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Determinants of satisfaction with police in a developing country: a randomised vignette study

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ABSTRACT

This study examines the effects of three theoretical factors representing both process-based and outcome-based dimensions of police actions on attitudes towards police using an experimental vignette design. We constructed two vignettes depicting citizens' plausible encounters with police in an urban setting in a developing country (i.e. Accra, Ghana) and varied the level of police procedural justice, measured by quality of treatment, lawfulness, measured by whether or not a bribe is present, and effectiveness, measured by whether or not the offender was caught. In line with previous research, we find that dimensions of police procedural justice, lawfulness, and effectiveness all increase citizens' satisfaction. However, we find that in certain situations, unlawfulness and ineffectiveness can undermine any positive influence of procedural justice policing on satisfaction. These findings have implications for criminal justice institutions seeking to improve relations with citizens and boost satisfaction and ultimately legitimacy.

Introduction

Research shows that police legitimacy can foster voluntary cooperation with authorities and a willingness to solve community problems (e.g. Tyler 1990/2006, Sunshine and Tyler 2003, Hinds and Murphy 2007, Sargeant et al. 2012). One key aspect of police legitimacy, alongside citizens' felt obligation to obey, is public confidence in police actions, policies, and performance (Sargeant et al. 2012). Measurements of confidence and satisfaction reflect 'a "favorable affective orientation" toward an authority, an orientation that prepares a citizen to act as directed by the authority' (Tyler 1990/2006, p. 28). This affective orientation motivates people to 'defer to and obey an official directive or command by legitimate institutions because people respect (and accept) the institution's authority to make decisions and not because of the threat of sanction for disobedience' (Hinds and Murphy 2007, p. 27). Thus improving confidence and satisfaction in police can be an important mechanism to gaining compliance and cooperation without the use of coercion.

As such, policymakers are keen on understanding the determinants of satisfaction with police in order to develop effective strategies to improve police-citizen relations. This is particularly important in societies where police struggle to overcome historical deficits in legitimacy due to colonial, authoritarian, or repressive pasts (e.g. South Africa, Bradford et al. 2014, Ghana, Tankebe 2008b). Generally, researchers point to two dimensions of police actions that influence citizens' judgements and beliefs: actions related to process and actions related to the outcome (Tyler 1990/2006). Process-based

factors that can impact satisfaction with police are the degree to which police treat citizens in a procedurally just manner and relatedly, whether or not the officer's actions are lawful (Tankebe 2013). Outcome-based, or instrumental, factors typically reflect the effectiveness of the police, i.e. whether or not the offender was caught, but can also be related to individual outcomes specific to the encounter such as being issued a ticket (Tyler and Folger 1980). Research shows that people's judgements about police are shaped primarily by process-based factors, namely procedural justice, compared to outcome-based, instrumental factors (e.g. Sunshine and Tyler 2003, Hinds and Murphy 2007).

However, the vast majority of research on determinants of attitudes towards the police relies on cross-sectional surveys, which provide only correlational evidence of these relationships. While these studies contribute greatly to our understanding of the determinants of citizens' beliefs, they nevertheless are limited in their ability to make causal claims. While there is a growing number of experimental studies on determinants of attitudes towards the police, existing experimental research on procedural justice policing focuses almost exclusively on the impact of process-based factors in police-initiated encounters (see generally, Mazerolle et al. 2013, Maguire et al. 2016). Furthermore, as of yet no study has examined the relative impact of process- and outcome-based factors outside of western democratic societies using an experimental design and therefore generally do not incorporate unlawful police actions such as demanding or accepting bribes (Tankebe 2008b).

With these gaps in mind, this study examines the determinants of satisfaction with police in Accra, Ghana using an experimental vignette design. The vignette allows us to model complex situational factors and clearly identify which factors are responsible for individual judgements. In this paper we focus on explaining satisfaction with police as part of a broader latent construct of police legitimacy (Tyler 1990/2006; Sargeant et al. 2012). Specifically, we assess three key influences that reflect process- and outcome-based determinants of citizens' satisfaction with police: procedural justice, lawfulness, and effectiveness. In addition, we explore the variation in effects across two situations in which police and citizens may encounter one another: an involuntary, police-initiated encounter and voluntary, citizen-initiated encounter. The following sections review existing research on determinants of satisfaction with police before discussing the contributions that experimental research has made to the study of beliefs about police.

Determinants of satisfaction with police

Procedural justice

A significant body of literature has identified procedural justice as an important process-based antecedent of people's satisfaction with the police. Procedural justice relates to the perceived fairness of procedures used to arrive at decisions as well as the perceived treatment received during the decision-making process (Tyler 1990/2006). Key elements of procedural justice involve respect, neutrality and trust (Tyler and Lind 1992). Interpersonal treatment received in police-citizen encounters has been found to influence citizens' satisfaction with the police and consequently police legitimacy across a range of contexts (Lind and Tyler 1988, Mastrofski et al. 1996, Tyler and Huo 2002, Sunshine and Tyler 2003, Hinds and Murphy 2007, Reisig et al. 2007). In Chicago, Tyler (1990/2006) showed that when residents were treated in a procedurally fair manner, they were significantly more likely to be satisfied with the police and felt obliged to comply with their directives. This finding has since been replicated in Australia (Hinds and Murphy 2007, Hinds 2009), Jamaica (Reisig and Lloyd 2009), Slovenia (Reisig et al. 2012), Nigeria (Akinlabi 2015), Ghana (Tankebe 2009), and a range of European countries (see Hough et al. 2013). Procedural justice is important because it communicates to people their standing in society and helps strengthen bonds between citizens and police authorities (Tyler, 1990/2006, Sunshine and Tyler 2003, Mazerolle et al. 2012). The key implication from procedural justice literature is that everyday police-citizen encounters can have positive effects on citizens' evaluations of the police, including satisfaction.

