

Determinants of Perceived Insecurity among Victims of Crime in Bangladesh

Abonti Barkat*

Abstract

Various socioeconomic and demographic factors can influence an individual's perception of insecurity. This paper studies the indicators of the perceptions of insecurity among victims of theft, robbery, burglary and dacoity. This study utilises secondary data from a cross-sectional survey conducted by the Human Development Research Centre (HDRC) in February 2019 for the Police Staff College Bangladesh. The sample consists of 43 police stations and 167 individuals who were victims of the four aforementioned criminal activities. The survey collected qualitative information about their perception of insecurity, demographics and trust in the police and community. The repercussions of facing such situations were also considered, and the respondents were asked about the changes in their levels of distress. The sample is proportionately distributed amid rural and urban areas of Bangladesh based on the crime rates.

When the variables- the estimated value of the lost property and trust in the police- are dropped from the main regression, education level remains significant, and gender becomes weakly significant. Religion is revealed to be a significant determinant of trust in the police for the dissatisfied respondents. Results from the log-linear regression and Standardized Beta regression model indicate education level, trust in the police for the dissatisfied individuals, and the estimated value of the lost property are significant indicators for the perceived insecurity levels of the victims. Household size, age, age squared, religion, marital status, gender, years of residence and relationship with the community appear insignificant. However, past literature indicates the need for further research for more reflective and irrefutable results.

* The materials in the accompanying article are drawn primarily from the author's research monograph submitted in 2021 (Session 2017-18) for the partial fulfilment of the Bachelor of Social Sciences (Honours) in Economics, University of Dhaka. The author thanks Dr. Md. Deen Islam, Associate Professor of Economics, University of Dhaka, for his unstinted support in developing the thesis. The author gratefully acknowledges the comments and suggestions of the unanimous reviewers of the Journal of Political Economy. [Author's contact E-mail: aurorabarkat06@gmail.com].

JEL Classification: C1. C13. C51. K42. D81. I31. D91

Keywords: *Insecurity · Trust · Crime · Log-linear regression · Standardised Beta regression · Police study · Bangladesh*

1. Introduction

The perception of individuals regarding how safe they feel in their community has long been of interest to researchers. When individuals feel safe in their surroundings, they are more likely to have a more optimistic outlook towards others and their lives. It also leads to greater levels of productivity because they tend not to be as consumed by the fear of losing their property, social relationships, or even themselves. Such fear can sometimes be more severe for individuals who were at least once victims of some form of criminal activity.

Crime is one of the various social issues related to our country's economic condition. Theft, burglary, robbery, and dacoity are some of the more common forms of crime that affect the citizens of our country and add a significant financial burden on the victims.

About 21% of our population lives below the national poverty line (Poverty Data: Bangladesh, 2019), and research shows an association of poverty with crime. If an individual is below the line, he faces a lack of choice and might be forced to choose an illegal means of living. Along with the loss in property value, some victims also face psychological damage that cannot be fully measured as no monetary value can be attached to it. Therefore, the full real loss is beyond comprehension.

In a paper prepared by The Canadian Resource Centre for Victims of Crime, it was established that becoming a victim of crime is an unwanted and unpleasant life experience at best. Such experiences throw individuals into a state of shock, apprehension, fear and antagonism. The physical, mental, financial and emotional ramifications of crime can be overwhelming and demoralising to victims. The process of dealing with and recovering from victimisation can be complex. Sadly, the consequences often become so entrenched into one's life that they find themselves in a position where they are incapable of recovering from it.

To conclude how victimisation might affect the individuals of a society, an inspection of the elements of perceived insecurity among the victims is crucial. Hanson et al. (2010), studying the impacts of victimisation on the quality of life, concluded that crime victimisation impacts several factors. The factors included parenting skills, diminished work-related functioning, higher unemployment rates, and greater challenges regarding intimate relationships. However, data on

associations between crime victimisation and overall life satisfaction were mixed, suggesting the need for further investigation.

