Title

Ethnicity, trust and cooperation with police: Testing the dominance of the process-based model

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Abstract

Some scholars question whether procedural justice is the key driver in promoting support for the police across all cultural contexts. In this study we examine the relationship between procedural justice, police performance, trust in the police and the willingness to cooperate with police, and compare Vietnamese and Indian ancestral groups to the general population in Australia. We find that procedural justice is less effective in encouraging cooperation with the police among Vietnamese and Indian ancestral groups when compared to a general population group. Procedural justice is also found to be less effective in promoting trust among Vietnamese participants, compared to the general population group. Instead, police performance is found to be more effective in promoting trust in the police among Vietnamese participants. We set out to explain these observed differences and describe why some ethnic minority groups may judge process-based factors to be less important when it comes to trusting police or being willing to cooperate with police.

Introduction

Policing by consent has long been viewed as a fundamental feature of modern policing and assumes that police effectiveness is premised on people's willingness to defer to police authority. Central to this process is the extent to which the police win the trust and confidence of the population they serve (Goldsmith, 2005). The more people trust the police the more likely they are to cooperate with them. The idea of community cooperation is central to the Peelian model of modern policing, which recognises that citizens need to act as the 'eyes and ears of the police' (Goldsmith, 2005; Reiner, 2010).

Considering the fundamental role that public trust and cooperation plays in the context of policing, scholars have set out to explore the antecedents of trust and cooperation (Goldsmith, 2005). One area of research that has received attention is the role of procedural justice in shaping trust, and in turn, the willingness to cooperate with police (Tyler, 2005). The theoretical basis for this connection lies in Lind and Tyler's (1988) *group value model*. In the context of policing, this model implies that when people feel they are valued members of society (expressed through procedurally just treatment) they are more likely to cooperate with authorities. This is because procedurally fair treatment conveys status within a group and reaffirms one's attachment to a group. Research supports this theoretical model. Studies find that when police are fair in their treatment of people, and in the decisions they make, people are more likely to trust the police and to cooperate with them – that is they are more likely to defer to police authority (e.g. Murphy et al., 2008; Sunshine and Tyler, 2003; Tyler, 2005). While police performance is also theorised to influence trust in police and cooperation, it is often argued that trust in authorities and cooperative

behaviour is primarily influenced by procedural justice (Tyler, 2005). Hence displays of procedural justice are intimately linked to achieving policing by consent.

While the majority of research supports the procedural justice model – specifically, that people care more about receiving procedural justice than they care about police performance – some recent studies indicate procedural justice may be less important among minority ethnic groups. Moreover, for some ethnic groups or cultures, police performance may be more effective in shaping support for the police (see Murphy and Cherney, 2011; Tankebe, 2009). Encouraging public trust in police, as well as cooperation with police, is important. Hence, the present study seeks to examine the role of procedural justice and police performance in building trust and cooperation. Of particular interest will be how ancestry influences these relationships. We examine the relative influence of procedural justice and police performance on trust and cooperation with police, comparing specific ancestral groups to a general population sample. We aim to test whether procedural justice or police performance have the same effect in shaping trust and cooperation across ethnic and general population sample groups, and attempt to account for any differences. In doing so the generalisability of the process-based model of policing is assessed and implications for police policy and practice are considered.

Literature Review

Competing models of trust and cooperation: performance versus process

Two theoretical perspectives dominate debates around the antecedents of trust in police and cooperation with police: these are the "performance" and the "process-based" perspectives (Tyler, 2005: 326; see also see Sunshine and Tyler, 2003). In the performance perspective trust and cooperation rest upon the ability of the police to

prevent and control crime and provide a "credible" sanction risk to offenders (Sunshine and Tyler, 2003: 514). As the regulation of crime is viewed as a core function of the police, trust in police and cooperation with police will be higher when the police are more effective (Sunshine and Tyler, 2003; Tyler, 2005; Tyler and Fagan, 2008).

Alternatively, the process-based perspective emphasises the normative or relational dimension of policing (Jackson and Sunshine, 2007; Sunshine and Tyler, 2003). The central premise of this model is that the procedures police use when interacting with citizens are essential to public trust and cooperation (Tyler, 2005). Police can activate self-regulatory behaviour (such as cooperating with the police for the benefit of the community) by invoking the belief that the police are procedurally just and trustworthy (Sunshine and Tyler, 2003). Procedural justice captures two key issues: "quality of treatment" and "quality of decision making" (Reisig et al., 2007: 1006). Quality of treatment refers to the extent to which citizens believe police treat them with dignity, respect, politeness and fairness (Reisig et al., 2007; Tyler, 2001; Tyler, 2005). Quality of decision-making captures the extent to which police convey neutrality and transparency and allow citizens to participate when they make decisions (Reisig et al., 2007; Tyler, 2001; Tyler, 2005).

Ethnicity, trust and cooperation with police

Despite strong support for the process-based model in the US (including among Black, Hispanic and Muslim Americans) (see for example Tyler, 2005; Tyler et al., 2010), and the UK (see for example Jackson and Bradford, 2010; Jackson, et al., 2012; Jackson et al., 2013), recent Australian research questions the applicability of the process-based model to all ethnic, cultural or ancestral groups. For example, using a national probability survey of 1,203 Australian citizens, Murphy and Cherney

(2012) found that procedural justice had a significant negative effect on cooperation with police among their ethnic minority group sub-sample. In contrast, procedural justice was found to have a significant positive effect for an Anglo-Saxon sub-sample. In another study, Murphy and Cherney (2011: 249) found that ethnicity actually moderated the association between procedural justice and cooperation – suggesting that procedural justice was "ineffective" for ethnic minority group members in Australia. These studies indicate that the process-based model of trust and cooperation might apply differently to minority cultural, ethnic or ancestral groups.

Unpacking the mechanisms behind trust and cooperation among ethnic minority groups is important because research finds some ethnic groups are less likely to trust the police and are more likely to be victimised (e.g. Bowling et al., 2003; Brown and Benedict, 2002; Mason, 2012; Meredyth et al., 2010). Ethnic minority groups can therefore require greater levels of police assistance (Roder and Muhlau, 2012). Research indicates that minority groups report they are often subject to over-policing, mistreatment at the hands of police, racial stereotyping and police bias (e.g. Bowling et al., 2003; Brown and Benedict, 2002; Brunson and Miller, 2006; Meredyth et al., 2010; Sivasubramaniam and Goodman-Delahunty, 2008; Warren, 2010; Weitzer and Tuch, 2004).

