

## The limitations of education for addressing corruption: lessons from attitudes towards reporting in Papua New Guinea

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### Abstract

Educated citizens are often considered more likely to report corruption; this belief shapes anti-corruption campaigns. However, we know little about how other factors may interact with education's impact on willingness to report corruption. This paper examines data from a household survey undertaken in Papua New Guinea. We find that when respondents were better educated and believed corruption would be addressed by the government, they were more willing to report various types of corruption to officials. However, the positive effects of education on willingness to report corruption are significantly diminished when citizens lacked trust that authorities would address corruption.

**Keywords:** Corruption, reporting, education, institutional trust, Papua New Guinea

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## 1 Introduction

Educating citizens is often considered a critical part of addressing corruption. In one of the few successful anti-corruption initiatives, the Hong Kong Independent Commission Against Corruption, it was the changing perceptions and responses of citizens that helped to significantly reduce the incidence of corruption in that country (K. Chan, 2001; J. Chan, 2005; Marquette, 2007). However, many are concerned that current efforts to emulate such success in developing countries is falling short (Marquette, 2007; Bauhr, 2012; Persson, Rothstein, & Teorell, 2013). While donors spend millions of dollars on educating citizens about the dangers of corruption, there is a growing body of literature that suggests that citizens are not listening (Marquette, 2007; Bauhr, 2012; Persson et al., 2013); there are few signs that global education and awareness efforts have led to citizens increasingly rejecting corruption or reporting it. Some believe trust in institutions plays a significant, and possibly greater, role in citizen perceptions about and responses to corruption (Gorta & Forell, 1995; Catterberg & Moreno, 2005; Marquette, 2007; de Sousa & Moriconi, 2013; Lavena, 2013). Marquette (2007), for instance, suggests that the way citizens perceive formal institutions – including anti-corruption institutions – may determine perceptions about and responses to corruption, as much as higher levels of education. Few large-scale studies have, however, sought to investigate the link between citizens' level of education, their trust in institutions, and their proclivity to report corruption – these are the key relationships that we explore in this paper. While there has been increased research into and resources devoted to addressing corruption, policy makers and academics are still trying to work out which factors are likely to turn citizens into effective 'anti-corruption champions'.

Indeed, despite a dramatic rise in academic publication on corruption over the past two decades, research into the factors that shape citizens' propensity to report corruption is surprisingly thin. There have been a few surveys about attitudes towards corruption in developing nations – both as single country (e.g. Truex, 2011) and, more prominently, multi-country studies (Shen & Williamson, 2005; Lambsdorff, 2010; Lavena, 2013; Rose & Peiffer, 2015). These studies are insightful in helping us to understand how citizens feel about different types of corruption, but, surprisingly, few have focused specifically on citizens' propensity to *report* corruption (Peiffer & Alvarez, 2014). Studies investigating attitudes about corruption have found a number of factors that might influence people's *acceptance* of corruption – such as education and trust in institutions – but there has been very little analysis of the way these variables interact. For instance, we know little about what factors might reduce whatever impact education may have on people's propensity to reject or report corruption.

Understanding these issues is important in designing meaningful anti-corruption programs. If anti-corruption actors know what affects citizen reporting, they will be better able to focus their resources on activities that will most meaningfully encourage

citizens to help address corruption. Getting more citizens involved in reporting corruption is particularly important given that corruption is a key development challenge. Corruption has been found to reduce economic growth (Mauro, 1995), expedite environmental damage (Laurance et al., 2011), and undermine state legitimacy and stability (Holmes, 1993; Seligson, 2002; Booth & Seligson, 2009; Dix, Hausmann, & Walton, 2012). For responses to these challenges to be effective, they need to engage with the challenges facing citizens that impede reporting.

This discussion paper draws on the analysis of a unique, large-scale household survey conducted in Papua New Guinea (PNG) – a country often described as acutely corrupt – between 2010 and 2011. The survey is unique because it included a number of questions about perceptions of corruption that are not normally included in household surveys. In focusing on one country, it also allows us to drill down on key challenges of citizen reporting. While multi-country studies are popular for examining attitudes towards corruption and offer a greater opportunity to generalise their findings across contexts, focusing on a single country can pick up on trends that may be obscured in cross-national data sets (Truex, 2011). This is not to say that single case-studies are superior (indeed, they have limitations around generalisability), but that focusing on a single country can complement findings from multi-country studies. This discussion paper finds that when Papua New Guinean respondents were better educated and believed that corruption would be addressed by the government, they were more willing to report various types of corruption to officials. However, the positive effects of education on willingness to report become significantly diminished, and in some estimations disappeared, when educated citizens lacked trust that authorities would address corruption.

The first section of this discussion paper reviews the available literature about the factors affecting citizen reporting. In the second section, we provide a brief background on the corruption and anti-corruption landscape in PNG, taking particular note of the nature and state of reporting mechanisms available to citizens. The third section presents the methodology of the household study. The estimation strategy and key findings from the study are examined in section four. In the conclusion, we outline what these findings mean for the nascent literature on corruption reporting and for anti-corruption actors.

## **2 Education, trust and reporting**

In this section we draw on two bodies of literature to shape our expectations for how education and institutional trust likely influence willingness to report corruption. First, we draw on studies of attitudes towards corruption. This includes studies on corruption permissiveness and reporting. By including the literature on corruption permissiveness we acknowledge that rejecting corruption does not necessarily mean that people will report it (Persson et al., 2013), but it is important to examine this literature as it is often assumed that a link exists between rejecting corruption and reporting (Truex, 2011).

Moreover, the research on attitudes towards corruption is important as it has influenced the anti-corruption industry and its programs (World Bank, 2001; AusAID, 2007). We also draw on crime reporting literature (which includes research into whistleblowing). Though most of this research has been conducted in developed countries and focuses on acts other than corruption, we find it useful given the paucity of literature on citizens reporting corruption.

A range of socio-economic factors have been found to influence people's perceptions about corruption in a growing number of studies. Studies have focused on issues such as the impact of education (Truex, 2011; Lavena, 2013), gender (see: Goetz, 2007), age (Seligson, 2002; Lavena, 2013; Peiffer & Alvarez, 2014), and financial well-being (Independent Commission Against Corruption, 1994; Soares, 2004; Melgar, Rossi, & Smith, 2010) on corruption perceptions and reporting. Most of the factors thus far mentioned – gender, age, and financial well-being – have had a moderate impact on policy responses to corruption. For example, while policy makers have considered enfranchising women as an anti-corruption response (World Bank, 2001; AusAID, 2007), it has not been at the centre of anti-corruption thinking. There has certainly been little serious discussion about the role of age or income in anti-corruption efforts. Although a number of studies show that corruption is less likely to be tolerated by the old (Seligson, 2002; Lavena, 2013) and those that are not well off (Melgar et al., 2010), few would suggest that corruption can be addressed by increasing the number of older, or less well off, people in positions of power.

However, education has proved to be an enduring answer to the problem of corruption in developing nations, and has come to dominate many anti-corruption policies. Indeed, most anti-corruption initiatives have an educative element at their core (Huberts, 1998; Pope, 2000; J. Chan, 2005; McCusker, 2006; Marquette, 2007). Marquette (2007) suggests there are three assumptions that aid donors operate under in their belief that education helps reduce corruption. First, it is assumed that a more educated population will be more inclined to play an effective watchdog role. Second, educated citizens are assumed to be less likely to engage in corruption. Third, better educated citizens can end up as politicians and civil servants, who, if properly educated, are assumed to be more likely to say no to corruption. Turning to the literature, it appears that the linkage between education and attitudes towards corruption is by and large well founded.

