerned for you and passenger safety	Excellent = 17 (37.0%) Very Good = 6 (13.0%) Good = 6 (13.0%) Fair = 9 (19.6%)) Poor = 7 (15.2%) Did not answer = 1 (2.2%)
Explained things clearly	Excellent = 18 (39.1%) Very Good = 8 (17.4%) Good = 10 (21.7%) Fair = 5 (10.9%) Poor = 5 (10.9%)

As indicated in Table 5.2, drivers generally reported that the officers met the principles of procedural justice during traffic stops. Importantly though, the driver perceptions were not as overwhelmingly positive in this regard as officers. In some sense, this is expected, as the drivers are being pulled over and potentially penalized in some manner by the officer. Still, this highlights the importance of examining multiple perspectives on procedural justice within a given interaction.

Table 5.3: Driver Perceptions of Behaviors Regarding Traffic Stop

Variable	Frequencies (%)
Officer interrupted me	Every time I tried to speak = 1 (2.2%) Almost every time I tried to speak = 0 (0%) Occasionally/sometimes while I was speaking = 5 (10.9%) Rarely =8 (17.4%) Never =29 (63.0%) N/A = 3 (6.5%)
Officer thanked me during interaction	Yes = 18 (39.1%) No = 27 (58.7%) Did not answer = 1 (2.2%)
I felt angry during the stop	Strongly Agree = 1 (2.2%) Agree = 5 (10.9%) Neither Agree nor Disagree = 7 (15.2%) Disagree = 11 (23.9%) Strongly Disagree = 20 (43.5%) Did not answer = 2 (4.3%)
I felt afraid during the stop	Strongly Agree =2 (4.3%) Agree = 6 (13.0%) Neither Agree nor Disagree = 3 (6.5%) Disagree = 10 (21.7%) Strongly Disagree = 24 (52.2%) Did not answer = 1 (2.2%)
Officer seemed angry during the stop	Strongly Agree = 1 (2.2%) Agree = 2 (4.3%) Neither Agree nor Disagree = 5 (10.9%) Disagree = 14 (30.4%) Strongly Disagree = 23 (50.0%) Did not answer = 1 (2.2%)
Officer seemed afraid during the stop	Strongly Agree = 2 (4.3%) Agree = 0 (0%) Neither Agree nor Disagree = 2 (4.3%) Disagree = 11 (23.9%) Strongly Disagree = 30 (65.2%) Did not answer = 1 (2.2%)
Result of the stop	Arrest = 0 (0%) Citation = 25 (54.3%) Written Warning = 1 (2.2%) Verbal Warning = 17 (37.0%) Did not answer = 3 (6.5%)

As per the drivers' overall views on the levels of procedural justice present in the stop, the drivers' recollections of specific feelings and events during stop also suggest that most traffic stops were performed well and that officers are doing an overall good job of adhering the principles of procedural justice. Most respondents indicated that the officer did not interrupt them, showing that

the officers generally treated the drivers with respect and dignity. Similarly, the officers seemed to be largely in control of their emotions during the stops, which would likely make the proceedings feel more formal and just for the drivers. Interestingly, drivers recall officers stating "thanks" or "thank you" far less often than the officers do. Specifically, the drivers indicate that officers offered thanks in 39.1% of incidents, while officers indicate that this occurred in 96.5% of stops. This is not simply a reflection of respondents being more likely to recall the incidents in which officers did not thank them, as the 46 driver responses are a subset of the officer post-stop surveys (and the 27 drivers who indicated that they were not thanked is greater, in raw numbers, than the 21 of 594 stops in which officers indicate that they did not thank the driver). It is possible that this difference reflects the time differential between the surveys. Officers completed the surveys directly after each stop, whereas drivers may not have received the survey for weeks, or in some instances, up to three months later and may not recall the incident with as much detail.

One possible explanation for the divergence in driver and officer perceptions is that drivers may simply recall the incident less favorably as they may have been sanctioned as part of the traffic stops. Though it is difficult to fully examine this possibility (as even the act of being pulled over by a police officer can be experienced as a sanction), we compare overall perceptions of the stop by the traffic stop outcome in table 5.4 below.

Table 5.5: Overall Perceptions of the Stop by Outcome

	Excellent	Very Good	Good	Fair	Poor
Citation	4	2	5	8	6
% Receiving Citation	16.0%	8.0%	20%	32%	24%
Written Warning	0	0	0	0	1
% Receiving Citation	0%	0%	0%	0%	100%
Verbal Warning	6	6	3	2	0
% Receiving Citation	35.3%	35.3%	17.5%	11.8%	0%
Other	1	1	1	0	0
% Receiving Citation	33.0%	33.0%	33.0%	0%	0%

Though these results are tentative, and we do not present inferential statistics (due to sample size limitations), drivers who received citations do appear more likely to rate the encounter as poor, while those who received verbal warnings were much more likely to rate it as very good to excellent. This suggests that the result of the outcome may affect how drivers perceive the appropriateness of the outcome. Conversely, this does not appear to be the case for officers, as they were nearly uniform in their positive assessment of the traffic stops. Once again, this highlights the importance of obtaining multiple points of view for examining levels of procedural justice.