Rashid (2021) studied the early effect of the COVID-19 lockdown on selected crimes in Dhaka. The concluding results suggested that the observed numbers of total arrests for vehicle thefts and dealings of illegal arms were not significantly different from their predicted values. It was seen that the observed frequency of the total number of arrests for illicit drug trafficking revealed a steep upward trend, which was 75% more than that of the expected frequencies. Such findings, paired with the devastating increase in poverty and the creation of the “new poor” in Bangladesh, which was 24.5 million (14.7% of the total population), should contribute considerably to the perception regarding the insecurity of the public.

It is not only the perceptions of insecurity among Bangladeshis but also the perceptions of the safety of foreigners who travel to Bangladesh for both leisure and business purposes that can come into play in this scenario. Dhaka police revealed that there was an increasing number of criminal gangs who were at large in the city and prompted travellers to be aware of the potential threats of this, which included robbery and other violent criminal offences such as dacoity. Pickpocketing, armed robbery and purse snatching were the more common forms of potential threats. Individuals were recommended not to carry large amounts of money or expensive jewellery. It was found that thieves often work in pairs, so travelling alone was strongly advised against. Passengers using rickshaws or travelling alone in taxis were considered exceptionally vulnerable, especially at night. Use of public transport or rickshaws was advised against, especially if one was to travel alone.

On top of all this, there had been reports of officials misusing their power, and it was often recommended that one keep company with them when going to the police stations. There had been reports of theft and harassment at Dhaka and Sylhet airports. Travellers were further warned about thieves who offered to carry their luggage disguised as porters. Taxis, as well as those serving the airport, often overcharged foreigners and chauffeurs had been known to rob passengers. Warnings were also specified, including passport theft at Dhaka and Sylhet airports. Individuals were instructed to be vigilant and to ensure that their documents and valuables were kept secure at all times. (GOV. UK, n.d.). Such information influences the presumptions and perceptions of foreigners when it comes to the security status of Bangladesh. Needless to say, to improve both the perceptions regarding our citizens' security and our country's representation to the outside world, we must first thoroughly study the perceptions of the general people and accordingly put appropriate policies in effect.

This paper examines the determinants of perceptions of insecurity among the victims of theft, burglary, robbery and dacoity in Bangladesh. We will be checking

the extent of the effects and signs of the variables. Furthermore, we inspect factors determining the individuals' trust in the police system and how the value of property lost as a result of being a victim of the aforementioned criminal activities may be affected by the demographic variables used in the study. We find education level, trust in the police for the dissatisfied individuals, and the estimated value of lost property to be significant indicators of perceived insecurity.

2. Review of Literature

Several studies have been conducted regarding the perceptions of the general public when it comes to their safety. Islam et al. (2020), checking the efficiency of the Bangladeshi police, found that the colonial attitudes which came with the introduction of the police system by the British influenced the current behaviour of the police of this country. This makes the system difficult to trust and affects people's perceptions of societal safety. For the system to be deemed a pro-people one, a paradigmatic shift is needed, including a reduction in political influence and a revision of the Police Act 1861 since it does not match many of the needs of today's people.

In another study devoted to examining the confidence in the police with their performance by Ren et al. (2005), age was found to be a significant factor. With age, trust in the police rose, meaning the positive perceptions of safety also ascended. Neilson and Smyth (2008), in their paper regarding the perceptions of public safety and the outlook on migrants among China's urban population, found that for the cities that spent more on armed police per capita, the citizens were more likely to be satisfied with the existing public safety procedures. Age, gender, and size of the household all appeared insignificant.

According to Soto et al. (2021), in their study relating public transportation to fear of crime in Colombia, fear of crime was found to be negatively associated with the perception of security, and the strongest predictor of fear of crime was gender. The findings implied that women who used public transportation on a daily basis experienced greater fear of crime when at the bus stop, and women who experienced sexual harassment had a greater fear of the buses. Fear stemming from such experiences could translate to a fear of all crimes in general. A paper by Köseoglu (2021) regarding the safety perceptions of Turkish and Turkish Cypriot university students revealed that female students experienced a greater fear of crime than male students.

Baba and Austin (1989) found that connections with the community may also influence an individual's perceived safety levels. Their findings revealed that improvements in the quality of neighbourhoods generally lead to an enhanced perceived level of safety. Even though fear of crime is a complex issue, this result

suggested that the relationship with the community might be an important variable to consider when examining the factors affecting fear of crime.