Compounding these experiences and perceptions can be the fact that for members of ethnic groups who are recent arrivals to a country, police can be inherently distrusted due to experiences in their country of birth (Cherney and Chui, 2010; Roder and Muhlau, 2012). Recent research in Ghana suggests that people living in contexts where there is a high risk of crime will place greater importance on police performance when considering cooperating with police – because their "personal and collective security" is a key concern (Tankebe, 2009: 1282; see also Kochel et al.,

2013). Moreover people may not expect fair treatment from the police when they associate compliance with the police with force and intimidation (Kochel et al., 2013; Tankebe, 2009). We suggest people who believe that their ethnic group is at a higher risk of both victimisation and having problematic encounters with the police, may therefore place more emphasis on police performance when evaluating the police and considering cooperating with police. For example, when one's ethnic group is perceived to be at a higher risk of victimisation, the likelihood that police will be effective in following up a call for service may matter more than the quality of treatment they receive from police. Likewise, ongoing narratives of problematic relationships between one's ethnic minority group and the police may reduce the expectation of fair treatment from police (see Tankebe, 2009 for a similar argument). Police performance may therefore be central to trust and confidence in the police and the willingness to cooperate with police among some ethnic minority groups.

The Current Study

Knowing that different cultural and ethnic groups have problematic experiences with police, it is important to examine the effect of ethnicity on trust and cooperation, and the antecedents of trust and cooperation. While some prior studies do examine the link between ethnicity and cooperation with police, gaps remain in our understanding of this relationship. For example while Murphy and Cherney (2012) find that procedural justice outcomes are not the same for ethnic minority group members, their research primarily focused on in-group and out-group dynamics between the police and ethnic groups, moreover, they and did not specifically contrast police performance and procedural justice. More broadly, research rarely examines the

relationship between ethnicity, procedural justice, performance, trust and cooperation with police.

Most published studies in this field have based their analyses on general population survey data (e.g. Jackson and Bradford, 2010; Murphy et al., 2008; Reisig et al., 2007). The ability to reliably compare patterns across different minority groups using such data is often limited due to small sample sizes (i.e. the proportion of the sample that identify with a particular ethnic group is low). A few notable studies undertaken in the US have included samples from African-American and Hispanic populations (e.g. Tyler, 2005) and have found that the process-based model does persist across different ethnic groups. However, there are reasons to question whether the process-based model always applies in countries outside the US. It has been noted that US citizens may be particularly interested in fair-treatment and due-process because of cultural values tied up with the overwhelming power of the state (Tonry, 2007; see Jackson et al., 2012 for a discussion). It is for this reason that procedural justice may be so effective in the US. Reisig et al. (2012: 149) further suggest additional research is necessary to determine whether or not the process-based model has "empirical validity across borders".

In response to these issues, we draw on Australian survey data to examine models of trust in police and cooperation with police across the general population and specific ethnic groups. To provide some context, Australia is a western-democratic nation characterised by multiculturalism with approximately 27 percent of Australian residents born overseas (based on ABS, 2012a). The Australian Community Capacity Survey (ACCS) is an Australian study of residents living in two major cities: Brisbane and Melbourne. Brisbane is the capital city of the state of Queensland and at the last census in 2011 had a population of approximately 2 million

(based on ABS, 2012b). Melbourne is the capital city of the state of Victoria with a population of approximately 4 million in 2011 (based on ABS, 2012c). Australia's population was approximately 21.5 million in 2011 (based on ABS, 2013). The ACCS involves both a large-scale sample of 9,240 residents from the general population and an additional booster sample of 908 people from Arabic-speaking, Vietnamese and Indian backgrounds (called hereafter the Ethnic Community Sample (ECS)). For the purposes of the present study, only the Vietnamese and Indian groups who participated in the ECS will be included in our analyses.[1]

People from Vietnamese and Indian backgrounds represent prominent minority ancestral groups in Australia. Migrants from India and Vietnam make up approximately 2.5 percent of the Australian population, and are among the top-five country of birth groups according to the Australian Bureau of Statistics (based on ABS, 2012a). In our analyses we test the relative importance of procedural justice and police performance, comparing participants from these ancestral groups to the general population sample drawn from the ACCS.

Method

Sample and procedures

Wave 3 of the ACCS survey was a joint collaboration between researchers at the University of Queensland and Griffith University funded by the Australian Research Council Centre of Excellence in Policing and Security [CEPS RO700002] and two Australian Research Council Discovery grants [DP1093960, DP1094589]. The ACCS survey was conducted between August and December 2010. Slightly different methods were employed to select the ACCS general population sample and ECS. For the general population sample, a three stage sampling process was used

(see Mazerolle et al., 2012). First, 298 suburbs[2] were randomly selected from Brisbane and Melbourne. Second, households were randomly selected from these suburbs using Random Digit Dialling (RDD) with the Electronic White Pages (EWP) telephone directory. Third, one participant per household was asked to participate in the survey if they were over 18 years of age and had most recently celebrated a birthday. Interviews were conducted using Computer Assisted Telephone Interviewing (CATI). The consent rate was 50.1 percent.[3]

RDD was deemed unviable for the ECS due to the small numbers of eligible participants within the total population of Brisbane and Melbourne (see ABS, 2012a). Instead, the ECS employed a list of the most common surnames[4] (and accompanying phone numbers) for each ethnic group in tandem with the EWP.[5] A sampling pool of 10,800 households (1,800 names per ethnic group per city) attached to these surnames was then selected from the same postcode areas as participants in the general population survey (see Murphy et al., 2012). Participants were selected if they were over 18 years of age and were the next in the household to celebrate a birthday. Interviews were face-to-face and conducted by trained researchers in the interviewees preferred language.[6] Participants were paid for their participation. The consent rate was 43.2 percent.[7]

Sample characteristics

Participants in the general population sample were aged between 18 and 99, with a mean age of 51.7 (SD=15.6, median=52). Of these, 38.6 percent were male, 90.1 percent spoke English at home, 68.9 percent were married or living in a de facto relationship, and 38.3 percent had a university qualification. The median annual household income was AUS$60,000- $79,999 and 2.6 percent of the sample was unemployed. Compared to the results of the last census in 2011, the general

population survey sample was slightly under representative of males and slightly over representative of older people and those with higher levels of education (based on ABS, 2013). We therefore control for the demographic characteristics expected to impact on attitudes towards the police in the analyses.