One of the other major elements that this study intended to address was race. Though we are unable to do so fully, due to a largely homogenous sample, we present basic cross-tabulation of the driver's race/ethnicity by their overall perceptions of how the stop went. Given the sample size limitations, we do not provide any inferential statistics for these results and we also collapse race into a simple "White"/"Non White" Category.

Table 5.5: Overall Perceptions of the Stop by Driver Race

	Excellent	Very Good	Good	Fair	Poor
White Drivers	10	7	6	7	4
% of White Drivers	29.4%	20.6%	17.6%	20.6%	11.8%
Non-White Drivers	1	2	3	3	3
% of non-White Drivers	8.3%	16.7%	25.0%	25.0%	25.0%

These cross-tabulation results suggest that non-White drivers are more likely to have perceived the stop negatively than White drivers. For example, 50% of White drivers viewed the stop as "Excellent" or "Very Good", while only 24% of non-White drivers had the same views. We caution against over interpreting these results, however, as they are based off a sample of 46 drivers (of which, 34 self-identified as White). Additional data with a larger sample is required to further explore this issue.

5.3 Body-Worn Camera Measures of Procedural Justice in Traffic Stops

Next, we examine procedural justice using recorded observational data from the unredacted body worn camera footage provided by Agency C. As detailed in the codebook presented in Appendix D, the 36 recorded incidents were coded across several variables, including central measures of procedural justice. For this descriptive analysis, we focus on whether the officer presented a reason for the stop, the officer asked the driver for input regarding the stop, the officer acknowledged the driver's input, the officer asked about the driver's wellbeing, the officer made statements of empathy, the officer reminded the driver of his or her rights, the officer explaining next steps to the driver, and the officer thanking the driver. It is important to remember that these items were generated using trained coders and was validated using a double-coding process. These items are objective (for example, the officer either did or did not thank the suspect at some point in an interaction). In addition, we disaggregate these results by White/non-White to provide a preliminary examination of the relationship between race/ethnicity and procedural justice.

Table 5.6: Body-Worn Camera Procedural Justice Results

Variable	% of incidents where this happened	% of incidents for White Drivers (n=20)	% of incidents for non-White Drivers (n=16)
Officer presented a reason for the stop	55.6%	50.0%	62.5%
Officer asked for input from driver	55.6%	70.0%	37.5%
Officer acknowledge driver input*	85.0%	92.8%	66.7%
Officer inquired about or expressed interest in driver wellbeing	16.7%	15.0%	18.9%
Officer made statements of empathy	11.1%	15.0%	6.3%
Officer reminded suspect of rights	55.6%	55.0%	56.3%
Officer explained next steps to driver	61.1%	70.0%	50.0%
Officer thanked driver during the interaction	13.9%	15.0%	12.5%

* Only calculated for incidents in which the officer was provided input by the citizen.

As mentioned in Chapter 4, it is important to remember that these traffic stops were all performed by Agency C and that these stops are qualitatively different than those conducted by Agencies A and B. Specifically, these only include incidents in which an arrest or citation was issued, thus they tend to be more serious interactions (on average). These data show that officers present a reason for most stops and ask the drivers for input (and when they do, they overwhelmingly acknowledge that input). Officers also do well at reminding suspects of their rights and informing them of the next stops. However, our coding and analysis of this recorded observation data suggest that officers are not frequently expressing interest in the driver's wellbeing, making statements of empathy, or thanking the drivers. These results contrast somewhat starkly with the post-stop officer survey results, in which they indicate that they do, for example, almost always thank the drivers. Though these results are not directly comparable (they are different officers and different types of stops), they highlight the need to consider other perspectives on procedural justice, beyond what the officer and drivers recall.

In terms of race, these results suggest that for these 36 incidents recorded by Agency C, there are no noteworthy differences in third party perceptions of procedural justice indicators. Though there are some differences (for example, officers presented non-White drivers with a reason for the stop 12.5% more often than they did White drivers and officers explained the next steps to White drivers 20% more often than they did non-White drivers), there are no clear systematic differences by race.

6. CONCLUSION

In this chapter, we provide a general overview of the results of the study, describe the central limitations of this research, and highlight potential next steps for continuing this research.