Shields et al. (2008) studied the determinants of perceived safety among older adults aged 65 years and above in an intensely rural country of Northwest Ohio. Only education had a significant impact on perceived levels of safety. Age appeared insignificant. 71% of the respondents said they felt “very safe” in their neighbourhood; however, this could also be attributable to the lower actual levels of victimisation in the area under study.

Tucker-Seeley et al. (2009) found that older adults (ages 50-75 years) who perceived their neighbourhoods as safe had an 8% higher mean rate of leisure-time physical activity, i.e. LTPA, than older adults who perceived their neighbourhoods as unsafe. However, the association was no longer significant when the respondent’s mental, biological, social and functional aspects, including individual and cultural beliefs and health behaviours, were added. The findings suggest that over and above the influence of socioeconomic and demographic characteristics and functional limitations, perceived neighbourhood safety can impact the level of physical activity among older adults, indicating that fear of crime can be a potential barrier to health. Level of education and household wealth were found to be highly significant, with educational attainment and perceived safety being negatively related and household wealth and perceived safety being positively related. Mullen et al. (1985) found that the perceptions of safety increased with the trust of neighbours. Age also affected perceived safety, and as age increased, the perceived levels of safety of the respondents decreased.

Marital status is a crucial factor to consider when examining the determinants of perceived safety. Neilson and Smyth (2008) expected married people to perceive public safety more favourably and found it to be significant in its relationship with perceptions of public safety. However, Tucker-Seeley et al. (2009) found it to be insignificant. Braungart et al. (2012) had findings that suggested fear of crime to be especially dominant among the ones in the population who are the most vulnerable and isolated. Notably, the elderly and middle-aged women of colour, the unmarried older women who lived alone, the older women with health issues, and women of all ages who had faced burglary were more fearful. Toseland (1982) found that marital status, age, gender and the household size of the respondent were the main variables that influenced the difference between fearful and non-fearful respondents.

Religion is similarly a critical factor of interest when it comes to an individual’s perceptions of safety. Barka (2006) analysed three different case studies to see if some people were innocent but discriminated against due to their religious beliefs, traditions and practices. He concluded that according to the

indications by FBI data, hate crimes/ bias-motivated crimes seemed to be on the rise in the United States, and it seemed unlikely to decline due to the existence of diversity in terms of race, ethnicity and religion. However, Gale et al. (2002), when exploring determinants of hate crime, found religion to be insignificant.

When studying Muslim men and women's perceptions regarding hate crimes, discrimination and Post-Traumatic Stress Disorder, i.e. PTSD symptoms following the events of 9/11 in New York, Abu-Ras and Suarez (2009) found "feeling less safe" to be significant (at 5% level of significance) in the prediction of PTSD. Men and women seemed to differ in symptoms, with men appearing more likely to face racial harassment, and women seemed more likely to express fear of being in public places.

The data used in this paper is relatively rare and unexplored and reveals much about the perceptions of Bangladeshi victims of theft, robbery, burglary and dacoity. Victims of crime are an important subgroup of the general public of any country. They should be given primary importance when evaluating safety/ security levels and differences in perceptions. In the context of a country like Bangladesh, where criminal activity is one of the major concerns of policymakers, and the prime causes of crime include poverty, drugs, politics, and unemployment, it is crucial to keep the perceived safety levels of the people in check. Checking such perception/ worry levels would benefit policymakers and help reform old policies and build and implement new ones.

3. Methodology

3.1 The Data

The data source for this paper is drawn from a study conducted by the Human Development Research Centre (HDRC) in February 2019 for the Police Staff College Bangladesh (Barkat et al., 2019). The cross-sectional study consists of 43 police stations and 167 victims. Individuals surveyed were victims of four forms of criminal activities: theft, robbery, burglary and dacoity. They were inquired about their demographics and trust in the police and community. The repercussions of facing such a crime were also considered when the respondents were asked about the changes in their level of distress. The sample is proportionately distributed amid rural and urban areas of Bangladesh based on the crime rates.