Surveys have found that those with higher levels of education are less likely to tolerate corruption. For example, Truex (2011) found that, in Nepal, the more educated are likely to have less accepting attitudes towards corruption. This finding is echoed in Gouda and Park's (2012) analysis of the relationship between education and acceptance of corruption in 80 countries, along with other multi-country analysis that has found that those with greater education are less likely to look favourably on corruption (Melgar et al., 2010; Lavena, 2013). There is some evidence that these perceptions shape people's likelihood of engaging in corruption: Kaufmann, Montorriol-Garriga, and Recantini (2008) have, for example, shown that more educated people are less likely to

be bribe payers, which may be a function of their greater willingness to resist corruption. Education also appears to have an impact on reporting. The New South Wales Independent Commission Against Corruption's research report on public servant perceptions of corruption (data that Gorta and Forrell, 1995 draw upon) found that those with higher levels of education were significantly less likely to fail to act against corruption, and more likely to report some types of corruption.

As a result, a number of academics have called for education campaigns to bolster citizens' awareness about the impacts of corruption. Although acknowledging the need for further research to back his findings in Nepal, Truex states that: 'improving access to education in developing countries may reduce the presence of corruption norms and ultimately corruption itself' (Truex, 2011: 1133). Similarly, drawing on findings from six Latin American countries, Lavena (2013: 360) says that policies that educate citizens on the harm that corruption causes could reduce citizens' permissiveness and resultant corruption. These findings resonate with a longer history of academics pondering what determines moral development. For instance, Kohlberg (1981) suggests that moral judgement is determined by preferences and competence, which is in turn a function of an individual's education. So, from empirical and non-empirical sources, education is widely regarded as a way of reducing corruption.

Given this, we seek to test the following hypothesis:

*H1: Those highly educated are more willing to report corruption.*

### **Trust in state institutions**

There is increasing recognition that fighting corruption is also about public 'expectations' (de Sousa & Moriconi, 2013: 472), particularly around the performance of anti-corruption institutions. That is, addressing corruption requires functioning formal institutions (such as an Ombudsman Commission or an Independent Commission Against Corruption (ICAC)) that citizens can expect to investigate and prosecute corruption. If citizens trust that state institutions will meaningfully address corruption is undermined, reporting is likely to suffer. To demonstrate this link, Gorta and Forell (1995: 335) asked Australian public servants to respond to the statement 'there is no point in reporting corruption as nothing useful will be done about it'. They found that agreement with this statement was strongly and positively associated with public servants indicating that they would do nothing when confronted with various scenarios of corruption. They argue that this means that 'if people do not believe that effective action will result from reporting corruption they will be less inclined to take action' (Gorta & Forell, 1995: 335). Similarly, in their cross-country analysis, Peiffer and Alvarez (2014) find that when the government is perceived to be effective in curbing corruption, people are more willing to actively oppose corruption; this is particularly the case with those who perceive corruption to be a widespread problem. These findings are supported by other research that has found that punishment in and of itself

can curb corruption; that is, if punishment is exerted, citizens are less likely to support or engage in corruption (for a summary of this research see: Yap, 2013: 58). Some have also found that mistrust in public institutions increases levels of permissiveness of corruption (Catterberg & Moreno, 2005; Lavena, 2013) and an unwillingness to vote out corrupt politicians (de Sousa & Moriconi, 2013: 487). Given the importance of citizens' trust in state institutions suggested by this literature, the second hypothesis we test is:

*H2: The less trust that a person has that the state will respond to corruption, the less willing they will be to report it.*

Trusting that the government and its institutions will address corruption may be a key determinant of reporting corruption, but some research suggests a contradiction in the relationship between trust and education. Marquette (2007) argues that as people are more aware of corruption, they are less likely to trust state institutions. In doing so she draws on a USAID (2002) report, which found that civic education programs appeared to have a negative impact on trust in political institutions. She argues that this means that 'civic education can teach people all about ideals, but if those ideals are not matched with real-life integrity in public office, then people stop paying attention to what they are being taught' (Marquette, 2007: 245).

Given the importance of education in anti-corruption programs, Marquette's (2007: 245) concern, that education's impact on the propensity to report corruption may fall flat if citizens do not sufficiently trust formal political institutions, is of direct relevance to academics and practitioners. For both groups it challenges the widely held view that educating citizens is a magic bullet for addressing corruption. The importance of this insight has led us to examine how trust that something will be done about corruption impacts the influence that education has on the proclivity to report corruption. Consistent with the argument made by Marquette (2007), the third hypothesis we test specifies this interactive relationship.

*H3: Education will have a positive impact on willingness to report when it is accompanied with a high level of trust that the reporting institutions will do something useful, but will not impact willingness to report when it is accompanied with a low level of institutional trust.*

### **3 Reporting corruption in Papua New Guinea**

This section examines the environment in which the survey took place. It describes corruption and opportunities for reporting it in PNG, focusing on the years leading up to and including 2011 (when the survey was completed).

Outside assessments suggest that PNG is one of the most corrupt places on earth; in 2011 Transparency International's (TI) Corruption Perceptions Index scored PNG at 2.2 out of 10, where 10 indicates greater control of corruption, and it was ranked 154<sup>th</sup> out

of 182 countries (Transparency International, 2011)<sup>2</sup>. Inside PNG there is also a great deal of consternation about perceived growing levels of corruption, with corruption scandals reported upon almost daily in media across the country. The attention paid to corruption has expanded since the late 1990s for three reasons. First, the Australian aid program has increased funding for good governance programs, which has resulted in an increase of anti-corruption awareness measures among public servants and the public. Second, TI started a local chapter (TI PNG) and promoted the issue of corruption extensively; and third, a local corruption scandal – the Sandline Crisis – has alerted citizens to the growing problem of corruption in the country. As the profile of the problem has been raised, corruption has become a prominent part of everyday discourse in the country.

While anti-corruption discourse has grown, there is a sense that those involved in corruption face few consequences. The impunity of corrupt officials is summarised in a PNG Parliamentary Public Accounts Committee report, which reports on the findings of a 2006 inquiry; it found that:

Illegal and/or improper practices were rife—particularly in the very Department responsible for fiscal management, the Department of Finance, but also across the entire spectrum of Government at every level—National, Provincial and Local. . . . Governments and law enforcement agencies failed to grapple with the problem and this failure emboldened the misusers, who moved in a few years from small scale opportunistic misappropriation to the organized diversion of huge sums of public money—with apparent immunity and impunity. (PNG PPAC 2009: 11, from Sharman, 2012: 6).

Sharman (2012) argues that the lack of impunity against corruption means that officials have done little to hide their crimes. As a consequence, publicised corruption by elites results in citizens feeling victimised, and leads them to mimic the behaviour of their leaders in order to gain a greater share of state resources (Pitts, 2002). It is also to be expected that this reduces the likelihood of reporting. There is growing concern that the lack of punishment against corruption produces a vicious circle: the more people (particularly elites) are seen to get away with corruption, the more likely it is that citizens will support corruption rather than reporting it.

At the time of the survey – 2010 to 2011 – PNG was home to a number of organisations focused on addressing corruption. These included the Royal PNG Constabulary (RPNGC), the Ombudsman Commission of PNG (OC PNG), the Office of Public Prosecutions, the Auditor General’s Office, the multi-agency National Anti-Corruption Alliance (NACA), the Financial Intelligence Unit, the media, the NGO, TI PNG, local civil society organisations, and the Australian aid program. For ordinary citizens, the most relevant anticorruption institutions for reporting corruption were (and still are) the OC PNG and the RPNGC. A brief description of these organisations highlights the challenges



that they face in converting citizen reports of corruption into investigations, arrests and prosecutions.