6.1 Summary of Results

Overall, our results suggest that the officers who participated in this study did an excellent job of maintaining the principles of procedural justice. The officers from Agencies A and B, who completed nearly all the post-stop traffic stops, were virtually uniform in indicating that they engaged in actions consistent with procedural just behavior. These officers indicated that they explained the reason for the stop, thanked the driver, and explained the next stops to the driver in nearly every traffic stop. Similarly, they indicated that they sought or listened to driver input and expressed concern for the driver in most traffic stops.

The driver survey both supports and refutes this notion. Though it is important to contextualize the driver results under the conditions of a small sample size, the drivers did generally suggest that the officers who pulled them over were adhering to the principles of procedural justice. In this regard, both data sets suggest that the officers in these agencies who participated in this research are doing a good job of respecting citizens, seeking their input, thanking them, and so forth. The driver data, however, were less uniformly positive than the officer data. That is, while both data sets suggest that the officers are largely doing a good job, the officer generated survey data was much more suggestive of this conclusion than the driver data.

It is difficult to parse out the precise meaning of this divergence. It is possible that the officers, for all the reasons listed in the limitations section, were biased and in some cases overstated their success at meeting procedural justice goals. Similarly, it is also possible (and perhaps even likely) that suspects, who had been pulled over and potentially sanctioned, understated the officer performance. Alternatively, this could be an artifact of the data (that is, perhaps those drivers who were least satisfied were more likely to respond to the survey and that had other drivers completed the survey, the results would have been more like the officer data or, alternatively, that the time delay in receiving the survey affected drivers' ability to recall specific statements within the traffic stop). Regardless, this highlights the importance of examining both officer and driver data, as an examination of only one source of data may provide misleading results.

The data derived from body-worn camera footage provided a different outlook what procedural justice looks like in recorded footage. Though it is important to recall that these incidents were qualitatively different than the incidents which resulted in officer and driver surveys, the body-worn camera data suggests that officers were not as active at providing reasons for stops, seeking driver input, making emphatic statements, thanking the drivers, and so forth. Even with the small sample of incidents coded for this project, recorded observational data has the potential to contribute to the conversation on policing, procedural justice, and the community at large. More work with data drawn from more agencies is warranted. Moreover, there would be

value in having officers watch traffic stops completed by officers from other agencies as an additional external appraisal of the levels of procedural justice present in a given encounter.

One of the underlying goals of this research was to examine if perceptions and experiences of procedural justice vary by race. The largely homogenous sample limits our ability to speak about this definitively. However, non-White drivers were less likely to view their traffic stop in a favorable light than white drivers, suggesting that race may shape perceptions of procedural justice. Interestingly, these results were not present in the body-worn camera recorded data. While more work is absolutely needed in this area, this may suggest that some of the racial differences in perceptions of procedural justice are not reflective of actual differences in policing, but instead, may be driven by preexisting beliefs (which, in turn, could be caused by prior or vicarious experiences with the police).

6.2 Limitations

There are several important limitations of this research. First, though we had hoped to fully engage the extent to which there were racial disparities in how people perceive procedural justice, this was not possible with the data collected. The clear majority of the drivers who responded to the mailed survey and the majority of individuals who were pulled over by Agency C for the body worn camera analysis were white. Though it is possible that additional surveys may come to the research team over the next couple of months, it seems highly unlikely that this research will generate sufficient numbers of minority drivers to examine the potential effect of race and ethnicity on officer, driver, and third-party perceptions of procedural justice in traffic stops.

Related to this, this research is limited by the relatively small sample of drivers who completed the survey. As noted earlier in this report, we believe that this low response rate is a function of many factors, including 1) a general decline in survey response rates across the board, 2) the higher than expected proportion of undeliverable surveys, 3) the time delays in sending surveys to drivers, and 4) the lack of a formal survey incentive to participate in the research. Though the driver responses were informative (in particular, they were helpful in describing the differences between officer and driver perceptions), we are unable to make use of more powerful models for examining driver perceptions due to limited statistical power. Moreover, without being able to use these models to control for other driver characteristics, we are hesitant to state that these results are generalizable to the rest of the drivers who were pulled over by officers participating in this project.