3.2 Limitations

In the equation shown in the estimation section, ε represents all the variables that affect the perceptions of insecurity of the respondents but are not included in the equation due to unavailability. For example, the growth rate of each area under inspection is not considered, which is an important variable to include as areas with

fewer people moving in/out may reveal residents to have a lower fear of crime. Even though the estimated value of the lost property is present as an explanatory variable, ϵ also includes household wealth and income, which can be related to perceptions of insecurity as an individual with a greater level of household wealth and income may be less psychologically and/or financially affected by a loss in their property than someone who has limited income and wealth. Another plausible limitation of this study is that respondents may be unwilling to give accurate information to the interviewers due to their decision-making abilities, say in their household matters or political influences in the respective areas under study. Such exclusion of important factors could lead to model misspecification. Another point to note is that the survey consists of 167 victims, which is a fairly small size and may not be a suitable representation of the entire population of Bangladesh. In addition to these limitations, some other possible shortfalls of this study may include:

- I. Perceptions of non-victims/victims' family members were not considered.
- II. Victims of criminal offences such as rape, cybercrime, domestic violence, and child abuse were not considered.
- III. The sample's age range is 18 to 75; perhaps a wider age range would be more appropriate.
- IV. The survey data were collected in 2019 and might not entirely reflect the post-COVID-19 scenario.
- V. Income level is related to an individual's social class. The ability to afford an education is positively associated with higher income levels. Therefore, if income levels were considered, perhaps the significance of the individual's education level would have differed. So, the exclusion of income level may cause omitted variable bias.

Such limitations indicate the scope for further research in this area.

3.3 Estimation

This study aims to identify the crucial factors that affect the perception of insecurity for victims of various types of property crimes. For this purpose, we estimate the following regression model:

$$\log WI = \beta_0 + \beta_1 educ + \beta_2 hhsz + \beta_3 age + \beta_4 age_sq + \beta_5 yrs_res + \beta_6 religion + \beta_7 gender + \beta_8 marital_stat + \beta_9 comm_relation + \beta_{10} value_crime + \beta_{11} trust_pol + \epsilon$$

The log of the dependent variable is taken to allow for interpretations in terms of percentage changes. We will also be analysing the Standardized Beta Regression coefficients as an additional method for interpretation following this. Let us first study the nature of the dependent and independent variables included in this study, which are tabulated below.

Descriptive statistics of dependent and independent variables

Variable	Mean	Standard deviation	Minimum value	Maximum value
<i>WI</i> (Worry Index)	1.403	0.690	0	3
Education level	9.186	5.234	0	16
Household size	4.419	1.592	1	10
Age	41.934	12.447	18	75
Age squared	1912.461	1135.531	324	5625
Years of residence	23.916	17.545	0	70
Religion	0.156	0.364	0	1
Gender	0.108	0.311	0	1
Marital status	0.096	0.295	0	1
Relationship with community	0.168	0.375	0	1
Estimated value of property lost (BDT)	44386.23	40039.52	2500	150000
Trust in police	1.479	0.684	0	2
Total number of observations= 167				

Dependent variable

The variable *WI* is the Worry Index, which is the dependent variable of this study. It is generated by considering how worried the victims are about facing theft, burglary, robbery and/or dacoity again and their perceived insecurity levels after dark (specifically for staying home alone or walking alone outside after dark). The questions asked were:

a. How worried are you about being a victim of a crime like theft, burglary, robbery, and dacoity?

b. How safe do you feel, or how safe would you feel walking alone in this area after dark?

c. How safe do you feel, or how safe would you feel staying alone at home during the night in this area?

The scores for these answers can be 0, 1, 2, or 3, where 0 = feeling very safe, 1 = feeling fairly safe, 2 = feeling a bit unsafe, and 3 = feeling very unsafe. The index is obtained by averaging the respondents' scores for these three questions and can range from 0 to 3. The mean of this index is about 1.40, which is almost halfway between feeling fairly safe and a bit unsafe but leans more towards feeling fairly safe.

Independent variables

The independent variables included in this study are the respondents' education level, household size, age, age squared, years of residence, religion, gender, marital status, relationship with the community, the estimated value of stolen property and satisfaction with the current police system of Bangladesh.