Section 219 of PNG's constitution provides for the OC PNG to: investigate alleged wrong conduct and defective administration by government bodies, alleged discriminatory practices, and alleged misconduct in office under the Leadership Code – a code of conduct for state officials that provides a guide for ethical conduct. This allows the OC PNG to investigate administrative practices and decisions of governmental bodies that are 'unreasonable, unjust, oppressive or wrong'; investigate discriminatory practices; and to take actions to deter corruption among Papua New Guinean leaders (Ombudsman Commission of Papua New Guinea, 2001: 1). In 2005, the OC PNG received and dealt with 3,299 complaints through its four offices (Ombudsman Commission of Papua New Guinea, 2006: 35). The head office in Port Moresby was involved in 1,442 complaints; regional offices in Mt Hagen (in Southern Highlands province), Lae (Morobe province) and Kokopo (East New Britain province) reported 610, 682 and 565 complaints respectively (Ombudsman Commission of Papua New Guinea, 2006: 35). Complaints vary in size and complexity. The OC PNG has conducted in-depth investigations into large-scale fraud such as the purchase of the Cairns Conservatory by the Public Officers Superannuation Fund Board at a grossly inflated price (Ombudsman Commission of Papua New Guinea, 1999), through to relatively small complaints such as the parking conditions on Douglas Street in downtown Port Moresby (Ombudsman Commission of Papua New Guinea, 2006: 41). While the organisation is respected for its impartiality, the OC PNG's work is undermined by a tumultuous relationship with political leaders, limited powers of censure and meagre resources (Justice Advisory Group 2005). Though it has had some success in prosecuting politicians and others for wrongdoing (Ketan, 2007), the organisation is perceived as 'toothless' by some (Mellam & Aloj, 2003) as it has little power to impose significant penalties on those involved in wrongdoing.

Citizens can also report concerns about corruption to the RPNGC, which has been involved in investigating corruption since PNG's independence in 1975. The RPNGC have a number of programs focused on addressing corruption, which include the Financial Intelligence Unit (FIU) set up under the Proceeds of Crime Act of 2005. The FIU sits within the police department and monitors transaction reports and supervises broader anti-money laundering and counter-terrorism financing policy. The police also engage in inter-departmental coalitions and taskforces aimed at reducing corruption. At the time of the survey, the RPNGC were involved in the NACA – an alliance of government agencies including the OC PNG, Department of Treasury, Solicitor General, Public Prosecutor and other government departments. Since August 2011, the police have worked with Taskforce Sweep, a multi-agency anti-corruption taskforce, which investigated numerous cases of corruption in PNG, before being effectively shut down by Prime Minister Peter O'Neill at the end of 2014.

Like the OC PNG the RPNGC faces numerous constraints. First, it suffers from poor staffing levels. The RPNGC is comprised of approximately 5,200 sworn members, around 95 per cent of whom are male (McLeod & Macintyre, 2011: 167). The number of police has not grown significantly since the country's independence in 1975, despite high population growth rates resulting in a population more than trebling to now 7.3 million people. Dinnen, McLeod, and Peake (2006: 89) calculate that the ratio of police to the population at independence was 1:380, but we calculate it is now around 1:1404, well below – according to Dinnen et al. (2006) – the United Nation's recommended ratio of 1:450. The second constraint facing the force concerns the quality of personnel: many of the few police employed are incapable of carrying out their duties. Many officers have low skill levels and are unable to undertake routine criminal investigations or apprehend suspects; management is also often poor (Dinnen et al., 2006). Moreover, most police are beholden to cultural constraints – specifically kinship loyalties – which undermine their ability to impartially investigate crimes. Third, the police themselves suffer from corruption, fraud and illegal conduct within their own ranks, which threatens their credibility and effectiveness (Dinnen et al., 2006; McLeod & Macintyre, 2011). These problems impede efforts to investigate and prosecute cases of corruption. For example, a report by the Asia/Pacific Group on Money Laundering and the World Bank found that the country's FIU suffered from minimal resources, few staff and little support from other agencies (Asia/Pacific Group on Money Laundering & World Bank, 2011).

Despite these constraints and the few convictions for corruption, citizens are urged by a number of anti-corruption actors to report corruption. In the early 2000s citizens were encouraged to report corruption through the media-led 'war on corruption' campaign (Mellor & Jabes, 2004: 23). The OC PNG promotes reporting through their outreach programs, and the NGO community is particularly persistent in urging citizens to report.

#### **4 Corruption survey in PNG**

The research informing this discussion paper consisted of a household study of 1,825 respondents across nine out of a possible 21 province-level divisions – Eastern Highlands, Enga, East Sepik, Milne Bay, Madang, National Capital District, New Ireland, Southern Highlands and East Sepik – which was undertaken between 2010 and 2011. Within each province, households in urban and rural areas were selected randomly, although remote localities (defined as being 25 kilometers or more from the nearest urban area) were excluded from the possible sample sites. Research instruments were translated from English into *Tok Pisin* (PNG's lingua franca). Researchers residing in the provinces where the survey was conducted were engaged to carry out interviews. This meant that researchers could translate the questions into local languages and dialects if required (PNG is home to over 800 languages, although most people speak Tok Pisin along with their local language).

Corruption is a deeply contested and multidimensional concept. It includes, but is not limited to acts of bribery, nepotism, fraud, and state capture. Chibnall and Saunders (1977: 144) argue that 'different definitions of corruption can be held by the same individual or group, and that an individual's choice of definition is dependent on both his [sic] practical purposes at the time, and his assumptions about the social world and his place within it' (Cited in: Gorta & Forell, 1995: 317). Given this, a number of scholars have argued that research on corruption should include multiple representations of the concept (Johnston, 1986, 1989; Truex, 2011; Walton, 2015). However, most surveys on corruption use a single proxy for corruption, with research based on the World Values Survey, for instance, equating corruption to bribery (Truex, 2011). This fails to capture corruption's multidimensional nature and the multiple ways it is interpreted.

To examine the way that people respond to multiple types of corruption, the questionnaire included nine scenarios. The scenarios and questions were derived from studies into citizen and elite perceptions of corruption (Peters & Welch, 1978; Johnston, 1986, 1989; Independent Commission Against Corruption, 1994; Jackson & Smith, 1996) and adapted for the local context. In this discussion paper we focus on corruption as defined as 'the abuse of power for private gain' and therefore use the eight scenarios that draw on this definition (Table 1). For an overview of how respondents reacted to all scenarios, see Walton (2015).