Lawfulness: police corruption and misconduct

Closely related to procedural (in)justice, police corruption and misconduct reflect a range of unlawful police actions such as abuse, illegal stops, demanding bribes, and extortion, that 'are likely to be experienced as unfair, disrespectful, and intrusive "procedures"' (Weitzer and Tuch 2005, p. 307). Police misconduct is crucial to understand satisfaction with police because the procedural injustice often demonstrated in police misconduct has the tendency to diminish citizens' moral identification with the police (Tankebe 2009). Police misconduct, and particularly corruption, has gained sustained attention because it shows that policing, as a public good, is not distributed evenly among the populace (see Kane 2005). This may have more potency in the context of a developing country where police misconduct involving corruption and bribery, harassment, aggressive policing or use of force and brutality is often prevalent (Terrill and Reisig 2003, Kane 2005, Tankebe 2010). For example, based on a victimisation survey conducted in South African provinces, Jonck and Swanepoel (2016) found that police corruption significantly reduced people's satisfaction with and public trust in the police. Police misconduct is not limited to the developing world. In the United States, Weitzer and Tuch (2005) have shown that police corruption, measured by an index of use of force and insulting language, stopping people without good reason and corruption (e.g. bribe taking and engagement in drug trade), was found to significantly undermine people's satisfaction with the police. In a cross-national comparison of democratic and non-democratic regimes, Karstedt (2012) found that regardless of regime type, citizens in countries that failed to control corruption were less likely to have confidence in police.

Police corruption is widespread in Ghana. Numerous surveys (e.g. Ghana Governance and Corruption Survey, World Bank 2000) report that the public perceives the Ghana police, and particularly the traffic police, to be corrupt (see also Foltz and Opoku-Agyemang 2015). Since the first wave in 2002, the Afrobarometer Survey has consistently found that citizens rate the Ghana Police to be the most corrupt state institution (Armah-Attoh 2014). Popular accounts of police corruption in Ghana reveal a range of modus operandi. In a newspaper opinion piece on police accountability in Ghana, Akwei (2006) observes that:

> When cases are reported at police stations, it often becomes an opportunity to collect bribes. They create the impression that they cannot help much; sometimes advising victims to go home and let sleeping dogs lie. But immediately some few thousand cedis [currencies] change hands they come alive with enthusiasm to attend to the work for which they are paid with taxpayers' money.

She reports further that, 'it is regrettable and a pity to see our police personnel who patrol our highways extorting money from drivers in the full glare of the public without shame instead of checking that traffic regulations are effectively observed by motorists'. Citizens' experiences such as those described by Akwei have been found to significantly undermine perceptions of police in Ghana (Tankebe 2010). Specifically, Tankebe (2010) found that citizens who experienced vicarious exposure to corruption (e.g. witnessing the payment of a bribe to the police) and perceived anticorruption initiatives to be ineffective were less likely to view the police as fair and trustworthy.

Police effectiveness

Citizens' views on police effectiveness are typically characterised as instrumental, outcome-oriented assessments (Tyler 1990/2006). That is, citizens are also concerned with how well the police perform their general or specific duties, such as reducing crime or solving a problem, respectively. Positive outcomes (e.g. lower crime, catching an offender, solving a problem) are associated with positive views (Weitzer and Tuch 2005). Tyler (1990/2006) found that process-based factors, namely procedural justice, were more influential on citizens' ultimate assessments of police compared to instrumental factors. Studies have since replicated the relative importance of instrumental compared to normative factors on satisfaction with police (e.g. Sunshine and Tyler, 2003, Hinds and Murphy 2007, Akinlabi 2015 cf. Hinds 2009).

However, in certain contexts and situations, effectiveness may take priority over concerns with police process. In South Africa, where crime and insecurity are high, Bradford and colleagues

(2014) found that citizens place greater emphasis on effectiveness when forming judgments about police. They argue that this apparent contrast with results from Anglo-American democratic policing [AADP] countries may be because 'a baseline assumption of police efficacy in AADP countries opens up a greater space for procedural justice judgments, while at the same time dampening variation in legitimacy linked to effectiveness judgments' (Bradford *et al*. 2014, p. 260). In Ghana, Tankebe (2009) argues that effectiveness is particularly important because the police have yet to establish a 'minimum threshold of police effectiveness' (Tankebe 2009, p. 1281).

Interaction effects: procedural justice, lawfulness, and effectiveness. Previous research on the antecedents of attitudes towards the police generally conceive a model in which each theoretical component exerts an independent effect on the outcome (e.g. Hinds and Murphy 2007, Tankebe 2013). While researchers have explored how individual and social characteristics may moderate the effect of procedural justice on attitudes, and specifically police legitimacy (see Mastrofski *et al*. 2002, Wolfe *et al*. 2016), to our knowledge none have explored the ways in which differing police actions in relation to procedural justice, lawfulness, and effectiveness within encounters may interact to influence a citizen's overall judgement. Although these dimensions tend to correlate positively (Tankebe 2013), it is possible that police can treat people with respect whilst accepting a bribe or failing to bring an offender to justice. Thus it is important to consider how theoretical determinants of satisfaction with police may influence one another in police–citizen encounters.

Broadly speaking, there is evidence to suggest that negative actions may have a greater impact on attitudes than positive actions (Baumeister *et al*. 2001; cf. Bradford *et al*. 2009). Skogan (2006, p. 117) argues that '[n]egative events are given more weight, people pay more attention to negative cues, the lessons they carry are learned more quickly and negative experiences have more impact on behavior'. This suggests that negative aspects of police encounters, such as unlawfulness, disrespect, or ineffectiveness, may override any positive aspects of the encounter to diminish overall satisfaction with police. More specifically, given that police lawfulness is closely related to procedural justice and likely to be viewed as unfair and disrespectful (Weitzer and Tuch 2004), we may expect that the presence of unlawful police behaviour (e.g. asking for a bribe) may reduce the effect that positive and procedurally just treatment has on satisfaction with police.

In addition, there is evidence to suggest that individuals may tolerate bribery and corruption under certain circumstances and social contexts (Gatti *et al*. 2003, Pereira and Melo 2015). Research on political attitudes has highlighted the moderating influence of good economic performance or effectiveness on tolerance for corrupt politicians (de Sousa and Mariconi 2013, Klašnja and Tucker 2013, Pereira and Melo 2015). Notably, politicians are frequently re-elected despite corruption convictions and concerns, which has been popularly explained by the Brazilian phrase 'rouba mas faz' or 'he or she steals but get things done' (Pereira and Melo 2015, p. 89). In other words, citizens may be willing to overlook misconduct and corruption when officials are effective and provide the necessary public goods (e.g. good economic opportunities, Klašnja and Tucker 2013). In relation to police, the negative effects of bribery may be overlooked when officers prove to be effective at providing security (Sabet 2013).