The variable *educ* in the equation indicates the individual's level of education, which ranges from 0 (no formal education received) to 16 years of schooling (equivalent to a complete bachelor's degree). The mean years of education were found to be about nine years (equivalent to being in the eighth grade). Household size is indicated by *hhsiz*, which in this survey ranges from 0 to 10 members, with the mean household size being about four members per household. The respondent's age is indicated simply by *age* ranging from 18 to 75, with an average age of 42. As mentioned in the literature review section, in a study dedicated to examining the confidence in the police with their performance by Ren et al. (2005), age was found to be a significant factor where with age, trust in the police rises, reflecting that the perceptions of insecurity lessen with age. However, Mullen et al. (1985) found that with an increase in age, the perceived levels of insecurity of the respondent increase. Intuitively, with an increase in age, the perception of insecurity may decrease for apparent reasons. However, as people age, these perceptions about insecurity may increase after a certain period. This is because the elderly are generally more vulnerable to criminal activities. This indicates the need to include the square of age- *age_sq* as an additional explanatory variable for the study.

The number of years of residence indicated by *yrs_res* in the equation shows the years the respondents lived in the respective areas. It ranges from 0 to 70 years with a mean of 24 years of residency. Religion, gender, and marital status are dummy variables indicated by *religion*, *gender* and *marital_stat*, respectively. The religion dummy takes a value of 1 if the respondent is non-Muslim (which is either Hindu or Buddhist in this study) and 0 if Muslim. In this study, only about 16% of the sample were non-Muslim, and the rest were Muslim. Gender dummy, *gender* takes the value 1 if the individual is female and 0 if male. About 11% of the sample were female, and the rest were male. Marital status is expressed using *marital_stat*, where *marital_stat* takes the value 1 if the individual is married and 0 otherwise (which is either never married or widowed). Almost 10% of the respondents were married, and the rest were not. Relationship with the community, as seen from the respondent's perspective, is also a dummy variable indicated by *comm_relation*, which takes a value of 1 if the relationship is fair/not good and 0 otherwise, i.e. if the relationship is good. About 17% of the respondents show a fair/not good bond, and 83% of them display a good connection with the community.

The variable *value_crime* indicates the estimated value of property lost from being a victim of theft, robbery, burglary and dacoity. It ranges from 2500 BDT to 150000 BDT with a mean of about 44386 BDT. Lastly, the individual's satisfaction with the police system/ trust in the police is indicated by the categorical variable *trust_pol*, which takes a value of 0 if the individual is neither satisfied nor dissatisfied, i.e. they are indifferent, 1 if they are not satisfied and 2 if they are satisfied. In this connection, it should be mentioned that approximately 11% were indifferent, 30% were unsatisfied, and 59% were satisfied with the police system.

Multicollinearity problems may arise between some of the explanatory variables. For example, education level and gender could be correlated as women, especially in rural areas, are discriminated against regarding educational opportunities. Education level and household size could also be correlated as knowledge about birth control influences the number of children parents have. Furthermore, educated women tend to spend a larger proportion of their lives in school or work and have a greater opportunity cost of bearing and caring for children. The estimated value of the lost property can be correlated with trust in the police. The police may not pay as much attention to a respondent who lost TK 2500 as they would to someone who lost TK 150000, which is common knowledge amongst individuals. Education level and the relationship with the community may also be correlated as an individual who is more educated in understanding and communication may have a different perception about their society and thus have a different relationship with their community compared to a less educated individual. Age and education level may also be correlated. Table 1 in the Appendix indicates the correlation between the independent variables of this study. Some of the interesting correlations have been discussed below.

Age and Years of residence are seen to be positively related and have a correlation value of 0.279. Household size and Years of residence are also positively related, with a correlation value of 0.225. Education level and Household size are negatively associated with a correlation value of -0.124, perhaps (as mentioned before) because more educated respondents tend to be more cautious about contraceptive use/ birth control and care more about the 'quality', not the 'quantity' of their offspring. Relationship with community and education level is negatively correlated with a value of -0.179, indicating that a more educated individual has a less favourable relationship with the community. Gender and years of residence are negatively related, as shown by a correlation value of -0.251; this could be attributable to the fact that a Bangladeshi woman generally tends to reside where her husband's or father's occupational posting is. Age and age-squared are highly positively correlated, as shown by a correlation value of 0.989; since this is not a linear relationship, it is not an issue of multicollinearity.