Indian and Vietnamese participants of the ECS were aged between 18 and 86 with a mean age of 39.2 (SD=12.7, median=37). This sample was therefore younger, overall, when compared to the general population sample. There was a higher proportion of males, compared to the general population sample (48.7 percent), and participants were less likely to have a university degree (55.9 percent), more likely to have a lower annual household income (the median was AUD$40,000–$59,999), and more likely to be unemployed (3.7 percent). Comparable to the general population survey sample, 69.9 percent of Indian and Vietnamese participants in the ECS were married or were living in a de facto relationship. This sample more closely resembled the national population (according to the 2011 census) in terms of demographics than the general population sample (based on ABS, 2013). Aside from the fact that 96.7 percent of Indian and Vietnamese participants of the ECS spoke a language other than English at home.

The data collected in the ACCS general population survey and the ECS were merged together to form our overall sample (with the exclusion of the Arabic-speaking group). This resulted in a total sample size of 9,846. Scales measuring the key constructs employed in this paper were identical across both surveys. By merging the general population and ECS data we are able to examine the moderating effect of minority ancestry on key variables.

Measures

The ACCS survey instrument included measures of cooperation with police, trust in police, procedural justice and police performance. Items incorporated to measure key policing constructs were based on those employed by Tyler and others in the US (Reisig et al., 2007; Sunshine and Tyler, 2003; Tyler, 2005), the UK (Bradford and Jackson, 2010; Jackson and Bradford, 2010), and Australia (Murphy et al., 2010).

Cooperation with police:

Items gauging cooperation with police were measured on a Likert scale from 1 "very unlikely" to 5 "very likely". Participants were asked to indicate how likely they would be to cooperate with the police if the situation arose (e.g. "How likely would you be to call the police to report a crime?") (Alpha=.836).

Trust and procedural justice:

To measure trust in police we employed two items capturing institutional trust[8] ("I trust the police in my community" and "I have confidence in the police in my community") (Alpha=.891). Procedural justice was measured with seven items tapping into the quality of treatment by police (e.g. "Police treat people with dignity and respect") and the quality of decision-making (e.g. "Police make decisions based upon facts, not their personal biases or opinions") (Alpha=.865)[9]. Items capturing trust in police, and procedural justice were measured using Likert scales ranging from 1 "strongly disagree" to 5 "strongly agree".

Police performance:

Police performance was measured on a Likert scale of 1 “very poor” to 5 “very good”. Participants were asked four questions designed to gauge how well they feel police prevent and control crime and disorder (e.g. “On the whole, how good a job do you think the police are doing in your neighbourhood at solving crime”) (Alpha=.881).

Assessing construct validity:

To compute these scales, the mean was taken for the items in each scale for each participant. Before constructing scales we employed a multi-stage process to test the discriminant validity of our measures of policing using SPSS and AMOS. First, we used a random sampling procedure to split our sample into two. Using the first sample we conducted an exploratory factor analysis (EFA) with promax rotation. Inspection of the scree plots and eigenvalues indicated that a four-factor solution provided a good fit for the observed data (following the removal of two items which cross-loaded). The results of the factor analyses appear in Table 1. Bartlett’s Test of Sphericity (x^2=35120.594(105); p>0.001) and the Kaiser-Meyer-Olkin statistic (.906) indicate the factor analysis was appropriate for the observed data.

[Insert Table 1]

Using the second random sample we conducted a confirmatory factor analysis (CFA) using AMOS. Here we tested the model derived from the EFA. As AMOS does not allow for missing data we used expectation-maximisation in SPSS to impute missing values prior to analysis. The model appears in Figure 1 below. Goodness-of-fit statistics appear in Table 2 below. The model had a significant x^2 indicating the model was not an exact fit for the observed data (x^2 (84) = 760.251, p < .001), however this is likely attributed to the sensitivity of the x^2 statistic to large sample sizes. Furthermore, the relevant goodness-of-fit statistics indicate that the model fits

the data well. All parameter estimates were sound and the critical ratios were all statistically significant at the $p < .001$ level. The standard errors were not excessively large or small (see Byrne, 2010). Correlations between factors are displayed in Figure 1 below. Of note, there is a relatively strong correlation between procedural justice and trust, however based on the results of the EFA and the goodness-of-fit statistics for the CFA model we precede with a four-factor solution.[10]

[Insert Figure 1]

[Insert Table 2]

Ancestry:

Ancestry group was determined in the merged ACCS and ECS data file in the following way. Participants in both the ACCS and ECS were asked to identify their primary cultural/ethnic background or ancestry. We recoded this variable so as to compare Vietnamese and Indian participants to the remainder of the sample (1= Other/General Population, 2=Vietnamese, 3=Indian). A total of 32 and 137 respondents to the ACCS identified themselves as coming from either a Vietnamese or Indian background, respectively.

Demographic and control variables:

Prior research demonstrates that demographic characteristics and contact with police are associated with attitudes towards police (Brown and Benedict 2002; Skogan 2006). We therefore included a number of additional demographic and control variables in the analyses. These were: age, gender (1=male; 0=female), education (1=no schooling to 7=postgraduate qualifications), annual household income, (1=less than AUD$20,000 to 8= AUD$150,000 or more)[11], region (Brisbane=1; Melbourne=0) and contact with police (1=contact in the past 12 months; 0=no

contact). For descriptive statistics and correlations between the key policing variables for the full sample see Tables 3 and 4.

[Insert Table 3]

[Insert Table 4]

Results

Regression analyses

We constructed several Ordinary Least Square (OLS) regression models to predict our two key dependent variables: a) Trust; and b) Cooperation. Analyses were undertaken in STATA12.

Trust:

We begin with the models predicting *trust* in police. To examine the relationship between our key independent variables and trust in police, independent variables were entered in blocks. Demographic variables including ancestry and other control variables were entered first, followed by the procedural justice and police performance variables. Interaction terms between procedural justice and the ancestry groups and between police performance and the ancestry groups were then included in the final block. All of the continuous variables were mean centred before inclusion in the models. The categorical variables ancestry and income were entered into the models as a series of dummy variables (e.g. 1= Vietnamese; 0=other).