Overall, there is reason to expect that the effects of certain police actions on subsequent satisfaction with police are not independent. Specifically, prior research suggests that 'bad is stronger than good' (Baumeister *et al*. 2001), and the effects of positive police interactions, such as procedural justice, are dependent on the presence or absence of any negative treatment or behaviours. Furthermore, the effect of police unlawfulness, particularly corruption, on satisfaction with police may be conditional upon whether or not the officer is perceived to 'get things done' (i.e. they are effective).

Type of police encounter

A key area of consensus in the policing literature is that the type of police encounter is important to citizens' evaluations of the police. The evidence suggests that the type of encounter, whether citizen- or police-initiated, affects people's level of satisfaction with the police. The expansive literature

indicates that citizen-initiated contacts tend to produce higher satisfaction with police than when the encounter is police-initiated (Koenig 1980, Reisig and Correia 1997, Skogan 2005, Weitzer and Tuch 2005, Hinds 2009). This differential outcome in satisfaction is driven by citizens' expectations regarding citizen- or police-initiated encounters (Reisig and Chandek 2001). Citizens who initiate contact with the police typically expect an immediate response. As such, their subsequent satisfaction with police services is more likely to be determined by police performance or effectiveness in responding to their complaints and/or attending to a crime scene. By comparison, police-initiated encounters are more likely to be seen as suspicious or adversarial in nature, meaning that interpersonal treatment (i.e. procedural justice) by the police plays a more significant role in determinants of satisfaction with police.

Empirical research generally supports the notion that procedural justice concerns are more important in police-initiated encounters. For example, in one of the earliest examinations of the effect of police encounters on public attitudes, Tyler and Folger (1980) found that procedural justice had the greatest influence on satisfaction with police when the contact was police initiated, compared to when it was citizen initiated. Conversely, the outcome received from the encounter (i.e. problem was solved) was more important to judgements in citizen-initiated encounters whereas the quality of treatment received (i.e. procedural justice) was more important in police-initiated encounters. Likewise, Wells (2007) found that, in police-initiated encounters, procedural justice was more important than instrumental outcomes and demographic factors in predicting citizens' overall evaluations of police (see also Skogan, 2005, Murphy 2009).

Thus research suggests that the effect of normative and instrumental concerns on citizens' satisfaction with police depends on the type of encounter experienced (i.e. police-initiated or citizen-initiated). Procedural justice concerns tend to override instrumental and outcome-oriented concerns in involuntary, police-initiated encounters, whereas instrumental concerns play a stronger role in voluntary, citizen-initiated encounters. People's satisfaction with the police is therefore an outcome of the 'congruence between individual expectations of services and the perceptions of the actual service rendered' (Reisig and Chandek 2001, p. 95).

Summary: determinants of satisfaction with police

Overall, a large body of literature shows that the perceived procedural justice, lawfulness, and effectiveness of police actions each play a significant role in determining citizens' satisfaction with police. While this relationship has generally been replicated across different contexts, samples, and research designs (Mazerolle et al. 2012), there are still significant gaps in our understanding about the differential impact of these factors outside AADP countries and across encounter type, as well as how these factors might interact to undermine or buffer citizens' satisfaction with police. Furthermore, as the next section will demonstrate, the vast majority of evidence stems from cross-sectional survey designs that cannot draw conclusions regarding causal effects.

Measuring the determinants of attitudes towards police

Traditional surveys are advantageous in that they have high external validity due to their 'representativeness and their multivariate and multivalent measurements' (Atzmüller and Steiner 2010, p. 128). Indeed, the latent concept of procedural justice has proven to be a robust theoretical concept and correlate of police legitimacy and satisfaction across survey settings (see e.g. Hough, Jackson, and Bradford 2013 on European countries). However, this approach to measuring the determinants of police legitimacy and attitudes towards the police cannot adequately disentangle the causal determinants of judgements about police. Cross-sectional survey designs that employ multivariate measurements are often subject to issues with multicollinearity and endogeneity (Atzmüller and Stener 2010). In addition, these studies pose abstract questions that do not capture differential situational reactions and beliefs. Previous research on attitudes towards criminal justice practices and policies shows that global indicators are a blunt instrument that often mask contextual and situational

variation in beliefs (e.g. attitudes towards punishment and the death penalty, see Boots *et al.* 2003). One way to overcome these limitations is to use experimental and quasi-experimental designs.

Experimental methods in police legitimacy research

Experimental and quasi-experimental designs are rarely used to examine the determinants of attitudes towards the police (see Mazerolle *et al.* 2013, Maguire *et al.* 2016). In a recent review of experimental designs in procedural justice research, Maguire *et al.* (2016) identified five studies, excluding their own, that used an experimental or quasi-experimental design to examine the impact of police procedural justice on subsequent attitudes and behaviours. We focus here on three of these studies, including Maguire *et al.*'s study, that utilise a laboratory-style experiment in which respondents are shown or read vignettes describing police-citizen encounters. Characteristics of these encounters, specifically the level of procedural justice, were systematically varied in order to determine the effect of police behaviour on citizen attitudes (Barkworth and Murphy 2015, Lowrey *et al.* 2016, Maguire *et al.* 2016). Generally, the results for experimental studies are in line with survey-based studies in that procedurally just police actions are related to more positive views of police, greater obligation to obey, and a willingness to cooperate with police. It is important to note that while laboratory-style experiments are generally in line with survey studies, field experiments find more mixed and even counter-productive results (see Mazerolle *et al.* 2013, MacQueen and Bradford 2015).

While these studies contribute to knowledge about the causal determinants of citizens' attitudes toward police, they are limited in two important ways. First, each study focuses exclusively on varying one element of police legitimacy: procedural justice. Other possible elements that have only been examined in cross-sectional survey research are effectiveness and lawfulness (e.g. police corruption and misconduct). Second, these studies only present police-initiated encounters, whereas important differences have been found for police-initiated and citizen-initiated encounters.