Correlation between the variables mentioned above (other than Age and Age squared) may be some possible causes of multicollinearity. However, the simple rule of thumb- the absolute value of correlation no more than 0.7- indicates that there is no severe multicollinearity problem that needs to be accounted for. This is supported by Table 2 in the Appendix, where calculations of Variance Inflation Factors (VIF) and the Tolerance values (1/VIF) are presented (the rule of thumb being severe multicollinearity present if VIF exceeds 10 and if Tolerance is below 0.25). The values of VIF and Tolerance for Age and Age squared indicate multicollinearity as the associated VIFs are too high, and Tolerance values are too low. However, dropping Age squared from the variables, Table 3 (in Appendix) reveals that the source of such values was the correlation between age and age squared. So, it is acceptable to assume that there is no severe multicollinearity problem.

4. Analysis

4.1 The Findings

Referring to the equation mentioned in the methodology section, the results of this regression are tabulated in Table 4 of the Appendix. The significant variables are education level, the estimated value of lost property and trust in the police of the individuals in question.

Education level is found to be significant at a 5% level of significance with an estimated value of the coefficient of -0.01, indicating that with a one-year increase in education level, the perceived level of insecurity falls by about 1%. The estimated value of the lost property is highly significant at a 1% level of significance. The value 2.080×10^{-6} indicates that with each extra taka lost due to being a victim of crime, the perceived level of insecurity increases by about 0.000208%. It could perhaps be attributable to the fact that individuals with lower income levels and less secure jobs, such as small business owners like street side shop vendors or rickshaw pullers, are hurt more from facing any loss in income/ savings from being a victim of crime than someone with a more secure source of income and higher earnings.

Trust in police is a categorical variable with 0, 1 or 2 values. As mentioned in the methodology section, 0 indicates indifference regarding trust, 1 indicates that the respondent appears dissatisfied with the police system, and 2 indicates that the individual is satisfied with the police. In Table 4 (in Appendix), val2 is taken to be the base for this variable. Here, trust in police appears significant at a 5% level of significance for individuals who are dissatisfied with the policing system compared to ones who are satisfied. Dissatisfied individuals have a 13.5% higher perception of insecurity than the satisfied respondents. Such a conclusion is also supported by Islam et al. (2020), who- as mentioned in the literature review

section- believed the police system of Bangladesh not to be as people-friendly as is desirable by the general public and expressed this fact itself to be one of the causes of the inefficiency in the policing system of Bangladesh.

Moving on to the implications of the Standardized Beta Regression model, Table 5 shows the results from this estimation method. It appears that the same variables are still significant, and the directions of the association are also similar. The Standardised Beta coefficient associated with education level indicates that a one standard deviation increase in education level decreases the log of worry index by 0.177 standard deviations. Education level is still significant at a 5% level of significance. The estimated value of lost property is significant at a 1% level of significance as it previously was, and the Standardised Beta coefficient implies that with a one standard deviation increase in the estimated value of lost property, the log of worry index increases by 0.269 standard deviations. Trust in the police is still significant at a 5% level of significance for dissatisfied individuals.

Turning our attention to some of the unusually insignificant variables- gender, religion, marital status and household size- which seem odd to appear insignificant for the reasons to be discussed. For a patriarchal country like ours, discrimination based on gender is an issue of interest. It could be a possible distinguishing factor when it comes to differences in the levels of insecurity of the victims. Akhter et al. (2017), in the study surrounding the effects of gender and health of the women employed in the ready-made garments (RMG) sector, revealed that they lacked appropriate childcare services, which increased the working mothers' anxiety, stress levels, agitation and suicidal tendencies. This intensified even more due to the double work burden, separation from their children, and lack of family support. The findings of King et al. (2021) suggested that due to the inability to choose safe transport, Bangladeshi women attempted to alleviate risks by changing their travel patterns and manners and limiting their travel frequencies. The women expressed that they faced a variety of different criminal offences, including gender-based violence, traffic injuries and harassment. However, Malik and Hasan (2016) found that the fear of stigma keeps women from reporting any crime in the first place. In most cases, their abusers turn out to be family members, which is a possible reason why gender appears insignificant even though it likely is not.