The results are presented in Table 5 below. In Model 1 we find a number of our demographic and control variables are associated with trust in police. Older people reported higher levels of trust in police (β=.056; p ≤.001), males (β= -.070; p ≤ .001), and those with higher levels of education (β=-.037; p ≤ .001), reported lower levels of trust in police. People with higher incomes (>$150,000) were more likely to

trust the police (β=.042; p ≤ .05), compared to those with low incomes (<$20,000). These findings are largely in line with prior research on perceptions of police (see for example Brown and Benedict, 2002). It is interesting that income and education appear to have different effects on trust in police; however, these results are fairly consistent with prior research on this topic (see for example Murphy and Cherney, 2011, 2012). We find region is also related to trust in the police. Our results show that people living in Brisbane had higher levels of trust in police overall (β= .026; p ≤ .05), compared to those living in Melbourne. A difference between the two cities is not surprising considering that Brisbane and Melbourne are governed by distinct policing organisations. Lastly, ancestry was entered as a series of dummy variables with the remainder of the sample (herein referred to as the general population) as the reference category. We find that, compared to the general population sample, Vietnamese (β= -.033; p ≤ .001) and Indian (β= -.031; p ≤ .01) participants were less likely to trust the police. These results suggest there are differences in the way people from Vietnamese and Indian ancestral backgrounds perceive the police, compared to perceptions held by the general population.

[Insert Table 5]

Procedural justice and police performance were entered in Model 2. Overall, these results are consistent with prior research in the US, the UK and Australia: both police performance and procedural justice are positively associated with trust in the police. In other words, if people feel they are treated with procedural justice and that police tackle crime effectively, people will be more likely to trust police. Also consistent with prior research, procedural justice (β=.447; p ≤ .001) was more important than police performance (β=.368; p ≤ .001) when predicting trust in the police.

In Model 3 we included interaction terms for Vietnamese and Indian ancestry groups with procedural justice and police performance, compared to the reference group – the general population. In essence we examined whether ancestral group moderated the effects of procedural justice and police performance on trust in the police. The interaction terms for the Indian group are not significant. These results suggest procedural justice is not more or less important for predicting trust in police compared to the general population. Nor is police performance more or less important for predicting trust compared to the general population. This is not surprising considering the non-significant relationship between Indian ancestry and trust in police in Model 2.

There is, however, a moderating effect for the Vietnamese group. Our interaction term for Vietnamese ancestry and procedural justice is negative and significant (β= -.035; p $\leq$.001). In contrast, the interaction term for Vietnamese ancestry and police performance is positive and significant (β= .060; p $\leq$.001). These results suggest that when predicting trust in the police procedural justice is less important and police performance is more important for the Vietnamese group, compared to the general population.

Cooperation:

Next, we turn to the regression analysis predicting the *willingness to cooperate* with the police. Demographic variables including ancestry and other control variables were entered first in Model 1. We entered procedural justice and police performance in Model 2, followed by trust in the police in Model 3 – this allows us to test whether or not trust in police mediates the effect of other policing variables on cooperation with police (see Sunshine and Tyler, 2003). Interaction terms between procedural

justice and the ancestry groups and between police performance and the ancestry groups were then included in the final model. As with the analyses for trust, all of the continuous independent variables were mean centred before inclusion in the models. The categorical variables ancestry and income were entered as a series of dummy variables (e.g. 1= Vietnamese, 0=other). The results are presented in Table 6 below.

As with trust in the police, in Model 1 we find that older people (β=.106; p $\leq$.001), and people living in Brisbane (β=.052; p $\leq$.001), were more likely to indicate a willingness to cooperate with the police. Males were less willing to cooperate with police compared to females (β=-.079; p $\leq$.001). People with lower incomes (<$20,000) were less likely to indicate a willingness to cooperate with police compared to the other income groups. In contrast to our findings for trust in police, education was positively and significantly associated with the willingness to cooperate with police (β= .046; p $\leq$.001) as was prior contact with the police (β=.078; p $\leq$.001). Lastly, we find that people who identified as Vietnamese (β= -.102; p $\leq$.001) and Indian (β= -.049; p $\leq$.001) were less likely to indicate a willingness to cooperate with police compared to the general population.

[Insert Table 6]

We find police performance (β=.184; p $\leq$ .001) is a slightly stronger predictor of cooperation with police than procedural justice (β=.156; p $\leq$ .001) when entered in Model 2. Despite this, the results presented in Model 3 support the process-based perspective. That is, in Model 3 trust in police (β=.159; p $\leq$ .001) has the strongest effect on the willingness to cooperate with police when compared with procedural justice (β=.085; p $\leq$ .001) and police effectiveness (β=.126; p $\leq$ .001). Adding the trust in police variable also reduces the coefficients for procedural justice and police performance. Sobel tests confirm trust in police partially mediates the relationship

between procedural justice and cooperation with the police (z=11.594; $p \leq .001$), with trust also partially mediating the relationship between police performance and the willingness to cooperate with police (z=11.511; $p \leq .001$). This pattern of results supports the process-based model of cooperation with police. Procedural justice is thus shown to be the primary antecedent of trust in police and, in turn, trust in police is the primary antecedent of the willingness to cooperate with police.

While the relationship between procedural justice and cooperation with police is found to be mediated by trust in the police, the relationship between procedural justice and cooperation with police is also moderated by ancestry. We find both the interaction terms for Vietnamese ancestry and procedural justice (β= -.029; $p \leq .01$) and Indian ancestry and procedural justice (β= -.028; $p \leq .01$) to be negative and significant. These findings show that compared to the general population, procedural justice matters slightly less for predicting cooperation with police for both the Vietnamese and Indian groups. For the Vietnamese and Indian ancestral groups, it seems procedural justice is less important for encouraging the willingness to cooperate with the police. No interaction between ancestry group and police performance was found.[12]

Discussion

While our data are cross-sectional in nature, our findings advance prior research on ethnicity and procedural justice. Our study suggests that the processes around building both trust in police and encouraging cooperation with police differ across ethnic groups. We tested the unique relationship between procedural justice, police effectiveness, trust and cooperation with police across two distinct minority ancestral groups in Australia: Vietnamese and Indian. We compared these results to findings of a general population sample.

To summarise our findings, we found support for the process-based model of trust and cooperation with the police among the general population. Consistent with prior research in the UK, Australia and the US (e.g. Jackson and Bradford, 2010; Murphy et al., 2008; Sunshine and Tyler, 2003), trust in police was the key predictor of cooperation with police, and trust in police was driven primarily by perceptions of procedural justice. As expected, we found that perceptions of procedural justice, rather than police performance dominated the formation of trust in police among the general population. When considering the two minority groups, we found that, compared to the general population, the Vietnamese and Indian ancestral groups were less likely to trust the police, and were also less likely to indicate a willingness to cooperate with police.