In the current study, we measure satisfaction with police in two different situations using an experimental vignette design (Jasso 2006, Atzmüller and Stener 2010). Vignettes can be defined as a 'short, carefully constructed description of a person, object, or situation, representing a systematic combination of characteristics' (Atzmüller and Stener 2010, p. 128). Wallander (2009) highlights three advantages to using vignettes over traditional survey research. First, vignettes allow researchers to incorporate key theoretical and contextual factors that are hypothesised to influence the judgement outcome. This is particularly relevant for understanding judgements that tend to be context-dependent, such as satisfaction with the police and police encounters (Mastrofski *et al.* 2002, Skogan 2005, Wells 2007). Second, vignettes are less likely to be subject to social desirability bias due to the covert nature of variable manipulation. Third, since vignettes can incorporate a wide range of possible influences on judgements, they are advantageous in overcoming a respondent's subjectivity and limitations to explaining such influences. According to Wallander (2009, p. 506), 'people are not always aware of the influences certain factors have on their judgements – and are thus incapable of explicating such influences when asked'. In addition, the experimental design of vignettes avoids issues of multicollinearity found in traditional survey designs (Atzmuller and Stener 2010).

The current study

This paper seeks to examine the determinants of satisfaction with police following police- and citizen-initiated encounters. Using two vignettes, we assess three key influences that reflect major dimensions of police legitimacy and satisfaction: procedural justice, lawfulness, and effectiveness. Previous research suggests that procedural justice plays an important role in motivating positive attitudes towards the police. However, much of this research takes place in western Anglophone countries where satisfaction with police is generally established and sustained. Little experimental evidence exists from developing countries, where problems of effectiveness and corruption are more likely to occur.

In Ghana, these issues are well-documented (see generally Tankebe 2008a). According to public surveys, the public generally views the police as corrupt and ineffective in combatting crime, often acting with impunity (Appiahene-Gyamfi 2002), and express 'mistrust and discomfort' towards the police (Aning 2002, p. 9). Thus Ghana is an ideal context for exploring how police practices (e.g. procedural justice, lawfulness and effectiveness) interact in a given situation to influence public attitudes. This study therefore begins to fill these gaps by investigating the independent and conditional effects of police procedural justice, lawfulness, and effectiveness on citizens' satisfaction with police-initiated and citizen-initiated encounters in Accra, Ghana.

Methods

The data used for this study were drawn from a survey conducted in four neighbourhoods in Accra in June 2014. The four neighbourhoods were selected because they reflect diverse socio-economic conditions (high, middle and low class) and ethnic backgrounds (e.g. Akan, Ga-Dangme, Ewe, etc.). Information on socio-economic and ethnic classification of neighbourhoods was drawn from Agyei-Mensah and Owusu (2009). The neighbourhoods of East Legon and Teshie-Nungua are classified as high- and middle-class neighbourhoods, respectively, whereas Chorkor and Nima are considered low-class neighbourhoods. Nima has a high population of migrants from the Northern regions of Ghana as well as other West African countries. Chorkor was originally inhabited by the indigenous Ga-Dangme people, who still comprise the majority of residents.

Prior to distribution of the survey, the main residential streets of each neighbourhood were carefully mapped in order to facilitate the sampling strategy. Sampling proceeded in two steps. First, systematic sampling was used to select every second house on every second main street. Next, convenience sampling was used to interview respondents within the selected household. Research assistants from the University of Ghana in Legon were recruited and trained to conduct face-to-face interviews with residents. A total of 559 residents participated in our survey, with about 25% of the sample drawn from each neighbourhood. About 47% of the interviews were conducted in English, 34% in Twi, 14% in Ga, and the remaining in other local languages (e.g. Ewe, Hausa). After listwise deletion, the sample analysed here is based on 509 respondents. Table 1 displays the demographic characteristics of the sample, including age, sex, education level, and whether or not the household had a WC, an indicator of socio-economic status.

Design

Each participant was presented with two vignettes that depict different police-citizen encounters. The contents of the vignettes contain three experimental manipulations covering dimensions of satisfaction with police. All factors are measured dichotomously, i.e. either the factor is present or not, resulting in a 2 × 2 x 2 design and eight possible scenarios for each of the citizen-initiated and police-initiated vignettes. Thus the respondent was read one of the eight possible scenarios for the police-initiated and citizen-initiated vignette, respectively. The first factor is the degree to which officers

Table 1. Demographic characteristics and mean satisfaction with police among respondents in Accra, Ghana (n = 509).

	Mean/Percent	SD	Min	Max
Age (ref: 18–30)				
31–50	41%	0.49	0	1
50+	22%	0.41	0	1
Gender (1 = male)	58%	0.49	0	1
Education	4.22	1.75	1	7
WC (1 = yes)	57%	0.50	0	1
Satisfaction with police (citizen-initiated encounter, Vignette 1)	2.41	1.05	1	4
Satisfaction with police (police-initiated encounter, Vignette 2)	2.23	1.04	1	4

Notes: SD: Standard deviation. Education is measured on a continuous scale from 1 (no schooling) to 7 (first degree or higher).

treat the individual(s) in the situation with respect (respect vs. no respect). This factor reflects a key aspect of procedural justice: quality of treatment. The second factor is whether or not a bribe is transacted between police and the citizen, reflecting the officer's lawfulness in the situation (bribe vs. no bribe). The third factor is effectiveness, measured as whether or not the offender in the situation has been caught (effective vs. ineffective). Examples from the full vignettes are presented in Appendix 1.

The primary measure of respondents' attitudes towards police was an item that asks the respondent 'if you were in Kofi's position, how satisfied overall would you be with the police?' The responses ranged from 1 (not satisfied at all) to 4 (very satisfied). We presented three items as manipulation checks to determine whether each of the experimental conditions had their intended effect. The items asked respondents whether they considered the officer in the situation to have 'violated the law' (lawfulness factor), whether they were 'reasonable and fair' (procedural justice, quality of treatment factor), and whether the police did their job properly (effectiveness factor). For both vignettes, respondents were significantly more likely to agree that police violated the law in the bribe condition, were reasonable and fair in the procedural justice condition, and did their job properly in the effectiveness condition (full results presented in Appendix 2 Table A1). This indicates to us that our experimental manipulations had the desired effects.

Vignette 1: citizen-initiated encounter

The first vignette describes a citizen (Kofi) who has had his car stereo system stolen as he reports the crime to the local police. The police at the station either 'listen carefully, showing concern and respect' (respect) or 'laugh at him, and say he is stupid for getting his car broken into' (no respect). Kofi then returns home, and two weeks later he is contacted by the police informing him that his stereo has been found, and the offender was either caught (effective) or not caught (ineffective). The police officer then tells Kofi that he must fill out a report and either pay a bribe (bribe) or not pay a bribe (no bribe) in order to retrieve his stereo.