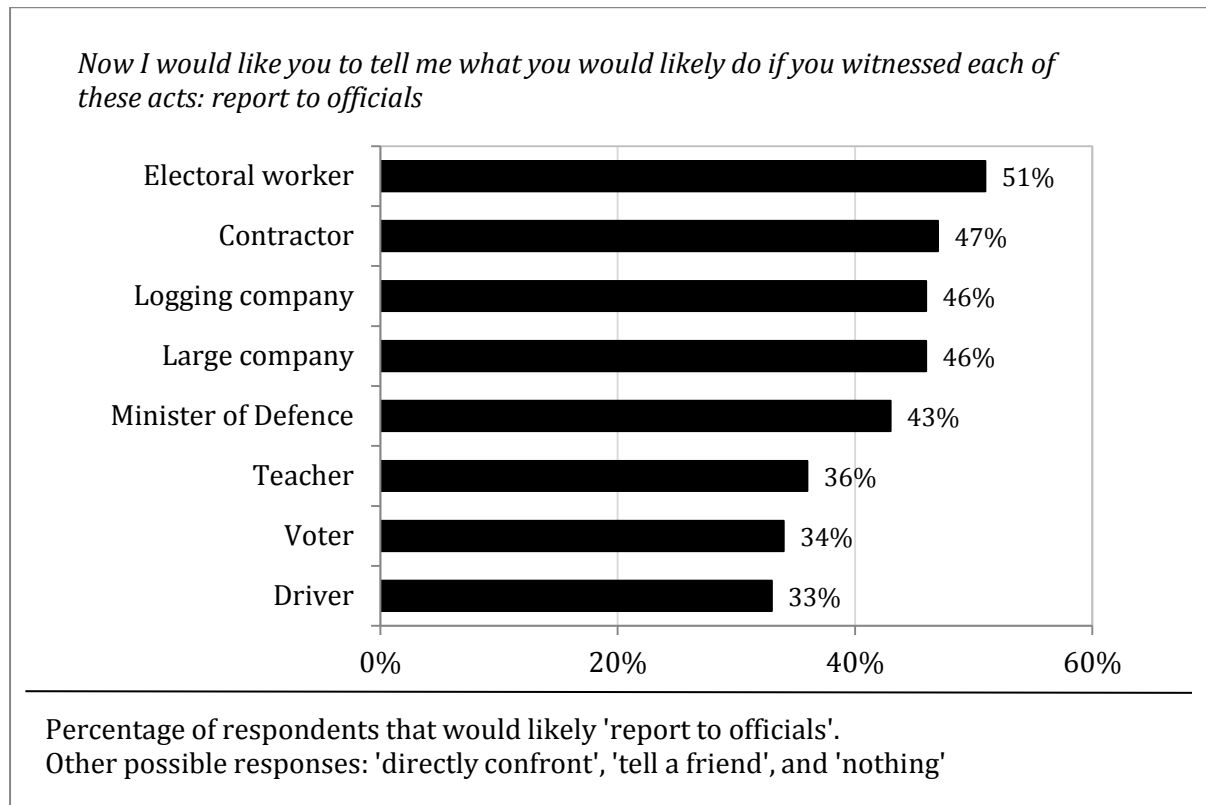
**Table 1 Eight scenarios of corruption**

Scenario	Code	Scale	Type
A contractor hands money to a public servant in order to be favoured in a contract bid.	CONTRACTOR	Large <sup>3</sup>	Bribery
A voter accepts an offer to sell his vote to a candidate for 50 kina.	VOTER	Small	Bribery
A logging company gets logging access to customary land by flying customary leaders to Australia and giving them gifts, without consultation with other community members.	LOGGING COMPANY	Large	Undue influence
After a large company legally influences politicians, the government passes a law which helps them make greater profits.	LARGE COMPANY	Large	Undue influence
A man is employed as a driver for a government department by his <i>wantok</i> [relation/friend] without going through a recruitment process. He is a safe and reliable driver.	DRIVER	Small	Nepotism
A teacher takes pens and note pads from her school stores cupboard to use for her church meetings.	TEACHER	Small	Embezzlement
Electoral workers are provided with food and drink by a candidate.	ELECTORAL WORKER	Small	Undue Influence
A Minister for Defence owns a company with which the Defence Department has a million dollar contract.	MINISTER OF DEFENCE	Large	Conflict of interest

After being presented with the scenarios, respondents were asked what they would do if they witnessed these acts. Respondents could choose one or up to all of four responses to each of the scenarios: ‘directly confront’, ‘tell a friend’, ‘report to officials’, or ‘nothing’.

In this discussion paper we are interested in formal responses to corruption; we therefore examine the factors effecting the reporting of corruption to officials. In doing so, we can gauge how much citizens are willing to adhere to the anti-corruption messages that urge them to report corruption. Figure 1 illustrates that there is considerable variation across the scenarios when it comes to willingness to report to authorities. Taking the two extremes, half of respondents are willing to report the *Electoral Worker* scenario, but only a third are likely to report the *Driver* and *Voter* scenarios.

**Figure 1 Willingness to report scenarios to authorities**



## 5 Estimation strategy

In this section we outline the estimation strategy used to analyse the results of the survey and highlight the key findings in relation to our hypotheses. In the analyses that follow, indicated willingness to report each of the various scenarios to authorities are our dependent variables. As respondents indicated that they would (coded as a 1) or would not (0) likely report each corruption scenario to authorities, we employ logit regression analyses when analysing their determinants.<sup>4</sup> Of particular interest to us is whether and how a respondent's level of education and knowledge about how to report corruption (variable labels in analyses: level of education, news consumption, knowledge of how to report corruption) and the degree of institutional trust the respondent had that something would be done if corruption was reported, impact their willingness to report each scenario to the authorities. The following control variables were also included in the analyses: how corrupt and unacceptable the respondent rated the scenario to be, how the respondent perceived corruption to impact the future of the country, a respondent's degree of poverty, gender, urban locale, age, interest in politics, and whether or not they identified as Catholic. Summary statistics and details on coding for all of the variables we use in analyses appear in Appendix Table 1.

## **Testing for direct effects: H1 & 2**

As the first two hypotheses we outlined refer to the potential *direct* effects that education and institutional trust have on willingness to report corruption, we first estimate logistic regressions without the inclusion of an interaction term between the education and trust variables (per hypothesis H3). Table 2 shows the results of each analysis performed. As standard logit coefficients are difficult to interpret, we transform them and report more intuitive odds ratios in Table 2. A significant odds ratio with a value greater than 1.00 indicates that a one unit positive change in the independent variable is associated with an increase in the odds of someone being willing to report the scenario to authorities. For example, a 1.25 significant odds ratio indicates that a one unit increase in the associated independent variable will increase the odds of being willing to report corruption by 25 percent. Likewise, an odds ratio of less than 1.00 indicates that the associated variable decreases the odds. Also used in the interpretation is what influence a shift of the independent variables has on the predicted probability that a respondent would be willing to report corruption.

**Table 2: Logit analyses of the determinants of willingness to report corruption**

	Contractor	Voter	Logging co.	Large co.	Driver	Teacher	Electoral worker	Minister of Defence
<i>Education/knowledge</i>								
Education	1.31***	1.22***	1.15*	1.25***	1.25***	1.06	1.07	1.28***
Get news	1.10	1.22***	1.24***	1.14*	1.13	1.05	1.16*	1.21**
Know how to report	1.19	1.40	1.47*	1.78**	1.56*	0.95	1.09	1.81**
<i>Institutional trust</i>								
Nothing useful	0.64**	0.89	0.82	0.57***	0.79	1.04	0.72*	0.78
<i>Other controls</i>								
Conceptualise: corrupt	1.13	1.29**	1.58***	1.28**	1.21*	1.16	1.26**	1.43***
Conceptualise: unacceptable	0.88	0.98	0.95	1.04	0.95	0.98	1.23*	1.08
Impacts future	1.09	0.99	1.16*	1.09	1.08	1.13	1.14	1.10
Lived poverty	0.95	0.85*	1.02	1.02	0.90	0.88	0.85*	0.99
Female	0.69**	0.81	1.28	1.05	0.54***	0.66**	0.91	1.15
Urban	0.83	1.12	0.85	0.70*	0.74*	0.69**	0.81	0.77
Age	1.01	1.01	1.00	1.00	1.01	1.02*	0.99	1.00
Political interest	1.15*	0.89	1.11	0.99	0.91	0.93	1.12	1.05
Catholic	1.27	1.28	1.13	0.99	0.88	0.78	0.74*	0.95
N	1711	1720	1721	1692	1724	1726	1716	1667
Pseudo R <sup>2</sup>	0.063	0.055	0.064	0.063	0.061	0.030	0.050	0.076
Prob of Chi <sup>2</sup>	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000
Wald Chi <sup>2</sup>	81.47	86.16	79.44	70.02	80.59	34.89	61.33	93.00