Of particular interest were our findings relating to the interaction effects. When compared to the general population, procedural justice mattered *less* for both the Indian and Vietnamese minority groups when predicting the willingness to cooperate with police. We also found that procedural justice was *less* important to the Vietnamese group when predicting trust in police, compared to the general population. Instead, police performance appeared to be *more* important to the Vietnamese group for predicting trust. In other words, the Vietnamese group was more concerned with police effectiveness and less concerned with procedural justice, compared to the general population. Overall, it seems that while the process-based model of trust and cooperation holds up in the Australian context, process-based factors appear to be less effective in shaping trust and cooperation with police among particular minority groups.

Why might process-based concerns matter less for some ethnic minority groups when determining their willingness to cooperate with police? One explanation

can be found in Lind and Tyler's (1988) *group value model*. The group value model explains the link between procedural justice and evaluating (and cooperating with) authorities as a function of social identification (Tyler, 2006). This model suggests that police are representatives of the state and as such are important representatives of the norms and beliefs of society. When police – as representatives of the state – use procedural justice, they reaffirm a sense of 'group identity' or societal membership among citizens (Tyler, 2006). When citizens are treated with respect and fairness their social standing within society is therefore upheld, encouraging allegiance to group norms and cooperation with group authorities. Importantly, the group value model suggests that police should be more effective in eliciting cooperation from those who identify more strongly with the police and the dominant group the police represent. It may be that having a distinct ancestral identity detracts from an overall sense of allegiance to the dominant societal group (see for example Murphy and Cherney, 2011). As a result procedural justice is less important in predicting cooperation with police for the Indian and Vietnamese ancestral groups in our sample.

Another explanation for these results also draws on the work of Tyler. Tyler et al. (2000) describe a process based on the power distance held between an individual and an authority (see also Hofstede, 1980). The higher the power distance, the greater the inequality between those in power and those not in power. In high-power distance cultures Tyler et al. (2000: 1141) suggest people "place less weight on relational factors and more weight on outcomes". In such cultures people do not necessarily expect fair treatment from their authorities; instead they tend to focus on other more instrumental factors. While we did not find support that instrumental police performance factors were more important for cooperation with the police among the Indian and Vietnamese ancestral groups compared to the general population, we did

find that process-based factors were less important to encouraging the willingness to cooperate with police among these groups. As Indian and Vietnamese cultures are both considered to be high-power distance cultures (Bochner and Hesketh, 1994; Hofstede, 1980), this latter finding certainly lends support to a power-distance interpretation. However, we should note that our study did not include measures of power distance or social identity. Future research should therefore explore these factors in the context of ethnicity, trust and cooperation with police to ascertain their validity as explanations of our findings.

Our findings relating to trust in the police are more difficult to explain. We found that police performance was more important (and procedural justice was less important) for the Vietnamese group when determining trust in police – compared to the general population group. However, there were no significant differences between the Indian and general population groups. Why might Vietnamese people focus more on police performance factors in relation to trust? It has been previously suggested that police performance should be particularly important to trust and confidence in the police in contexts where personal security is of central concern (e.g. Tankebe, 2009). In turn, concerns about safety and security can lead to an enhanced focus on the ability of police to be effective. Tankebe's (2009) empirical research in Ghana supports for this argument. He finds that people are less concerned about procedural justice and are more concerned with the ability of police to actually prevent and control crime when living in a high-crime context (i.e. where people expect a high-risk of violent crime)(see also Kochel et al., 2013). We know from prior research that some ethnic groups are more likely to be victimised and are less likely to trust the police as a result (Bowling et al., 2003; Mason, 2012; Meredyth et al., 2010). Our particular findings, however, do not fully support such an argument. While both

Indian and Vietnamese participants were more likely than the general population to have safety concerns, post-hoc analyses reveal that our Indian sample was much more likely to express a fear of crime than our Vietnamese sample (see also Dunn et al., 2011; Mason, 2012).[13] Had the safety explanation been valid, we would have expected to see the Indian group focus more on instrumental performance concerns than the general population group in predicting trust and cooperation with police.

So what accounts for the different findings for the Indian and Vietnamese groups with respect to trust? Differences might be explained by historical and cultural legacies. Historically, Vietnamese and Indian immigration to Australia has followed different patterns. Vietnamese immigration to Australia has been driven primarily by a desire to flee a war-torn country and a communist regime. Between 1975 and 1995 approximately 111,000 refugees and emigrants resettled in Australia (Davies and McKay, 2012; Hoang, 2011). It has been noted that resettlement following the "strains of war and refugee trauma, as well as resettlement issues" may have contributed to the high levels of crime and poverty experienced by Vietnamese immigrants in Australia (Meredyth et al., 2010: 235). This experience may have underwritten a potentially distinct and distrustful attitude toward authorities such as the police. In fact, Vietnamese immigrants have experienced high levels of bias from police and have been viewed by police to be a particularly challenging group to govern (Bird, 1992; Meredyth et al., 2010). Indian migration to Australia, in contrast, has been more recent and has tended to be driven by "educational opportunities (many students stay on after graduating), and the increased family-sponsored immigration" policies of the Australian government (Guy, 2011: 215). In fact, "the number of Indians admitted to Australia grew by 25 per cent each year" between 1999 and 2007 (Guy, 2011: 215). In contrast to the Vietnamese experience, Indian migration to Australia has not been

driven or shaped by a desire to flee a war-torn country. Historical experiences of conflict and more recent experiences of biased policing in Australia may have therefore contributed to the Vietnamese population group focussing less on whether or not they are treated well by authorities and more on whether or not the police are effective in dealing with their safety concerns. Sunshine and Tyler (2003) similarly point to the effects of a crisis or tumultuous event that might impact the way perceptions of police are formed. Drawing on prior research (see Deutsch, 1990; Nagata, 1993; Sullivan et al., 1982) they note that "during times of strife and difficulty, people become more focused on the effectiveness of police performance and less concerned about issues of process and rights" (Sunshine and Tyler, 2003: 552).

The explanations above do not necessarily explain the findings we have obtained. It is unclear which of the ideas put forth above is most likely to explain the differences between the Vietnamese, Indian and general population groups. Perhaps all may be contributing simultaneously in some way. What is clear, however, is that more research is needed to explore historical and cultural differences between minority groups within Australia to understand the variations we found and to identify what may explain procedural justice and police performance effects across different population groups.