Vignette 2: police-initiated encounter

The second vignette describes a situation in which a citizen (Kofi) is on his way to Accra in a taxi where the driver is not abiding by the rules. The taxi is driving recklessly except when passing police barriers. Upon passing a barrier, a police officer stops the taxi. We presented the scenario this way in order to establish the taxi driver's previous rule-breaking behaviour, but so that the initial police-citizen encounter is neutral, i.e. the police officer stops the taxi for a routine check. The officer asks for the driver's license and either 'calmly explains that he is just doing his job' and should be on his way soon (respect) or 'shouts at the driver to shut up, and that he is in charge here' (no respect). As the officer inspects the license, the driver either offers the officer a bribe and the officer accepts (bribe), or the driver does not offer the officer a bribe (no bribe). The officer then either detects the license is fake and issues a fine (effective) or does not (ineffective). In the ineffective condition, the driver informs Kofi (and the respondent) that the license was fake.

Analytical procedure

The analysis proceeded in two stages. First, descriptive results for satisfaction with police are presented for each experimental factor and vignette. Second, we estimated the independent direct effect of each factor on satisfaction with police. All models are estimated using OLS procedures and robust standard errors. In order to examine the interaction effects between procedural justice, lawfulness, and effectiveness, we constructed interaction terms for each factor in the vignette. There are three two-way interactions (Respect*Bribe, Respect*Effectiveness, and Bribe*Effectiveness) and one three-way interaction (Respect*Bribe*Effectiveness). The estimated interaction effects allow us to examine what combinations of police actions are more likely to result in satisfied citizens, and likewise what combinations are likely to undermine satisfaction with the police. As a robustness check, all models were estimated including demographic characteristics of age, gender, education,

and SES. The inclusion of these variables did not substantively affect the results. Therefore the results are presented without controls.

Results

Table 2 presents the mean level of situation-specific satisfaction with police in Vignette 1 (citizen-initiated encounter) and Vignette 2 (police-initiated encounter). Across all experimental factors and vignettes, respondents were more likely to be satisfied with the police under conditions of procedural justice, lawfulness, and effectiveness. However, the degree to which respondents are more satisfied varies across vignettes, suggesting there are situation-specific characteristics in each vignette that are influencing individual perceptions.

Table 3 displays the results for direct and moderating impact of procedural justice, lawfulness, and effectiveness on satisfaction with the police. Models 1 and 3 report the standardised estimates for direct effects of experimental factors on satisfaction for each vignette, whereas Models 2 and 4 report the estimates for moderating (interaction) effects of experimental factors on satisfaction. Model 1 shows that procedural justice (respect), lawfulness (bribery), and effectiveness all have a direct, independent positive effect on satisfaction with police in the citizen-initiated encounter.

Model 2 in Table 3 adds the interaction terms for all experimental factors. The results show that the effect of procedural justice, as measured by quality of treatment, is moderated by police lawfulness,

Table 2. Mean satisfaction with police according to experimental treatment factor and vignette scenario ($n = 509$).

Experimental factor	Citizen-initiated encounter, Vignette 1		Police-initiated encounter, Vignette 2	
	Mean	SD	Mean	SD
No respect	2.21	0.95	2.09	0.96
Respect	2.65	1.11	2.40	1.12
No bribe	2.90	0.99	2.51	1.07
Bribe	1.89	0.84	1.95	0.94
Not effective	2.29	1.02	1.72	0.73
Effective	2.51	1.07	2.64	1.08

Note: SD: standard deviation.

Table 3. OLS regression results for direct and conditional effects of experimental factors on satisfaction with police ($n = 509$).

	Citizen-initiated encounter, Vignette 1		Police-initiated encounter, Vignette 2	
	Model 1	Model 2	Model 3	Model 4
Experimental factor	β	β	β	β
Respect (0 = no respect)	.20***	.32***	.11**	−.01
	(5.40)	(4.05)	(2.82)	(−0.09)
Bribe (0 = no bribe)	−.48***	−.21**	−.26***	−.06
	(−12.67)	(−2.75)	(−6.83)	(−1.05)
Effectiveness (0 = not effective)	.13***	.19*	.44***	.51***
	(3.57)	(2.54)	(11.82)	(7.73)
Respect*Bribe		−.23*		.05
		(−2.51)		(0.61)
Respect*Effectiveness		0.15		.22**
		(1.81)		(2.62)
Bribe*Effectiveness		−0.13		−.26**
		(−1.41)		(−3.00)
Respect*Bribe*Effectiveness		−0.16		−.14
		(−1.82)		(−1.56)
Constant	2.55***	2.29***	1.89***	1.77***
	(30.61)	(19.27)	(26.41)	(21.52)
F-value	72.53***	78.60***	66.26***	35.89***
R^2	0.29	0.35	0.28	0.33

Notes: t-values in parentheses. All models are estimated using robust standard errors. *$p < .05$; **$p < .01$; ***$p < .001$.
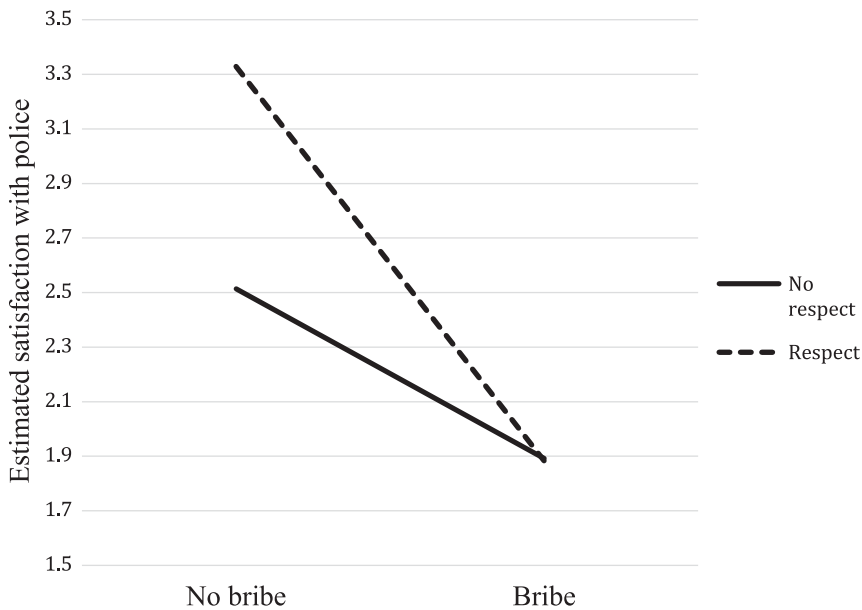
Figure 1. Estimated satisfaction with police by procedural justice (respect) and lawfulness (bribery) experimental factors (citizen-initiated encounter, Vignette 1).