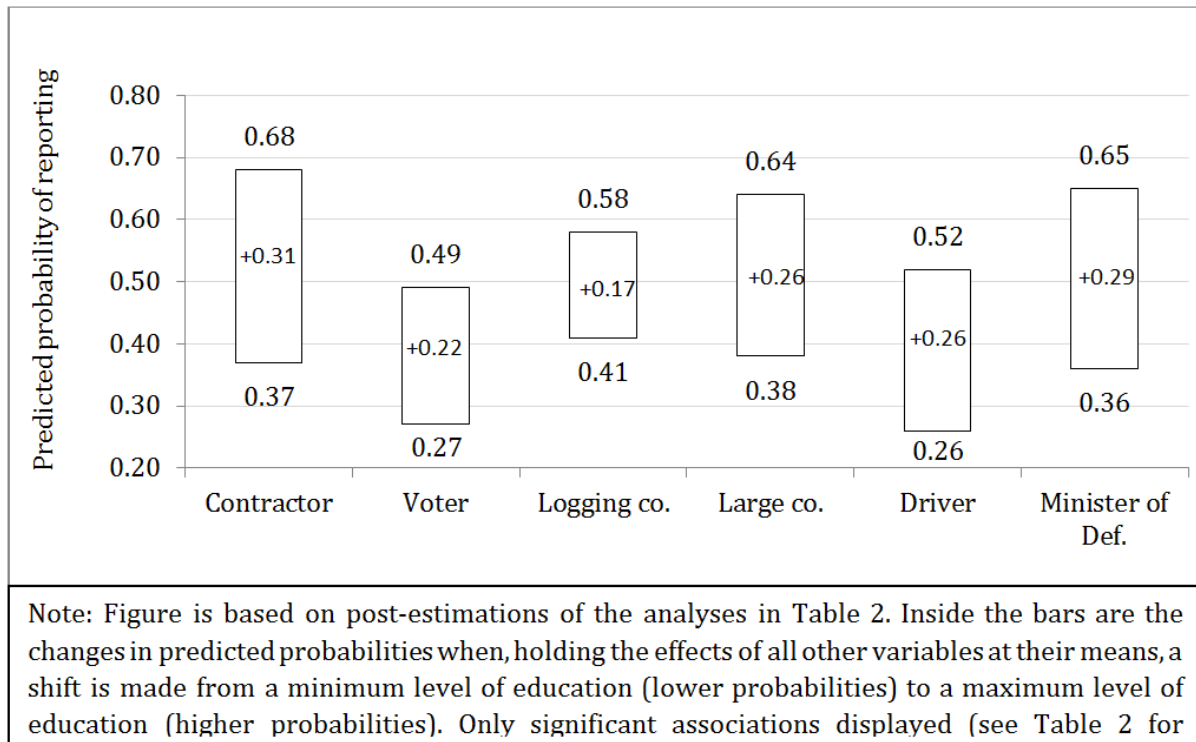
Note: Table displays odds ratios; significance of associated p-values are denoted by: \* p<0.05, \*\* p<0.01, \*\*\* p<0.001.

To test our first hypothesis we include three measures of education in each of the regression models. Our most conventional measure of education assigns a 1 for those with no formal education, 2 for basic education, 3 for intermediate education, 4 for a high school education and 5 for post-high school education. The mean level of education for our sample was a 2.7, which is somewhere between having a basic and an intermediate level of education. Also included is a measure of the frequency by which respondents sought out reported news. Respondents were asked how often they seek out news from the radio, TV, newspapers or the internet. Daily consumption is coded as 5, a few times a week is 4, a few times a month is 3, less than once a month is 2, and never is 1. The mean respondent sought news out between a few times a month and a few times a week. Finally, a measure was also created and included for whether or not respondents indicated that they knew the process of how to report corruption and disagreed with a statement of 'I would not know where to report corruption.' 15 percent of our sample indicated that they knew how *and* where to report corruption.

The results in Table 2 lend strong support to the notion that education increases willingness to report corruption (H1). Both the conventional education measure and news consumption measure is significantly and positively associated with willingness to report a majority of the corruption scenarios; knowing how and where to report corruption is positively associated with half. It is worth exploring the comparative influence across the scenarios of the conventional education measure, as it is most consistently associated with willingness to report. Figure 3 shows how the predicted probability of being willing to report each scenario, for which education is a significant predictor, changes when a respondent goes from having the lowest level of education (no formal) to the highest (post-high school). The magnitude of education's effect is highest with respect to the *Contractor* scenario; a shift from a minimum to a maximum level of education, holding the effects of all else constant, is associated with a 31 percent increase in the likelihood of being willing to report corruption. However, even where it is smallest, the estimated impact is still substantial; a similar shift is associated with a 17 percent increase in the likelihood of being willing to report the *Logging Company* scenario. These findings—that different forms of education and awareness are influential in determining whether someone would likely report a corruption scenario—square well with the claims of many anti-corruption agencies and academics (Huberts, 1998; Pope, 2000; J. Chan, 2005; McCusker, 2006).