Policy Implications and Conclusion

Our study examined the applicability of the process-based model of policing across different ethnic groups in Australia. It is important for police agencies to understand the mechanisms that influence trust and cooperation among ethnic minority groups, as minority groups are known to experience problematic relationships with police

(Meredyth et al., 2010; Pickering et al., 2008; Sivasubramaniam and Goodman-Delahunty, 2008). We found the process-based model was less effective at explaining cooperation with the police among Australian-based Vietnamese and Indian participants, and was also less effective at explaining trust in police among the Vietnamese participants when compared to the general population.

With regard to police practice, our findings do not suggest a move away from a procedural justice model that emphasises fair and respectful treatment of all groups in the population. Indeed, procedural justice was no more or less important for the Indian group in predicting trust in police, suggesting that procedural justice can be important to some minority groups. Rather we suggest that procedural justice may simply be less important for encouraging positive perceptions of police among some ethnic minority groups in comparison to the general population. Our results in fact suggest that Australian police should also place particular emphasis on communicating successful crime and safety outcomes to some ethnic minority groups in Australia – particularly when looking to promote trust in police. Indeed, the findings of previous procedural justice research that suggest procedural justice consistently dominates concerns across all population groups (e.g. Tyler and Fagan, 2008; Sunshine and Tyler, 2003), somewhat obscures the relative importance of police performance. Our findings highlight the merit of police communicating successful outcomes to communities, in addition to demonstrating fair procedures. Policing by consent is intimately connected to both procedural justice and police performance. Our findings also emphasise the shortfalls of a one-size-fits-all approach to policing; different groups within the community have different expectations and requirements of police services. Moves by police agencies to acknowledge the specific needs of different communities (e.g. by employing ethnic

liaison officers to better communicate with ethnic and other minority groups – see Johnston, 2007), are moves in the right direction.

Notes

1. Data from the Arabic-speaking group was not included in this study due to the fact that this sample identified as coming from numerous different countries. The resulting sample size across these different countries was too small to allow for meaningful analysis.

2. A suburb is a geographic locality similar to a neighbourhood. In Australia the suburb is a unit of measurement for census and crime statistics.

3. The consent rate reflects the number of participants proportional to the number of people who refused to participate.

4. This method has been used successfully in other large-scale surveys of culturally and linguistically diverse (CALD) populations such as the Australian component of the 2004 International Crime Victimisation Survey (see Challice and Johnson, 2005).

5. Sampling was conducted by an agency specialising in the sampling of CALD populations. The lists of common surnames included 116 for the Indian group, 34 for the Vietnamese group and 99 for the Arabic-speaking group.

6. Surveys were first translated into Vietnamese or Indian languages, and then back-translated into English. This was to ensure accuracy in the translation process.

7. The discrepancy between the consent rate in the general population sample and the ECS may be due to the method of sampling. The general population sample included a sampling frame of participants who had completed a survey some years earlier. Hence, these participants were more likely to agree to participate in a follow-up survey than participants who received 'cold calls' in the ECS.

8. In research examining trust in the police two measures of trust can be used. The first is *institutional trust*. This measures the degree to which police are "honest and competent" (Tyler, 2005: 324). The second measure is *motive-based trust*. This

measure captures the extent to which police are "benevolent and caring" (Tyler, 2005: 325). Both measures of trust are expected and found to predict cooperation with police (see Tyler, 2005 for example). In this study we employ a measure of institutional trust.

9. Alpha reliability statistics are for the final scales which were constructed following factor analyses.

10. Considering this high correlation it was important to ensure that multicollinearity was not evident in our regression analyses. Upon conducting these analyses, the mean Variance Inflation Factor was <2 in the final models. We concluded that multicollinearity was not an issue.

11. There were a large number of missing values for the income variable due to a large number of respondents either refusing to respond to this question or reporting that they did not know their annual household income. To ensure that these participants were not excluded from the analyses, income was entered in the analyses as a series of dummy variables with valid categories for "don't know" and "refused".

12. This study incorporates a mixed-mode design which can have limitations (see De Leeuw, 2005 for a discussion). That is, participants in the ACCS general population sample were surveyed using a CATI method, while the ECS participants were surveyed using a face to face method. Face to face delivery of the questionnaire was considered optimal for the ECS due to language barriers – here a uni-mode design was not practicable. In an attempt to control for the possibility of a mode-effect we created a dummy variable to measure survey-mode (i.e. face to face versus CATI survey). However the correlation between this dummy variable and the variable measuring "ancestry" was high (Cramer's V=.883). Moreover, upon inclusion in our models we noted some evidence of multicollinearity (raised Variance Inflation

Factors). This is likely due to the fact that ancestry confounded the survey mode effect. That is, 78% of the Vietnamese and Indian participants were surveyed face-to-face, so to include both a survey mode variable and ancestry variable into the model will not be able to tease apart whether the effects are due to ancestry or survey mode. We did not, therefore, end up controlling for survey-mode in our final models. We acknowledge the possibility of a mode-effect is a limitation of our study.

13. To examine further the issue of safety/fear we ran a mean comparison on the variable "I feel safe walking down the street after dark" (measured on a Likert scale of 1 'strongly disagree' to 5 'strongly agree'), comparing across Indian, Vietnamese and general population groups. We found that, on average, while the Indian and Vietnamese participants had lower feelings of safety compared to the general population group (mean=3.70), the Vietnamese participants actually reported feeling safer on average (mean=3.60), compared to the Indian group (mean=3.43).