i.e. whether or not a bribe was present. In order to understand this conditional effect, we estimated the predicted level of satisfaction based on each significant combination of conditions. Figure 1 displays the estimated satisfaction for respect and no respect under conditions of lawfulness (no bribe) and unlawfulness (bribe). The figure shows that under conditions of unlawfulness, i.e. when a bribe is present, the quality of treatment (respect) has no effect on satisfaction with police in a citizen-initiated encounter. This suggests that concerns over corruption and bribery override any positive impact procedural justice may have. However, lawfulness did not have a conditional effect on effectiveness, nor was the three-way interaction term significant, indicating that the combination of positive or negative conditions did not have an effect on satisfaction in this situation.

Model 3 displays the direct effects of each experimental condition on satisfaction with police for the second vignette depicting a police-initiated encounter. Again, the results show that procedural justice, lawfulness, and effectiveness have significant independent effects on satisfaction with police. Unlike the first scenario where lawfulness showed the strongest effect (Model 1: $\beta = -.48$, $t = -12.67$, $p < .001$), here effectiveness has the strongest relative effect ($\beta = .44$, $t = 11.82$, $p < .001$).

Model 4 reports the estimates for moderating effects between different experimental factors. Contrary to the first vignette (citizen-initiated encounter), lawfulness did not significantly condition the effect of procedural justice on satisfaction in the police-initiated encounter. However, effectiveness conditioned the effects of both procedural justice and lawfulness on respondents' satisfaction with police. We illustrate these interaction effects in Figures 2 and 3. Figure 2 shows that the effect of lawfulness (i.e. the presence of a bribe or no bribe) depends on whether or not the police were effective in detecting and punishing the taxi driver's rule-breaking. In other words, officer ineffectiveness undermined satisfaction even when officers were acting in a lawful manner. Likewise, Figure 3 shows that the effect of respectful and fair treatment on satisfaction depends on the effectiveness of the officer. When officers are ineffective, respectful treatment by officers does not improve citizen satisfaction with police.

Overall, the results show that the effects of procedural justice, lawfulness, and effectiveness differ across situational contexts. In certain situations, the conduct of the officer on certain aspects of legitimacy can override concerns about procedural justice or lawfulness.
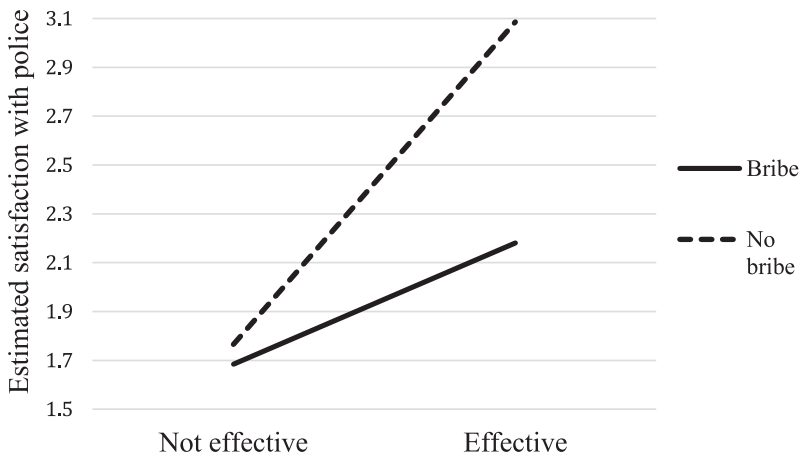
Figure 2. Estimated satisfaction with police by lawfulness (bribery) and effectiveness experimental factors (police-initiated encounter, Vignette 2).
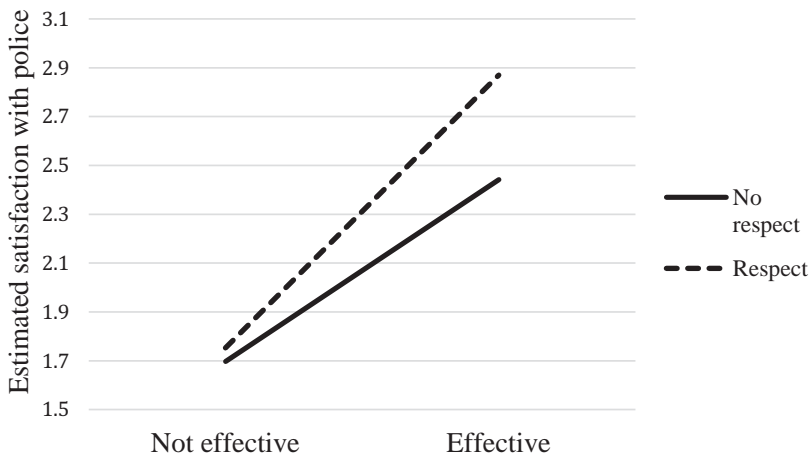

Figure 3. Estimated satisfaction with police by procedural justice (respect) and effectiveness experimental factors (police-initiated encounter, Vignette 2).

Discussion

Previous research has found process-based aspects of police actions such as procedural justice to be a robust correlate of positive attitudes towards the police, including obligation to obey, willingness to cooperate, and overall satisfaction (Skogan, 2005, Tyler 2006, Hinds and Murphy 2007, Tankebe 2013). With few exceptions, much of this literature relies on cross-sectional survey design, which is limited by issues of multicollinearity and endogeneity. Studies using experimental and quasi-experimental designs generally support the notion that procedural justice policing has a positive, causal impact on attitudes towards the police (Mazerolle *et al.* 2013, Maguire *et al.* 2016). However, these studies neglect other possible determinants of police legitimacy and satisfaction such as effectiveness and lawfulness (Tankebe 2013).