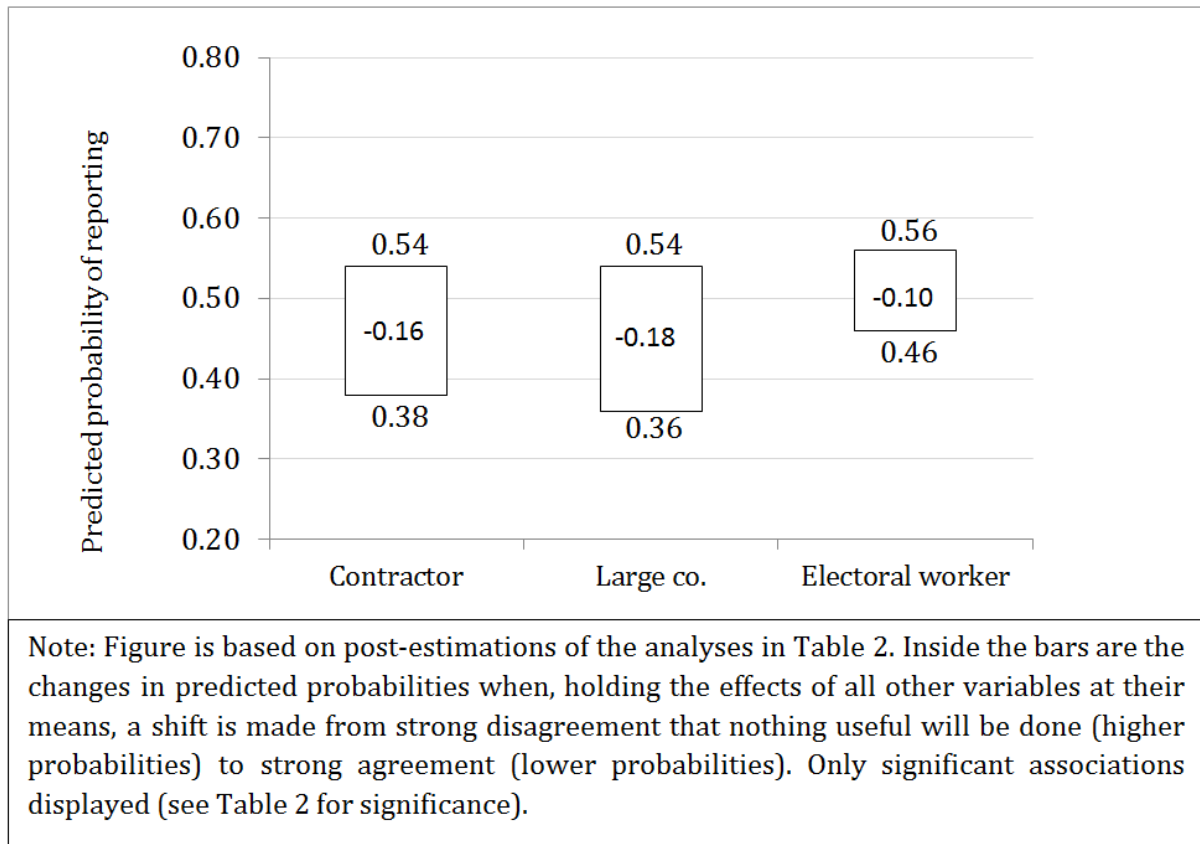


**Figure 2 Education’s positive effect on the probability of being willing to report**



Our second hypothesis – that institutional trust will be positively associated with willingness to report corruption – receives far less consistent support from the results of Table 2. A lack of institutional trust is measured by agreement with the statement *‘there is no point in reporting corruption because nothing useful will be done about it’*, with possible responses ranging from strong agreement (4) to strong disagreement (1). The mean response to this question was a 2.1, which is closest to ‘partly agree’. As expected, when significantly associated, we find that agreement with the notion that nothing useful will come of reporting corruption negatively impacts reporting. However, this association is only significant in a minority of the regression models (3 of 8). Figure 4 shows the magnitude of the effect across the three models, where it is found to be a significant predictor. A shift from strong disagreement to strong agreement that nothing useful will be done is associated with an 18, 16, and 10 percent decrease in the predicted probability of being willing to report the *Large Company*, *Contractor*, and *Electoral Worker* scenarios, respectively.

**Figure 3 The negative effect of ‘nothing useful will be done’ on the probability of being willing to report**



With respect to the control variables used, the results lend the most consistent support for the idea that conceptualising an act to be ‘corrupt’ is a precondition to being willing to report it to authorities – a similar finding to Gorta and Forell’s (1995) study of Australian public servants. After the scenarios were presented (verbally and in pictorial form) to respondents, they were asked how ‘corrupt’, and ‘acceptable’ they believed the scenarios to be. In each case, respondents were asked to respond on a scale of one to four, with one being totally corrupt or unacceptable and four being not corrupt or totally acceptable.<sup>5</sup> Across the scenarios, an average of 53 percent of respondents rated them as being totally corrupt and 70 percent rated them as being totally unacceptable.

In six of the eight models, conceptualizing the scenarios as corrupt is positively and significantly associated with being willing to report the scenario to authorities. The effect of conceptualizing the scenario as corrupt has the largest estimated impact on willingness to report the *Logging Company* scenario; holding the effects of all else constant, a shift in perceiving the scenario from not corrupt at all to totally corrupt engenders a predicted 31 percent increase in the probability of being willing to report it to authorities. It has the smallest estimated significant impact on the *Driver* scenario; a similar shift is associated only with a 12 percent increase in the predicted probability of being willing to report it to authorities.<sup>6</sup>

In strong contrast to the consistent support we find for the impact of conceptualising a scenario as being corrupt, we do not find that a belief that the scenario is unacceptable is influential on the likelihood of reporting (Table 2). Only in the case of the *Electoral Worker* scenario does unacceptability register as a significant and positive influence. The comparison of these two dimensions of conceptualizing the scenarios illustrates that, for Papua New Guinean respondents, a cognitive separation is likely made between what is corrupt and what is unacceptable: when considering what type of action to take after confronting various scenarios, despite one's own evaluations of the acceptability of a scenario, only those that are thought to be corrupt deserve the effort needed to gain the attention of the authorities.

It is equally notable that none of the other variables controlled for in the analyses have consistent effects across a majority of the models (Table 2). For instance, when significantly associated with willingness to report, age is estimated to have a positive effect on reporting in one model (*Teacher*), and being a female has a negative effect in three (*Contractor*, *Driver*, and *Teacher*). This is interesting insofar as others have found and argued that older people are more likely to reject corruption (Lavena, 2013; Seligson, 2002), and that women are less inclined to accept or condone corruption (Pop, 2012; Rivas, 2013; Swamy et al, 2011) and more likely to report it (Gorta and Forell, 1995).<sup>7</sup> With respect to the impact of gender, females may have a lower proclivity for reporting in PNG because the institutions to report corruption to are overwhelmingly staffed by males. For example, nearly 95 percent of the members of the RPNGC are male (McLeod & Macintyre, 2011: 167). Likewise, poverty is mostly (in six of eight scenarios) negatively related to willingness to report, but only significantly so in the *Voter* and *Electoral Worker* scenario models. Despite their assumed greater proximity to formal anti-corruption institutions, urbanites are significantly less likely to be willing to report the *Large Company*, *Driver*, and *Teacher* scenarios to authorities. Identifying as Catholic is only (negatively) significantly associated with willingness to report one of the scenarios (*Electoral Worker*). Two other variables were significantly associated with willingness to report only one scenario: having an interest in politics and agreement that corruption will negatively impact the future positively influenced willingness to report the *Contractor* and *Logging Company* scenarios respectively.

### **The impact of education when institutional trust varies (H3)**

Thus far we have considered only how education and institutional trust impact on willingness to report corruption in isolation. Though we find that education tends to have a robust and positive influence on willingness to report corruption, it is still unclear as to whether and/or how education's positive impact on reporting is also influenced by varying levels of institutional trust. As we hypothesize (H3), it may be the case that education's positive impact on willingness to report is nullified when it is accompanied with a low level of institutional trust (Marquette, 2007: 245). To test this hypothesis we estimated new logit analyses using the regression models of Table 2 as