While the research team had considerably more success with getting officers to complete their surveys, there was very little variation in how officers perceived the encounters. That is, for most traffic stops, officers indicated that the stops went well and that the officers acted in accordance with the principles of procedural justice. As most of the officers who participated in this study have completed procedural justice training, we believe that this result is plausible. However, it would be important to see this type of research replicated with officers who had not completed procedural justice training. Moreover, the very act of the research project itself might affect the results of each traffic stop. That is, if officers are aware that they are receiving over-time funding to complete traffic stops and that after each stop, they had to complete a survey evaluating their interaction. This knowledge might affect how the officers approach each traffic stop. In other

words, knowledge of the research process might affect behavior, which, in turn, might have caused the officers in this study to behave differently than they do in other encounters. In concert, compensation, an expectation to complete the post stop questionnaire in a timely manner, awareness of participation in a research study on procedural justice, and high representation of officers with procedural justice training in Agencies A and B potentially skew the officer perception results.

Lastly, it is important to note that the data collected as part of this study were drawn from only three municipal agencies in Washington. It would be haphazard to generalize these results to law enforcement in general and even to law enforcement in Washington State.

6.3 Next Steps

Though the project period has ended for this study, we plan to process and update any additional surveys returned to the research team over the next couple of months. In addition, mailing supplies were purchased prior to the end of the grant's fiscal term. As the research still has WSU IRB approval, surveys will be sent to the remaining drivers once their contact information is provided by the respective records departments. We anticipate updating all our research records in April of 2019 to determine if the additional surveys affect our results in any appreciable way. If they do, we will send an updated report to all the stakeholders involved in this project, including each of the three agencies.

In the short-term, we plan to consult with leadership from each of the three agencies on a plan to conduct more advanced analyses. The researchers involved in this project have very specific questions that they would like to see addressed, including understanding the differences between officer and driver perceptions of procedural justice, how overall views of the police affect driver perceptions of procedural justice, and how the timing of specific behaviors affects the outcome of a given interaction (for example, does it matter when an officer offers an empathy statement or is it only important to determine if they do or do not offer such a statement). In addition to this, we are committed to analyzing these data as fully as possible to be responsive to agency interests. As such, we will reach out to each of the agencies who participated in this project and see if there are specific analyses that they would like to see us complete. Though we have genuine sample size and variability limitations (as discussed above), we are fully committed to making the most of this research experience to all parties involved.

In addition to this, we plan to continue processing and analyzing traffic stop video footage. Though the coding process for body worn camera footage is time intensive, we believe that these data can be used to examine police interactions in a way that other methods cannot. As we have an ongoing research agreement with Agency C, the researchers involved in this project plan to continue dedicating some resources to expanding our collection of traffic stop incidents. Once we reach 100 to 200 body worn camera recorded traffic stops, we will have considerable ability to examine many of the issues that were not addressed in the current research, including the extent to which there are racial disparities in procedural justice, how the timing of specific actions affects outcomes, and, ideally, the extent to which there is officer-level variation in procedural justice outcomes.

It is important to note that all the actions described in paragraphs above are being done by the researchers as part of their research appointments with their respective universities. No additional costs will be incurred by the Washington Traffic Safety Commission for these additional research activities.

Lastly, one of our overarching goals is to determine the extent to which levels of procedural justice affect future behavior for drivers. Though this was beyond the scope of a 1-year project, we hope that the work completed in this project lays the ground work for future longitudinal analysis of the drivers involved in this study. We hope to work with the agencies who participated in this project and the Washington Traffic Safety Commission to update these results in the future. Specifically, we hope to acquire driver records for the individuals who were stopped as part of this project and to see if there is any relationship between future driving violations and the levels of procedural justice present in the stops that were described in this report. Though this would not definitively show a link between procedural justice and law-abiding behavior (for a variety of reasons, but, in particular, due to not having access to any other police-contacts the person might have had), the presence or absence of a correlation would be telling. If there was a correlation and individuals who had "better" experiences with officers as part of this project were less likely to have future driving infractions, this would suggest that procedurally just interactions could, potentially, result in long term behavior shifts. Alternatively, the absence of a correlation would suggest that a single procedurally just interaction is not sufficient to result in behavioral changes. Though such a project may prove infeasible, we plan, at a minimum, to consult with the appropriate stakeholders to see if such an analysis is possible in the future.

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Appendix A: Community Member Questionnaire

Section 1. Incident-specific perceptions of procedural justice

Instructions: Thinking back to when you were stopped by an officer from [police department], we would like to know your thoughts on how the officer conducted him/herself during the traffic stop.

How was the officer at: (*response categories: poor, fair, good, very good, excellent*)
1. Treating you with dignity and respect?
2. Addressing you politely?
3. Giving you the opportunity to express your views?
4. Really listening to you?
5. Fully understanding your concerns?
6. Seeming genuinely concerned for your and your passengers' safety?
7. Explaining things clearly?