In this study we empirically examined the effect of three theoretical factors representing both process-based and outcome-based dimensions of police actions on attitudes towards police using an experimental vignette design. We constructed two vignettes depicting citizens' plausible encounters with police in an urban setting in a developing country (i.e. Accra, Ghana) and varied the level of

police procedural justice, measured by quality of treatment, lawfulness, measured by whether or not a bribe is present, and effectiveness, measured by whether or not the offender was caught. The results show that all three dimensions have a direct independent effect on satisfaction with police, even when controlling for demographic characteristics. Police actions that are procedurally just, lawful, and effective can significantly boost citizens' positive views of police in both voluntary and involuntary police encounters. Interaction effects show that the impact of certain police actions are conditional on other dimensions of police actions. Specifically, in the citizen-initiated encounter, the effect of procedural justice on satisfaction depended on whether or not the police officer asked for a bribe to return their stolen belongings. When police act unlawful, procedural justice cannot improve citizens' views of police. In the police-initiated encounter, the effects of lawfulness and procedural justice were dependent on police effectiveness.

These findings have implications for the study of police legitimacy in at least three ways. First, this study contributes to a growing body of observational and experimental research on attitudes towards police that show that criminal justice actions and beliefs are context- and situation-dependent (Reisig and Chandek 2001, Mastrofski et al. 2002, Murphy, 2009, Cherney and Murphy 2011). However, contrary to previous research (e.g. Wells 2007), we found that the effect of procedural justice on satisfaction was larger in the citizen-initiated encounter compared to the police-initiated encounter. This may be because the effectiveness factor in the police-initiated encounter was more prominent in the vignette. Nonetheless, this highlights the importance of diversity in police encounters, and the possibility that certain characteristics or outcomes may overshadow other police actions. As research on beliefs about punishment and criminal justice policies has found (see Boots et al. 2003), global measures of attitudes may not adequately capture the nuanced judgements about police policy and actions in different contexts. Situation- or context-specific factors may partially explain the differential effects found between police-initiated and citizen-initiated encounters. Indeed, as Mastrofski et al. (2016) find, police have a great deal of discretion in using procedural justice in police-initiated encounters to gain compliance from individuals. The use of procedural justice by officers was dependent upon a range of situational and individual characteristics, including the type of encounter, the number of bystanders and witnesses, and police perceptions of citizens' 'moral worthiness' and conduct. Both situational and individual characteristics influence police behaviour, and consequently how citizens view that behaviour. Thus future research should aim to account for these contextual differences when explaining social judgements, and move towards observational or vignette designs.

Second, in line with procedural justice research conducted in non-Western settings (Bradford et al. 2012, Tankebe 2009), both effectiveness and lawfulness, in this case corruption, played a significant role in determining satisfaction with police actions. This study goes further to show that in certain situations, ineffectiveness and corruption can undermine any positive effects procedural justice policing may have on citizens' attitudes. Collectively, these findings have implications for the study of procedural justice policing in societies where corruption and impunity are widespread (see e.g. Mexico; Ochoa and Jimenez 2012, Sabet 2013). In these contexts, broader institutional problems such as official misconduct, lack of capacity to solve crimes, inefficiencies in the courts, and overcrowding in the prison system may undermine any advances made in policing through procedural reforms. As such, programmes and policies aiming to improve citizen satisfaction in these societies are likely to be more effective when combined with comprehensive institutional reforms targeting the reduction of corruption and impunity.

Finally, this study highlighted the importance of examining conditional and moderating effects between dimensions of police actions to understand subsequent attitudes towards the police. Procedural justice, effectiveness, lawfulness, and other dimensions are expected to have a direct independent effect on citizens' attitudes and compliance behaviour (Tyler 1990/2006). This is not surprising given that, typically, these actions are positively correlated (Tankebe 2013). That is, an officer who acts procedurally just is also likely to act lawful.

However, our analysis shows that, although bribery has a significant negative impact on citizen satisfaction, that effect is mitigated when police act effectively (i.e. satisfaction with police is higher among those who were exposed to the bribery and effectiveness condition compared to the bribery and ineffectiveness condition, see Figure 2). This is in line with political attitudes research on the moderating influence of government effectiveness and economic performance on support for corrupt politicians (Klašnja and Tucker 2013), known as the 'rouba mas faz' ('he or she steals but get things done') effect (Pereira and Melo 2015). This research demonstrates that 'rouba mas faz' effects are relevant to the study of attitudes and support for police actions, particularly in societies where corruption is more prevalent and therefore more likely to be tolerated to some extent (Gatti *et al*. 2003). For example, Sabet (2013, p. 26) documents this balance between corruption and performance among police and citizens in Mexico: one officer is quoted saying, 'He is an outstanding cop; he just likes to grab a little extra money'. Since the majority of police legitimacy research is conducted in advanced democracies with low levels of corruption, little is known about the corruption-performance tradeoff and potential 'rouba mas faz' effects on satisfaction with police (cf. Sabet 2013). Future research should explore these conditional effects in order to understand under what circumstances citizens' concerns with outcomes (i.e. effectiveness) outweigh procedure (i.e. corruption, procedural injustice).

Limitations and conclusion

This study has several strengths, notably in its experimental design, incorporation of three theoretical dimensions of police action, and non-western urban sample. However, there are some limitations to this research that are important to note.

First, while we incorporated two vignettes in order to examine effects across different types of police encounters and tried to minimise the differences between experimental factors, we recognise that the vignettes differ on some key attributes which limits comparability across scenarios. Notably, there are differences between the presentation of the lawfulness factors. In the first scenario, the police ask for a bribe, whereas in the second scenario the police do not ask but are offered and accept a bribe. The intention was to capture a general condition in which the observer (Kofi) is exposed to police bribery and corruption. However, the bribe in the first vignette may be considered a 'harassment bribe', or a bribe required for services that the individual is entitled to for free (Basu *et al*. 2016, p. 832), which is more likely to be viewed as unjust (see Rose-Ackerman 2010). Thus the perceived social harm done by harassment bribes may be more serious compared to receiving a bribe for illegal or more efficient services (as in the police-initiated encounter, Vignette 2). Future research should construct multiple vignettes that vary the direction of the bribe (i.e. solicitation vs. receiving) as well as the bribe amount in order to explore possible differential effects on attitudes towards police.

In addition, the first vignette depicts a situation in which the citizen receives a favourable outcome (i.e. his stereo was returned), which may be interpreted as effectiveness. We focused particularly on one dimension of effectiveness, that is, whether or not the offender was caught, and the manipulation checks ensured that the effectiveness manipulation worked as intended (see Appendix 2, Table A1). Nevertheless, the inclusion of a positive outcome may confound the effect of the negative effectiveness manipulation.