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Table 1 Factor Analyses of Policing Constructs with Promax Rotation – Pattern Matrix, Eigenvalues and Explained Variance (N=4385)

	Factor			
	1	**2**	**3**	**4**
Cooperation with police				
...call police to report a crime?			.803	
...help police find someone suspected of committing a crime by providing information?			.869	
...report dangerous or suspicious activities to police?			.796	
...willingly assist police if asked?			.790	
Trust in police				
I trust the police in my community				.927
I have confidence in the police in my community				.869
Procedural justice				
Police treat people with dignity and respect	.697			
Police are always polite when dealing with people	.801			
Police listen to people before making decisions	.890			
Police make decisions based upon facts, not their personal biases or opinions	.795			
Police respect people's rights when decisions are made	.781			
Police performance				
Dealing with problems that concern you		.721		
Preventing crime		.919		
Keeping order		.875		
Solving crime		.855		
Eigenvalues	6.193	2.215	1.569	.735
Explained Variance	41.284	14.765	10.459	4.898

Note: Values <.300 not shown

Table 2 Measures of fit indices for the CFA model (N=4891)

X^2	*d.f.*	$X^2/d.f$	**CFI**	**RMSEA**	**GFI**	**AGFI**
760.251	84	9.051	.984	.041	.980	.971

Figure 1 First-order Confirmatory Factor Analysis of Perceptions of Police with Standardized Coefficients and Squared Multiple Correlations (N=4891)

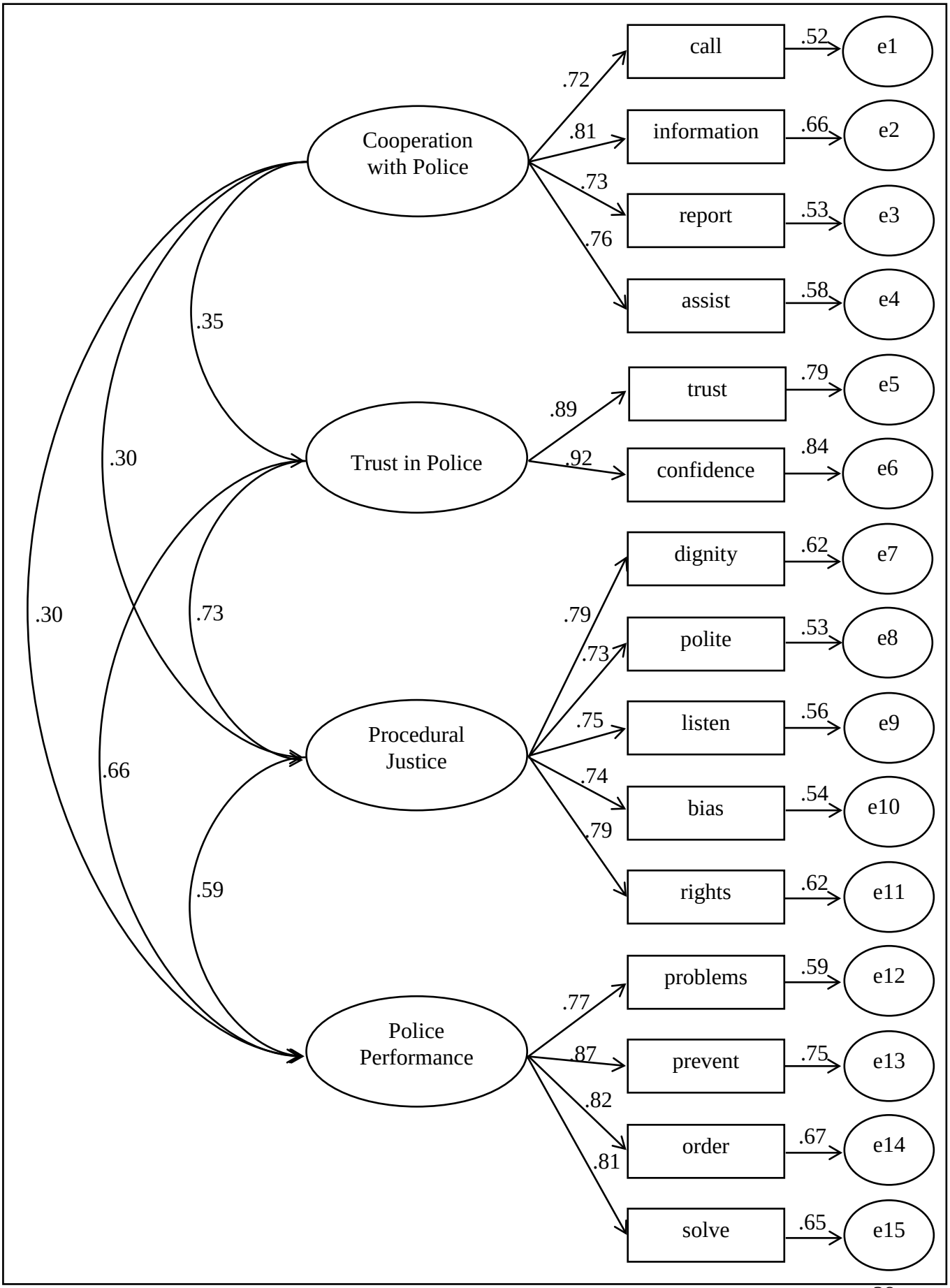

Table 3 Descriptive Statistics

Variable	N	Mean or %*	Std. Dev.	Min	Max
Cooperation with Police	9841	4.44	0.53	1	5
Trust in Police	9819	3.95	0.65	1	5
Procedural Justice	9819	3.75	0.64	1	5
Police Performance	9776	3.75	0.67	1	5
Age	9724	50.99	15.69	18	99
Sex	9846	39.24%	-	0	1
Education	9762	4.87	1.39	1	7
Region	9846	45.96%	-	0	1
Police Contact	9832	43.07%	-	0	1
Annual Income				1	10
<$20,000	9846	6.03%	-		
$20,000-$39,999	9846	11.59%	-		
$40,000-$59,999	9846	12.12%	-		
$60,000-$79,999	9846	10.87%	-		
$80,000-$99,999	9846	10.26%	-		
$100,000-$119,999	9846	8.28%	-		
$120,000-$149,999	9846	6.10%	-		
>$150,000	9846	10.03%	-		
Don't know	9846	10.15%	-		
Refused	9846	14.57%	-		
Ancestry				1	3
General Population	9742	92.15%	-		
Vietnamese	9742	3.43%	-		
Indian	9742	4.42%	-		

*Percentages included for dichotomous/categorical variables.
Note: Sex (male=1, female=0); Region (1=Brisbane, 0=Melbourne); Police contact (1=police contact in the past 12 months; 0=no police contact).

Table 4 Bivariate Correlations for Key Scales

	1	**2**	**3**	**4**
1. Cooperation	1			
2. Trust	.300	1		
3. Procedural justice	.251	.630	1	
4. Performance	.267	.590	.499	1

Note: All correlations significant at $p \leq 0.001$.