Please provide some more detail about what happened during the stop.
8. At the start of the stop, did the officer say the reason that he/she stopped you? (*yes/no*)
9. Were you aware that this was a violation of traffic safety laws? (*yes/no*)
10. Did you ask the officer any questions about this law? (*a. yes, I asked and the officer provided an adequate explanation; b. yes, I asked but the officer did not adequately explain the law; c. no, I did not ask any questions*)
11. Was the officer responsive to your requests and/or your input? (*a. yes; b. no; c. N/A, I did not speak to the officer during the stop*)
12. How frequently would you say the officer interrupted you? (*a. never; b. rarely; c. occasionally/sometimes while I was speaking; d. almost every time while I was speaking; e. every time I tried to speak; f. N/A*)
13. How frequently would you say the officer attempted to change the subject? (*a. never; b. rarely; c. occasionally/sometimes while I was speaking; d. almost every time while I was speaking; e. every time I tried to speak; f. N/A*)
14. Did the officer use profanity during the interaction? (*yes/no*)
15. During the stop, did the officer ask to search your car? (*a. no; b. yes, but the officer informed me of my right to refuse a warrantless search; c. yes, and the officer did not inform me of my right to refuse a warrantless search; d. yes, and the officer had a warrant for the search*)
16. What happened because of the stop? (*a. verbal warning; b. written warning; c. citation; d. arrest*)
    16.i. If you received a citation, did the officer explain the next steps you should take after the end of the traffic stop? (*a. yes; b. no; c. N/A, I did not receive a citation*)
17. Did the officer thank you at any time during the interaction? (*yes/no*)
18. During the traffic stop, how did you feel this interaction went with the officer overall? (*a. poor; b. fair; c. good; d. very good; e. excellent*)

Section 2. Incident-specific perceptions of officer and citizen emotional states

Instructions: Please provide some more details about how you felt throughout the traffic stop.

Rate your level of agreement or disagreement with the following statements: *(response categories: strongly disagree; disagree; neither agree nor disagree; agree; strongly agree*)

19. I feel that the police officer was fair when making the decision to stop me.
20. When the officer first came up to me during the stop, I felt calm.
21. When the officer started talking to me, I felt calm.
22. At the conclusion of the stop, I felt calm.
23. At the conclusion of the stop, I felt that the officer handled everything fairly.
24. Throughout the duration of the traffic stop, I felt like I was in control of my emotions (e.g. not raising my voice or growing agitated).
25. Throughout the duration of the traffic stop, I felt angry.
26. Throughout the duration of the traffic stop, I felt afraid.
27. Throughout the duration of the traffic stop, I felt like the officer was in control of his/her emotions (e.g. not raising his/her voice or growing agitated).
28. Throughout the duration of the traffic stop, I felt like the officer seemed angry.
29. Throughout the duration of the traffic stop, I felt like the officer seemed afraid.
30. Throughout the duration of the traffic stop, I felt confident that the officer was doing the right thing.

Section 3. General perceptions of legitimacy and procedural justice

Instructions: What are your feelings about certain traffic laws in general?
I feel that... *(response categories: not at all dangerous; slightly dangerous; somewhat dangerous; very dangerous; extremely dangerous)*

31. Talking on a cellphone (not hands-free) while driving is...
32. Texting and driving is...
33. Texting at a stoplight or stop sign is...
34. Driving right after consuming alcohol is...
35. Driving without a seatbelt is...
36. Driving right after smoking marijuana or using consumables is...

Instructions: What are your thoughts regarding the police in your community?
Please rate your level of agreement or disagreement with the following statements: *(response categories: strongly disagree, disagree, neither agree nor disagree, agree, strongly agree)*

37. The police in my community generally try to be fair when making decisions.
38. The police in my community generally make the right decisions for the people in the neighborhood.
39. The police in my community provide opportunities for unfair decisions to be corrected.
40. The police in my community make decisions based on facts, rather than their own personal decisions.
41. The police in my community are generally honest.
42. In general, the police in my community are upstanding officers.
43. The police in my community would treat you with respect if you had contact with them for any reason.

44. The police in my community would really listen to you if you had contact with them for any reason.
45. The police in my community always allow citizens to explain their side of a story or issue before making any decision.
46. The police in my community are always polite when dealing with citizens.

Section 4. General Demographic and Background Questions

Instructions: Lastly, we would like to gather some background information to ensure that we've heard from a diverse population.

47. How many years have you lived in your current community?
48. In the past year, approximately how many positive interactions have you had with the police (of any agency or department)?
49. In the past year, approximately how many negative interactions have you had with the police (of any agency or department)?
50. Are any of your close friends or family members employed in a law enforcement or public safety capacity? (Yes/No)
51. Have you been involved in a traffic accident in the past year? (Yes/No)
52. Has a close friend or family member been involved in a traffic accident in the last two years? (Yes/No)
53. What is your age?
54. What is your gender (Male/Female/Other Specify /Prefer not to identify)
55. How would you identify yourself? Please check all that apply (White, African American, Hispanic or Latino, Asian, Native American, Middle Eastern or North African, Pacific Islander, Other Please Specify, Prefer not to disclose)
56. Generally speaking, do you usually see yourself as (Liberal, Independent/Moderate, Conservative, Other Please specify).