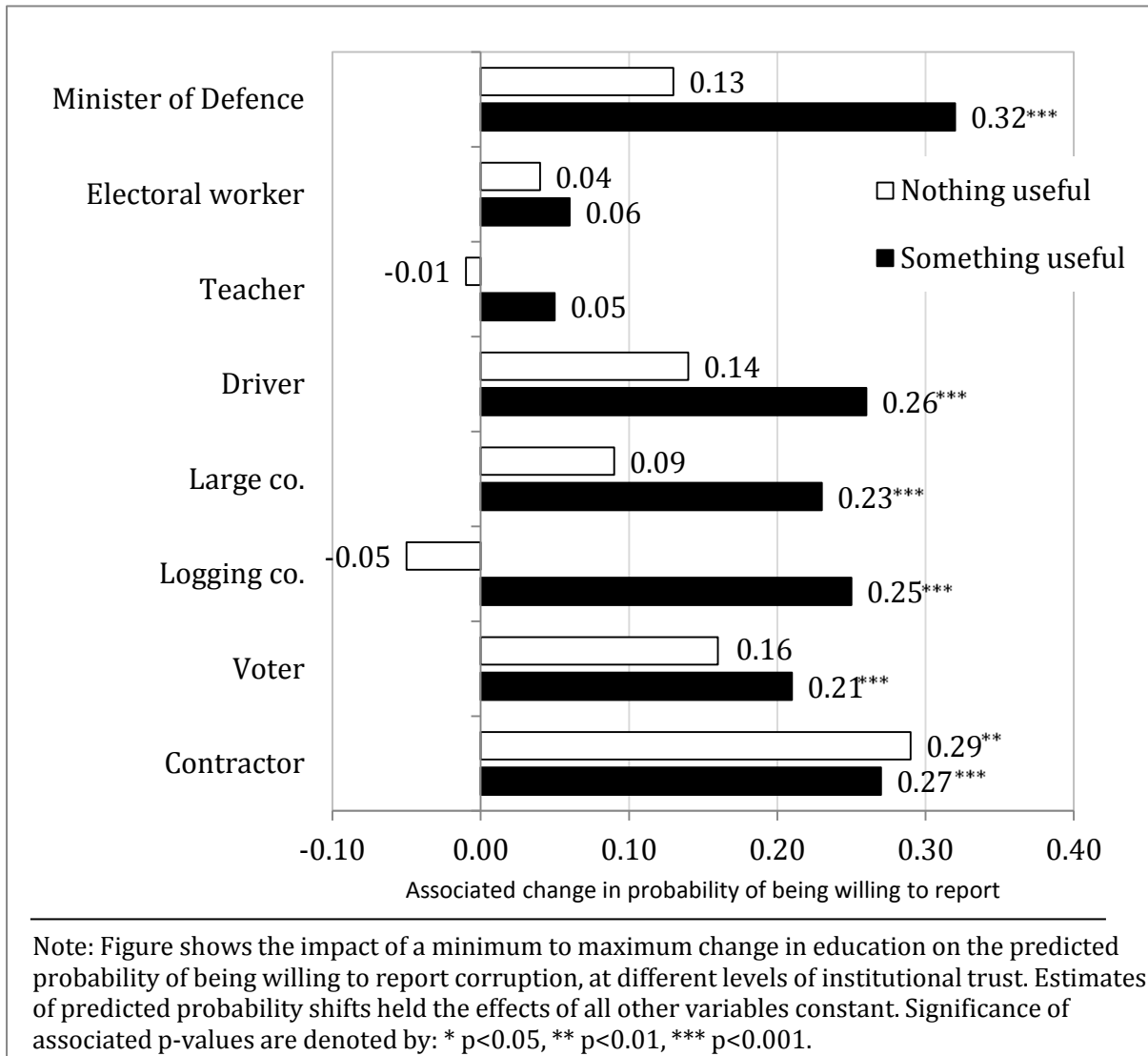
'base models' and added an interaction variable to them, created between the conventional education and institutional trust variables.

Estimating the direction, size, and significance of the impact that an interaction variable has on a dependent variable in a logit analysis is not as straightforward as it is to estimate the effect of an interaction variable in a linear regression, such as ordinary least squares (OLS). Because of this, statistical inferences cannot be made about the impact of an interaction term by simply looking at its co-efficient and statistical significance (Ai & Norton, 2003). An insignificant and negative co-efficient, for example, may hide that the interaction term is significantly and positively associated with the dependent variable at high levels of both constituent terms, but not at middle or lower levels of the constituent variables. Therefore, it is important to 'unpack' the effects of the interaction. For this reason, though we display the full results of all of the interactive models in Appendix Table 2, we focus here on the 'unpacked' effects of the interaction variable, which we summarise in Figure 5.

By 'unpacking' the effects of the interaction we address the question: how, if at all, is willingness to report impacted by a change in education levels, when that change is also accompanied with disagreement that nothing useful will be done if corruption is reported (something useful), or agreement that nothing useful will be done (nothing useful). For ease of interpretation, we collapsed our institutional trust variable into a dichotomous variable, where 1 is coded to include strong agreement and agreement that nothing useful will be done (nothing useful), and 0 is coded to include strong disagreement and disagreement that nothing useful will be done (something useful).

Figure 5 displays this interaction; it shows the shifts in the predicted probabilities of being willing to report each scenario associated with a change from having no formal education (minimum level) to having post-high school education (maximum level). These predicted shifts were estimated twice; holding the effects of all else constant, they were estimated as co-existing with lack of institutional trust (white bars for nothing useful) and again, as co-existing with a presence of institutional trust (black bars for something useful). As such, the white bars display the changes in the predicted probabilities of being willing to report corruption when education levels increase from minimum to maximum levels, and respondents believed *nothing useful* would be done by authorities. The black bars show the changes in the predicted probabilities of respondents' being willing to report corruption when education levels change from minimum to maximum levels, and they believed that *something useful* would be done.

**Figure 4 Predicted impacts of improved education on reporting, accounting for levels of institutional trust**



Across six out of eight of the models a similar pattern emerges with respect to the impact of the interaction term. When accompanied with a view that something useful will be done if corruption is reported to authorities, a positive shift in education levels is associated with a significant and positive change in the predicted probability of being willing to report corruption. Only in the *Teacher* and *Electoral Worker* models is this not the case. Specifically, Figure 5 shows that, holding the effects of all other variables in the model constant, when accompanied with a notion that something useful will be done, a minimum to maximum change in education is predicted to significantly increase the probability of being willing to report the *Minister of Defence* scenario to authorities by 32 percent, the *Contractor* scenario by 27 percent, the *Driver* scenario by 26 percent, the *Logging Company* scenario by 25 percent, the *Large Company* scenario by 23 percent, and the *Voter* scenario by 21 percent.

However, in five of those six cases, when accompanied with a belief that nothing useful will be done (white bars), the impact of education on willingness to report corruption is either insignificant or reduces dramatically, by comparison. Figure 5 shows that for the *Minister of Defence, Driver, Large Company* and *Logging Company* scenario models, when accompanied with a feeling that nothing useful will be done, the same shift in education (from minimum to maximum levels) is estimated not to have *any* significant impact at all on willingness to report those scenarios to authorities (p-values greater than 0.05). In the case of the *Voter* scenario, a minimum to maximum shift in education levels is associated with a 16 percent positive change in the predicted probability of being willing to report the scenario to authorities when it is accompanied with a belief that nothing useful will be done. However, this positive shift is still 5 percent less than that of what is predicted when a change in education is accompanied with a belief that something useful will be done, and is less significantly associated as well (5 percent error level, as opposed to a less than 0.1 percent error level).

Bucking the overall trend is the case of the *Contractor* scenario, where the predicted probability shift of changed education levels is higher when accompanied with a belief that nothing useful will be done than when the accompanied belief is that something useful will be done. Even still, once again, the former relationship is estimated to be less strong – statistically significant – than the latter (1 percent error level, compared to a 0.1 percent error level). Taken together, and in reflecting on the trend found in a majority of the models, these findings give fairly consistent and strong support for our third hypothesis. Whatever positive impact education can have on willingness to report corruption is contingent upon trust in governing institutions. Education's influence can be cancelled out, or at the minimum dimmed significantly, by a lack of trust that the government will do something useful to counter corruption once it is reported.

## **7 Conclusions**

Drawing upon a household study undertaken in PNG, this discussion paper has tested three hypotheses that emanate from a review of the nascent literature on perceptions and reporting of corruption. It has found that when Papua New Guinean respondents were better educated and believed that corruption would be addressed, they were more likely to report various types of corruption to officials. However, the positive effects of education on willingness to report were diminished when educated citizens also lacked trust that authorities would address corruption. These findings have significant implications for understanding and responding to citizens' willingness to report corruption to authorities.

First, the findings indicate that education is important for encouraging reporting. Not only is knowledge about where and how to report corruption important, but we find fairly consistently that formal education is positively linked to willingness to report corruption to authorities. Here our findings align to an extensive body of literature – academic and practitioner – which suggests that those who are better educated are

more likely to report corruption. Yet we urge caution in interpreting this finding due to the importance that trust plays in reporting behaviour. Lack of institutional trust diminishes the positive impact of education on reporting, and in some cases it can wipe out the positive effects of education altogether. This is a crucial finding that challenges much of the academic literature on reporting, as well as the importance placed on education by the anti-corruption industry.