Table 5 Ordinary Least Squares Regression of Independent Variables on Trust in Police (N=9485)

	Model 1			Model 2			Model 3		
	b(SE)		*β*	b(SE)		*β*	b(SE)		*β*
Intercept	3.957(.029)	***		3.938(.021)	***		3.938(.021)	***	
Age	.002(.000)	***	.056	.000(.000)		.007	.000(.000)		.006
Sex	-.093(.014)	***	-.070	-.025(.010)	*	-.019	-.025(.010)	*	-.019
Education	-.017(.005)	***	-.037	.004(.004)		.009	.005(.004)		.010
Income (ref <$20,000)									
$20,000-$39,999	-.006(.033)		-.003	.005(.024)		.003	.004(.024)		.002
$40,000-$59,999	.017(.033)		.008	.018(.024)		.009	.016(.024)		.008
$60,000-$79,999	.022(.034)		.011	.039(.024)		.019	.038(.024)		.018
$80,000-$99,999	.010(.035)		.005	.020(.025)		.009	.018(.025)		.008
$100,000-$119,999	.048(.037)		.020	.028(.026)		.012	.030(.026)		.013
$120,000-$149,999	.042(.039)		.016	.025(.028)		.009	.026(.028)		.010
>$150,000	.090(.036)	*	.042	.075(.025)	**	.035	.074(.025)	**	.035
Don't know	.004(.034)		.002	-.027(.024)		-.012	-.027(.024)		-.013
Refused	.025(.033)		.013	.021(.023)		.011	.020(.023)		.010
Region	.034(.013)	*	.026	.020(.010)	*	.015	.021(.010)	*	.016
Police Contact	.009(.014)		.006	-.004(.010)		-.003	-.003(.010)		-.003
Ancestry (ref General Population)									
Vietnamese	-.118(.037)	***	-.033	-.075(.026)	**	-.021	-.064(.027)	*	-.018
Indian	-.100(.035)	**	-.030	-.032(.025)		-.010	-.039(.026)		-.012
Procedural Justice (PJ)				.457(.009)	***	.447	.462(.009)	***	.451
Police Performance (Perf)				.359(.008)	***	.368	.350(.009)	***	.359
Ancestry (ref General Pop.)*PJ									
Vietnamese* PJ							-.216(.050)	***	-.035
Indian* PJ							.050(.040)		.010
Ancestry (ref General Pop.)*Perf									
Vietnamese*Perf							.371(.050)	***	.060
Indian*Perf							-.030(.034)		-.007

	Model 1		Model 2		Model 3	
	b(SE)	β	b(SE)	β	b(SE)	β
R^2	.014		.504		.507	
Adjusted R^2	.013		.503		.506	
R^2 Change	-		.490		.003	
F Change	-		4676.960 ***		14.880 ***	

Note: * $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$ Sex (male=1, female=0); Region (1=Brisbane, 0=Melbourne); Police contact (1=police contact in the past 12 months; 0=no police contact).

Table 6 Ordinary Least Squares Regression of Independent Variables on Cooperation with Police (N=9485)

	Model 1			Model 2			Model 3			Model 4		
	b(SE)		β	b(SE)		β	b(SE)		β	b(SE)		β
Intercept	4.292(.024)	***		4.284(.023)	***		4.286(.022)	***		4.287(.022)	***	
Age	.004(.000)	***	.106	.003(.000)	***	.085	.003(.000)	***	.084	.003(.000)	***	.083
Sex	-.086(.011)	***	-.079	-.061(.011)	***	-.056	-.058(.011)	***	-.053	-.058(.011)	***	-.053
Education	.018(.004)	***	.046	.025(.004)	***	.065	.024(.004)	***	.063	.025(.004)	***	.064
Income (ref <$20,000)												
$20,000-$39,999	.087(.027)	***	.052	.092(.026)	***	.055	.091(.025)	***	.055	.091(.025)	***	.055
$40,000-$59,999	.125(.027)	***	.077	.126(.026)	***	.077	.123(.026)	***	.076	.122(.026)	***	.075
$60,000-$79,999	.154(.028)	***	.090	.162(.027)	***	.095	.157(.026)	***	.092	.155(.026)	***	.091
$80,000-$99,999	.174(.028)	***	.100	.178(.027)	***	.102	.176(.027)	***	.101	.174(.027)	***	.100
$100,000-$119,999	.193(.030)	***	.100	.187(.028)	***	.097	.183(.028)	***	.095	.183(.028)	***	.095
$120,000-$149,999	.191(.032)	***	.087	.187(.030)	***	.085	.184(.030)	***	.083	.183(.030)	***	.083
>$150,000	.203(.029)	***	.115	.198(.028)	***	.112	.188(.027)	***	.107	.186(.027)	***	.106
Don't know	.059(.028)	*	.033	.049(.027)		.027	.052(.026)	*	.029	.050(.026)		.028
Refused	.172(.027)	***	.110	.172(.025)	***	.110	.169(.025)	***	.108	.168(.025)	***	.107
Region	.056(.011)	***	.052	.051(.010)	***	.048	.049(.010)	***	.046	.049(.010)	***	.046
Police contact	.085(.011)	***	.078	.081(.011)	***	.075	.081(.010)	***	.075	.081(.010)	***	.075
Ancestry (ref General Pop.)												
Vietnamese	-.299(.030)	***	-.102	-.284(.028)	***	-.097	-.274(.028)	***	-.094	-.278(.029)	***	-.095
Indian	-.133(.028)	***	-.049	-.104(.027)	***	-.039	-.100(.027)	***	-.037	-.116(.028)	***	-.043
Procedural Justice (PJ)				.131(.009)	***	.156	.071(.011)	***	.085	.081(.011)	***	.097
Police Performance (Perf)				.148(.009)	***	.184	.101(.010)	***	.126	.099(.010)	***	.124
Trust							.131(.011)	***	.159	.129(.011)	***	.157
Ancestry (ref General Pop.)*PJ												
Vietnamese* PJ										-.145(.054)	**	-.029
Indian* PJ										-.116(.043)	**	-.028
Ancestry (ref General Pop.)*Perf												
Vietnamese*Perf										.091(.054)		.018
Indian*Perf										-.028(.036)		-.008

	Model 1		Model 2		Model 3		Model 4	
	b(SE)	β	b(SE)	β	b(SE)	β	b(SE)	β
R^2	.050		.135		.148		.149	
Adjusted R^2	.048		.134		.146		.147	
R^2 Change	-		.085		.013		.002	
F Change	-		466.460	***	139.20	***	4.41	**

Note: * $p \leq 0.05$; ** $p \leq 0.01$; *** $p \leq 0.001$ Sex (male=1, female=0); Region (1=Brisbane, 0=Melbourne); Police contact (1=police contact in the past 12 months; 0=no police contact).