> 56i. You answered "Liberal" or "Conservative" in the prior question, do you consider yourself to be (Strongly Liberal/Somewhat Liberal/Somewhat Conservative/Strongly Conservative).
>
> 56. ii You answered "Independent/Moderate" in the prior question, do you consider yourself to be (Left-Leaning/Right-Leaning/ Not Applicable, I identify with another political affiliation that cannot be classified as either left-leaning or right-leaning).

57. What is your yearly household income? (Less than $20,000, $20,000-$34,999, $35,000-$49,999, $50,000-$74,999, $75,000-$99,999, $100,000-$149,999, $150,000-$199,999, $200,000 or more)

Appendix B: Short-Form Police Officer Questionnaire

Instructions: Please enter the CAD number for this interaction:

1. Overall, how do you feel this interaction went? *(a. poor; b. fair; c. good; d. very good; e. excellent)*
2. How respectful do you feel the citizen was towards you? *(a. very respectful; b. somewhat respectful; c. somewhat disrespectful; e. very disrespectful)*
3. Did you explain to the citizen why you stopped him or her? *(yes/no)*
4. How would you describe the overall interaction with the citizen? *(a. very informal; b. informal; c. formal; d. very formal)*
5. Did you ask the citizen for their input or explanation? *(a. yes; b. no, I did not ask; c. no, the citizen voluntarily provided their input or explanation)*
6. Did you thank the citizen for complying with your requests? *(yes/no)*
7. Did you express concern for the citizen (such as a concern for their safety)? *(yes/no)*
8. Did you provide advice to the citizen or next steps that the citizen should take after the traffic stop? *(yes/no*)
9. Did the citizen appear to be angry at any time during the interaction? *(yes/no)*
10. Did the citizen appear to be afraid at any time during the interaction? *(yes/no)*
11. Did you feel angry at any time during the interaction? *(yes/no)*
12. Please rate your level of agreement with the following statement: Throughout the duration of the traffic stop, I adhered to the principles of procedural justice. *(a. strongly disagree; b. disagree; c. neither agree nor disagree; d. agree; e. strongly agree)*

Appendix C: Long-Form Police Officer Questionnaire

Section 1. Officer perspectives of police strategies and approaches

Instructions: Please rate your level of disagreement or agreement with the following statements: *(response categories: strongly disagree; disagree; neither agree nor disagree; agree; strongly agree)*

1. It is important to give everyone a reason why we are stopping them, even if there is no need.
2. If people ask why we are treating them the way we are, we should stop and explain.
3. When dealing with the community, police officers have a responsibility to explain what happens
next in the legal process.
4. It is very important that officers appear neutral in their application of legal rules.
5. Listening and talking to people is a good way to manage most situations.
6. Officers need to show an honest interest in what people have to say, even if it is not going to change anything.
7. People should be treated with respect regardless of their attitude.
8. Officers should at all times treat people they encounter with dignity and respect.
9. It is important to remind people that they have rights and that we follow them.
10. Police have enough trust in the public for them to work together effectively.
11. Officers should treat citizens as if they can be trusted to do the right thing.
12. Community-Oriented Policing is not *real* policing.
13. Using the principles of Community-Oriented Policing really improves most interactions with community members.
14. Trying to work in partnership with the community is generally a waste of time.
15. Departments have a lot to gain from working together with the community.
16. I try to treat every citizen with respect, regardless of the reason why I'm talking to them.
17. I prefer to use a formal tone of address with every citizen I interact with.
18. I always try to allow the citizen the opportunity to express their side of the story.
19. When citizens speak with me, I try to really listen to what they're saying.
20. I try to express empathy and care for the citizens that I interact with.
21. I try my best to make sure that the citizen understands what I am telling them.
22. I think social skills are the most important tool for a police officer.
23. I think that most cases can be solved by using good social skills.
24. I think talking to civilians is an essential part of policing.
25. I try not to use any type of physical force unless I absolutely have to.
26. I think most situations can be de-escalated verbally instead of through force.
27. I can tell at first glance whether de-escalation will work in a given situation.
28. Sometimes a bit of force is necessary to bring someone to their senses.

Section 2. Police perceptions of stressors and stress

Instructions: We understand that some aspects of the police officer's job can be stressful at times, and would like to gather some of your thoughts regarding your experiences as a police officer.