Second, satisfaction with police was measured using a single survey item, which may be subject to greater measurement error (Gardner *et al*. 1998). However, satisfaction with police has been previously measured using a single item (see e.g. Reisig and Chandek 2001, Skogan 2005) and has been shown to correlate strongly with other measures of police legitimacy (Hinds and Murphy 2007). Nevertheless, future studies should use multiple items to capture citizens' responses to police-citizen encounters in vignettes in order to minimise measurement error.

Finally, the experimental factors used here only reflect a single aspect of theoretically relevant police actions, namely quality of treatment (procedural justice), bribery (lawfulness), and catching

the offender (effectiveness). This approach misses key dimensions of procedural justice (e.g. quality of decision-making, neutrality, participation, and trustworthiness), lawfulness (e.g. abuse of power, misconduct, and use of violence), and effectiveness (e.g. ensuring justice, and safety) (Sargeant *et al.* 2012, Tankebe 2013, Mastrofski *et al.* 2016). In order to capture all theoretically relevant factors that may influence attitudes towards police, researchers should design vignettes that incorporate and randomly vary different behavioural manifestations of procedural justice, lawfulness, and effectiveness.

It is important to note that experimental vignette studies have limited external validity (Atzmüller and Stener 2010). In addition, the respondents in this study were recruited by convenience and therefore are not representative of the wider population. Future research should assess these theoretical and empirical relationships using more representative samples in both developed and developing countries.

This study has important implications for criminal justice institutions seeking to improve relations with citizens and boost satisfaction and ultimately legitimacy. In certain situations, unlawfulness and ineffectiveness can undermine any positive influence of procedural justice policing on satisfaction. Procedural justice policing is therefore more likely to improve satisfaction when it is implemented alongside broader criminal justice reforms to reduce corruption and impunity, and establish baseline public security and safety. If these issues are not addressed, the quality of treatment will likely have no effect on citizens' attitudes.

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Appendix 1

Respondents were presented with two vignettes depicting a citizen-initiated encounter and a police-initiated encounter, respectively. Within each vignette, three experimental factors are varied to reflect the presence or absence of experimental conditions, i.e. respect vs. no respect, bribe vs. no bribe, and effective vs. not effective, resulting in a $2 \times 2 \times 2$ design and eight possible scenarios for each of the citizen-initiated and police-initiated vignettes. Thus the respondent was read one of the eight possible scenarios for the police-initiated and citizen-initiated vignette, respectively. To illustrate, we have provided two example scenarios (out of the possible eight) for each vignette: one that reflects positive police-citizen interaction on all factors (respect, no bribe, and effective) and one that reflects negative police-citizen interaction on all factors (no respect, bribe, and not effective). The experimental manipulations are bolded for clarity.

Citizen-initiated encounter, Vignette 1: All positive factors

Kofi wakes up one morning to find his car broken into and his brand new stereo system stolen. He goes to his local police station to report the theft. When the citizen explains his situation to the police officer on duty, *the officer listens carefully,*

showing concern and respect for Kofi's problem. Once finished with the report, Kofi leaves and returns home. Two weeks later, the police call Kofi, informing him that his stereo has been found, *and the offender has been caught*. The officer on the phone informs him that in order to get his belongings back, he must *return to the station to fill out a report*. Kofi fills out the report and retrieves his stereo.

Citizen-initiated encounter, Vignette 1: All negative factors

Kofi wakes up one morning to find his car broken into and his brand new stereo system stolen. He goes to his local police station to report the theft. When the citizen explains his situation to the police officer on duty, *the officer laughs at him, and says he is stupid for letting his car get broken into*. Once finished with the report, Kofi leaves and returns home. Two weeks later, the police call Kofi, informing him that his stereo has been found, *but the offender has not been caught*. The officer on the phone informs him that in order to get his belongings back, he must return to the station to fill out a report *and pay 20 GH₵*. Kofi fills out the report, *pays the bribe* and retrieves his stereo.

Police-initiated encounter, Vignette 2: All positive factors

Kofi charters a taxi to Accra. On their way the taxi driver, driving recklessly, spies a police patrol on the side of the road. As the taxi driver passes, he makes sure he is obeying all the laws so as not to see any trouble from the police. The taxi passes the patrol without a problem, but they soon come upon another patrol. This time, the police stop the taxi. The police officer asks to see the driver's license. The driver complies, but protests that he wasn't doing anything wrong. The officer *calmly explains that he is just doing his job, and if all checks out he will soon be on his way*. The officer inspects the driver's license. *The officer detects that the driver's license is a fake. After calling to check with headquarters, he issues the driver a fine.*

Police-initiated encounter, Vignette 2: All negative factors

Kofi charters a taxi to Accra. On their way the taxi driver, driving recklessly, spies a police patrol on the side of the road. As the taxi driver passes, he makes sure he is obeying all the laws so as not to see any trouble from the police. The taxi passes the patrol without a problem, but they soon come upon another patrol. This time, the police stop the taxi. The police officer asks to see the driver's license. The driver complies, but protests that he wasn't doing anything wrong. *The officer shouts at the driver to shut up, and that he is in charge here.* As the officer inspects the driver's license, *the taxi driver offers a bribe of 5 GH₵. The officer accepts the bribe, and asks the driver to carry on. As the taxi driver moves away, he tells Kofi – his passenger – that the license he showed to the officer was fake and the police officer couldn't detect it.*

Appendix 2

Table A1. Manipulation check for factors used in each vignette.

	Citizen-initiated encounter, Vignette 1				Police-initiated encounter, Vignette 2			
Factor	Mean	SD	t(df)	p-value	Mean	SD	t(df)	p-value
	Assessment: police were responsible and fair							
No respect	1.99	0.81			2.26	0.83		
Respect	2.64	1.04	−7.87(505)	0	2.65	1.03	−4.78(505)	0
	Assessment: police violated the law							
No bribe	2.29	1.01			2.15	1.06		
Bribe	3.4	0.87	−13.26(503)	0	3.14	0.96	−10.98(507)	0
	Assessment: police did their job properly							
Not effective	2.21	1.03			1.78	0.93		
Effective	2.49	1.12	−2.98(503)	.003	2.76	1.09	−10.75(506)	0

Notes: Mean differences were estimated using two-sample *t*-tests with equal variances. SD: standard deviation; df: degrees of freedom.