As we identified earlier in this paper, academic research that suggests that education is a key to addressing corruption has not included interactions between education and other factors that might diminish its importance. Our analysis shows that lack of trust diminishes education's impact, but there may be other variables that diminish education's effects in other contexts. We suggest that further analysis about attitudes towards corruption (particularly about reporting corruption) include interactions that may highlight the limitations on education as a panacea to corruption.

Our findings suggest that to encourage reporting, citizens need to be shown that the state can be trusted to act on their complaint. The enormity of this task should not be understated. During the time of the study, the capacity of PNG's anti-corruption institutions to investigate and address corruption was very low. While in recent years the capacity of state anti-corruption institutions to address corruption has improved (for example, Taskforce Sweep), there are now signs that the government of PNG has stepped back from supporting anti-corruption efforts. This will make it very difficult to convince the public that the government can meaningfully address corruption. Encouraging reporting is all the more difficult given that, as we showed, few Papua New Guineans know how and where to report corruption.

In addition, there are ingrained biases against the state that will be difficult to overcome. With PNG having a long history of failing to translate resources into development outcomes for its people, citizens understandably find it difficult to trust government institutions. As awareness about the state grows, citizens may become more disenfranchised as the state fails to live up to their new expectations, as Marquette (2007) has argued. Improving PNG's institutions is even more difficult because poor institutional performance is a product of the awkward fit of Western institutions, with a history of 130 years in PNG, over traditional institutions that have been developed over thousands of years. The problem of anti-corruption in PNG is therefore a problem of failed state-society relations.

These deep-rooted issues will need to be overcome if anti-corruption agencies are to encourage citizens to report. This provides a serious challenge to anti-corruption narratives (which are apparent in PNG and many developing countries) that tend to see education as a magic bullet to corruption.

**Appendix Table 1: Describing variables and their summary statistics**

Variable	Q.	Description	Range	Mean	S. Dev.
<i>Dependent Variables</i>					
<b>Report</b>	Q16a-h	1 if report scenario to officials, 0 if not	0,1	*	*
<i>Education/knowledge</i>					
<b>Education</b>	Q33	1 no formal, 2 basic, 3 intermediate, 4 high school, 5 post high school (technical, college or university)	1-5	2.71	1.31
<b>Get news</b>	Q4a-d	5 if get news from either radio, TV, newspapers, and/or internet every day; 4 if get news from any of the sources a few times a week (and not every day); 3 if get news from any of the sources a few times a month (and not more frequent); 2 if get news from any of the sources less than once a month (and not more frequent); 2 if never gets news from any sources (never to all questions)	1-5	3.78	1.15
<b>Know how to report</b>	Q19D, 22	1 if knows process, and disagrees with “I would not know where to report corruption”, 0 if otherwise	0,1	0.15	0.37
<i>Institutional trust</i>					
<b>Nothing useful</b>	Q19A	Agreement with “there is no point in reporting corruption because nothing useful will be done about it”; response	1-4	2.13	1.22



options: 4 strongly agree, 3 partly agree, 2 partly disagree, 1 strongly disagree

***Other controls***

<b>Conceptualise: corrupt</b>	Q7b- Q14b	1 if scenario is not corrupt at all, 2 partly corrupt, 3 mostly corrupt, 4 totally corrupt	1-4	*	*
<b>Conceptualise: unacceptable</b>	Q7a-14a	1 if scenario is totally acceptable, 2 mostly acceptable, 3 partly unacceptable, 4 totally unacceptable	1-4	*	*
<b>Impacts future</b>	Q29T	1 if strongly agree with corruption “will not affect the lives of my children and grandchildren in many years to come”, 2 agree partly, 3 agree partly with corruption “will make the lives of my children and grandchildren much worse in many years to come”, 4 agree strongly	1-4	3.41	0.87
<b>Lived poverty</b>	Q2a-e	Average of how often household has had to go out without food, clean water, medical treatment, fuel to cook food, or cash income); possible responses: 1 never, 2 once or twice, 3 several times, 4 many times, 5 always	1-5	2.55	0.89
<b>Female</b>	gender	1 if female, 0 if male	0,1	0.44	0.50

<b>Urban</b>	Location	1 urban, 0 rural	0,1	0.31	0.50
<b>Age</b>	age	Age in years	17-60	33.29	10.89
<b>Political interest</b>	Q5	4 very interested in politics, 3 somewhat interested, 2 not very interested, 1 not at all interested	1-4	2.53	1.02
<b>Catholic</b>	Q36	1 if Catholic, 0 if not	0,1	0.30	0.48

\*Variable in table represents several variables (one for each scenario), as such a simple mean and standard deviation is not reported. Scenario specific means and standard deviations for each variable are available from the authors upon request.

**Appendix Table 2: Logit Analyses with Interaction**

	Contractor	Voter	Logging co.	Large co.	Driver	Teacher	Electoral worker	Minister of Defence
<i>Interaction</i>								
Education * nothing useful	1.01	0.92	0.75**	0.94	0.94	0.91	0.96	0.88
<i>Education/knowledge</i>								
Education	1.30***	1.25***	1.28***	1.28***	1.28***	1.10	1.08	1.34***
Get news	1.10	1.22***	1.25***	1.14*	1.13	1.05	1.16*	1.21**
Know how to report	1.19	1.39	1.45*	1.78**	1.55*	0.95	1.09	1.80**
<i>Institutional trust</i>								
Nothing useful	0.62	1.11	1.81	0.67	0.94	1.36	0.80	1.13
<i>Other controls</i>								
Conceptualise: corrupt	1.13	1.28**	1.59***	1.27**	1.21*	1.16	1.26**	1.43***
Conceptualise: unaccept.	0.88	0.98	0.97	1.04	0.95	0.98	1.23*	1.09
Impacts future	1.09	0.99	1.14	1.09	1.08	1.13	1.14	1.09
Lived poverty	0.95	0.85*	1.01	1.02	0.90	0.88	0.85*	0.99
Female	0.69**	0.81	1.28	1.05	0.54***	0.66**	0.91	1.15
Urban	0.83	1.12	0.84	0.70*	0.74*	0.69**	0.81	0.77
Age	1.01	1.01	1.00	1.00	1.01	1.02*	0.99	1.00
Political interest	1.15*	0.89	1.10	0.98	0.91	0.92	1.12	1.05
Catholic	1.27	1.28	1.12	0.99	0.88	0.78	0.74*	0.95
N	1711	1720	1721	1692	1724	1726	1716	1667
Pseudo R2	0.063	0.056	0.069	0.064	0.061	0.030	0.050	0.077
Prob of Chi2	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000
Wald Chi2	81.92	87.03	86.63	71.71	80.78	34.93	61.75	96.34

Note: Table displays odds ratios; significance of associated p-values are denoted by: \* p<0.05, \*\* p<0.01, \*\*\* p<0.001.

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<sup>1</sup> The order of names does not reflect the amount of work invested by the authors in the production of this paper; both contributed equally.

<sup>2</sup> In 2014 PNG scored 25 out of 100 and it was ranked 145 out of 175 countries in TI's Corruption Perceptions Index (Transparency International, 2014).

<sup>3</sup> While the amount of money involved in this transaction is not indicated, it is assumed that the amount would be of a large scale given the nature of the transaction.

<sup>4</sup> In all reported statistics and analyses we weight the data using the survey weight provided.

<sup>5</sup> On average, across the eight scenarios, these two variables – degree of corruption and unacceptability – were only 40 percent correlated.

<sup>6</sup> Also tested, in unreported models, is whether conceptualising a scenario as being corrupt was a mediating variable between the impact that education has on willingness to report corruption. There was very little to no evidence that this was the case across the eight models. Results of these tests are available upon request.

<sup>7</sup> See Peiffer and Alvarez (2014) for an exception. They find that young men are more likely to take action against corruption.