Please rate how stressful each of these aspects of your job is to you: *(response categories: not at all stressful; slightly stressful; somewhat stressful; moderately stressful; extremely stressful)*

29. Shift work
30. Working alone at night
31. Overtime demands
32. Risk of being injured on the job
33. Work related activities on days off
34. Traumatic events occurring on the job
35. Managing your social life outside of work
36. Not enough time to spend with family and friends
37. Paperwork
38. Eating healthy at work
39. Finding time to stay in good physical condition
40. Fatigue (e.g. from shift work, overtime)
41. Job-related health issues (e.g. back pain)
42. Lack of understanding from family and friends
43. Making friends outside the job
44. Upholding a "higher image" in public
45. Limitations on your social life (e.g. who your friends are, where you socialize)
46. Feeling like you are always on the job
47. Family and friends feel the effects of the stigma associated with your job

Instructions: Please indicate how frequently the following statements apply to you: *(response categories: never; once in a while; some of the time; most of the time; all of the time)*

48. I feel emotionally drained from my work
49. Working with people all day is really a strain for me.
50. I feel burned out from my work.
51. Working with people directly puts too much stress on me.
52. I've become more callous towards people since I took this job.
53. I feel the people I deal with blame me for some of their problems.
54. I can easily understand how people I deal with feel about things.
55. I deal very effectively with the problems of people I deal with.
56. I feel I'm positively influencing people's lives through my work.
57. I feel very energetic.
58. I have accomplished many worthwhile things in this job.
59. In my work, I deal with emotional problems very calmly.

Section 3. General Demographic and Background Questions

60. How many years have you worked in a sworn law enforcement capacity?
61. Which of the following trainings have you received (Please select all that apply)? (Procedural justice training/emotional intelligence training/verbal de-escalation training/crisis intervention training/other-please specify)
62. What is your age?

63. What is your gender? (Male/Female/Other please specify/Prefer not to identify)
64. How would you identify yourself? Please check all that apply (White, African American, Hispanic or Latino, Asian, Native American, Middle Eastern or North African, Pacific Islander, Other Please Specify, Prefer not to disclose)
65. What is the highest degree or level of school that you have completed? (High school graduate or equivalent/Some college credit/Trade or vocational degree/Associate's degree/Bachelor's degree/Master's degree/Professional degree/Doctorate degree)

Appendix D: Complex Social Interaction Lab Codebook for Traffic Stops

Stop Reason
1 = No Reason Given
2 = Reason Given, Suspect Agreed
3 = Reason Given, Suspect Did Not Respond
4 = Reason Given, Suspect Disagreement

Time of Stop Reason
MM:SS

Explanation of Stop Reason
0 = No
1 = Yes

Time of Explanation of Stop Reason
MM:SS

Officer Asks for Citizen Input on Stop Reason
0 = No
1 = Yes

Time of Officer Asking for Citizen Input
MM:SS

Does Officer Acknowledge Suspect's Input on Stop Reason?
0 = No
1 = Yes

Time of Officer Acknowledging Suspect's Input on Stop Reason
MM:SS

Officer Asks About Suspect's Wellbeing
0 = No
1 = Yes

Time of Officer Asking About Suspect's Wellbeing
MM:SS

Officer Empathy Statement
0 = No
1 = Yes

Time of Officer Empathy Statement

MM:SS

Additional Empathy Statement?
0 = No
1 = Yes

Does the Officer Interrupt the Suspect?
0 = No
1 = Yes

Time of First Officer Interruption
MM:SS

Number of Times the Officer Interrupts the Suspect
0 – 100

Does the Suspect Interrupt the Officer?
0 = No
1 = Yes

Time of First Suspect Interruption
MM:SS

Number of Times the Suspect Interrupts the Officer
0 – 100

Suspect in an Emotional State?
0 = No
1 = Yes

Start Time of First Suspect Emotional State
MM:SS

End Time of First Suspect Emotional State
MM:SS

First Suspect Emotional State Level
1 = Low Emotional State
2 = Medium Emotional State (Sobbing, Signs of Agitation)
3 = High Emotional State (Wailing, Rage)

First Type of Suspect Emotional State
(Anger, Sadness, Panic, Rage, Wailing, Frustrated, Pain, Annoyed, Irritated, Shame, Other – Indicate Type)

Write in all that apply

Does Suspect Emotional State Change?
0 = No
1 = Yes

Officer in an Emotional State?
(Is the officer displaying behavior and/or expressing statements indicating negative emotions? Sadness, anger, frustration)

0 = No
1 = Yes

Start Time of First Officer Emotional State
MM:SS

End Time of First Officer Emotional State
MM:SS

First Officer Emotional State Level
1 = Low Emotional State
2 = Medium Emotional State (Sobbing, Signs of Agitation)
3 = High Emotional State (Wailing, Rage)

First Type of Officer Emotional State
(Anger, Sadness, Panic, Rage, Wailing, Frustrated, Pain, Annoyed, Irritated, Shame, Other – Indicate Type)

Write in all that apply

Does Officer Emotional State Change?
0 = No
1 = Yes

Profanity Use by Officer
0 = No
1 = Yes

Time of First Officer Profanity
MM:SS

Number of Officer Profanity Uses
0 – 100

Racial/Derogatory Slur by Officer

0 = No
1 = Yes

Time of First Officer Slur
MM:SS

Number of Officer Slur Uses
0 – 100

Officer Incivility
(Tells the suspect – or bystanders in close proximity to suspect – to shut up)

0 = No
1 = Yes

Time of First Officer Incivility
MM:SS

Number of Officer Incivility Uses
0 – 100

Profanity use by Suspect
0 = No
1 = Yes

Time of First Suspect Profanity
MM:SS

Number of Suspect Profanity Uses
0 – 100

Racial/Derogatory Slur by Suspect
0 = No
1 = Yes

Time to First Suspect Slur Minutes
MM:SS

Number of Suspect Slur Uses
0 – 100

Intensity of Incident
1 = Normal Situation
2 = Medium Level of Intensity (your attention is drawn by the video; evokes a slight emotional response)

3 = High Level of Intensity (Evokes a strong emotional response; you would feel the need to react)

Does Incident Intensity Change?
0 = No
1 = Yes

Suspect Verbal Communication Intensity
1 = Regular Communication (Non-adversarial tone)
2 = Slight Adversarial tone
3 = Highly adversarial tone, combative tone, and argumentative throughout the interaction

Does Suspect Verbal Communication Intensity Change?
0 = No
1 = Yes

Officer Verbal Communication Intensity
1 = Regular Communication (Non-adversarial tone)
2 = Slight Adversarial tone
3 = Highly adversarial tone, combative tone, and argumentative throughout the interaction

Does Officer Verbal Communication Intensity Change?
0 = No
1 = Yes

Suspect Disrespectful Towards Officer?
0 = No
1 = Yes

Start Time of Suspect Disrespect Towards Officer
MM:SS

End Time of Suspect Disrespect Towards Officer
MM:SS

Officer Disrespectful Towards Suspect?
0 = No
1 = Yes

Start Time of Officer Disrespect Towards Suspect
MM:SS

End Time of Officer Disrespect Towards Suspect

MM:SS

Officer Reminds Suspect of Their Rights
0 = No
1 = Yes

Time of Officer Reminding Suspect of Rights
MM:SS

Officer Statement of BWC Recording to Suspect?
0 = No
1 = Yes

Time of Officer Statement of BWC Recording to Suspect
MM:SS

Officer Statement of BWC Recording to another Officer
0 = No
1 = Yes

Time of Officer Statement of BWC Recording to another Officer
MM:SS

Suspect Run?
0 = No
1 = Yes

Time when Suspect Ran
MM:SS

Officer Explains Next Steps to Suspect
0 = No
1= Yes

Time of Officer Explaining Next Steps
MM:SS

Officer Thanks Suspect
0 = No
1 = Yes

Time When Officer Thanks Suspect
MM:SS

Officer Shakes Suspect's Hand

0 = No
1 = Yes

Time of Officer Shaking Suspect's Hand
MM:SS

Officer Threatened Arrest?
0 = No
1 = Yes

Time of Arrest Threat
MM:SS

Detainment/Citation/Arrest Made?
0 = No
1 = Yes

Time of First Detainment/Citation/Arrest
MM:SS

First Detainment/Citation/Arrest Type
1 = Detained and not put in Handcuffs (I.e. you are being detained right now but you are not under arrest)
2 = Detained and put in Handcuffs (I.e. you are being detained right now but you are not under arrest AND put in handcuffs)
3 = Arrested in Handcuffs
4 = Given Citation but not put in Handcuffs (examples: traffic stops, MIP, noise complaints)
5 = Other (use this code if your video doesn't fall into any of these categories or you are unsure)

Additional Occurrence of Detainment/Citation/Arrest?
0 = No
1 = Yes

End of Contact
MM:SS
*Type Length of Video if contact does not end after video ends. If you are given a Stop Time, use those numbers for the end of contact MM:SS

Communication Balance
1 = Officer Does the Majority of Talking
2 = Balanced Talking Between Officer and Suspect
3 = Suspect Does the Majority of Talking