Shoji (2017) established that Bangladeshi households in religiously fractionalised communities are more likely to be victims after a natural disaster in comparison to households in non-fractionalised communities. This study further exhibited empirical support for the idea that the misassignment of disaster relief in fractionalised communities drives the result. Sultana and Subedi (2015), in their study concerning Bangladeshi Hindu sweepers, discussed that they had been historically discriminated against and were deprived of choices such as free

selection of profession, access to housing, proper schooling and other such benefits. Their paper also suggests that such treatment of an individual was attributable to the historical, colonial, economic, political and social aspects of caste-based discrimination. Such marginalisation in terms of religion should undoubtedly affect an individual's perceptions of insecurity.

Marital status is a crucial determinant of perceptions of insecurity, especially in rural Bangladesh. Women face dowry-related violence from both their families and their spouses. Naved and Persson (2005) revealed that in both rural and urban residential areas, dowry or other demands in matrimony and a history of abuse of the husband's mother by her spouse increased the risk of violence. Again, as in the case of gender abuse, the women may not report such criminal activities as the abusers are their household members. However, suppose a married respondent does not face such behind-closed-doors abuse. In that case, they are likelier to have a lower perception of insecurity than an unmarried individual. If one believes in strength in numbers, the greater the household size, the lower the perception of insecurity. This suggests that household size should have been a significant determinant of fear of crime. However, this idea might be strictly conditional on the age and gender dynamics of the household members and the political affiliation of the respondent.

4.2 Robustness checks

To check if there are any changes in the significance of determinants if WI (Worry Index) was used as the dependent variable rather than log WI, Table 6 has been included in our study. The results indicate that the same variables are still significant, and the levels of significance for each of the three variables- education level, the estimated value of the lost property, and trust in the police for the dissatisfied individuals- are 5%, 1% and 1%, respectively. However, Gender, which previously had a p-value of 0.214 and 0.203, now has a p-value of 0.148, which is approximately 0.1 if taken at one decimal place, i.e. significant at a 10% level of significance.

If the variables- the estimated value of the lost property and trust in the police- are dropped from the original regression, Table 7 reveals that education level remains significant at a 5% level of significance. Gender appears significant at a 10% level of significance, where the estimated coefficient of 0.142 implies that females have a 14.2% higher perception of insecurity than male respondents.

It might be interesting to study the relationship between the demographic variables (i.e. all but Trust in police) and the estimated value of lost property. Regressing the estimated value of lost property on all demographic variables in Table 8 reveals that education is no longer significant. Gender again appears weakly

significant (again, a p-value of 0.113 is approximately 0.1 if taken at one decimal place or significant at an 11% level of significance) with an estimated coefficient of 15758.3, implying that the female respondents have on average TK 15758.3 greater loss in terms of the estimated value of lost property than their male counterparts.

To check if trust in police is affected by any demographic variables (all but the Estimated value of lost property), Table 9 presents the results from the logistic regression of trust in police on all demographic variables. Redefining the variable trust in police to examine its determinants for the dissatisfied individuals- trust in police takes a value of 1 if the individual is dissatisfied with the policing system and 0 otherwise, i.e. if the respondent is satisfied or indifferent about the policing system. Religion is found to be significant at a 5% level of significance. The estimated value of the coefficient is -1.971, which indicates that non-Muslims are less dissatisfied with the policing system than Muslim respondents. The odds of the non-Muslim respondents being dissatisfied with the police is 0.139 less than that of the Muslim respondents. It seems unusual, given that past findings reveal the opposite. However, this could be one of the consequences of a small sample size or the fact that in such a Muslim-dominated country, non-Muslims may have a lower expectation from the police in the first place as they are aware of the existing marginalisation based on religion.

5. Conclusion

In conclusion, education level, trust in the police for the dissatisfied individuals, and the estimated value of lost property appear to be significant indicators of perceived insecurity. Household size, age, age squared, religion, marital status, gender, years of residence and relationship with the community appear insignificant. When the variables- the estimated value of the lost property and trust in the police- are dropped from the regression, education level remains significant, and gender becomes weakly significant. Religion is revealed to be a significant determinant of the dissatisfied respondents' trust in the police. However, these results may not be entirely conclusive as the sample selection may not have been random. Some possible policy recommendations based on the results obtained include:

- I. Making education more accessible to all people. This requires better infrastructure and access to electricity. Underdeveloped roads and no appropriate transportation modes may make education attainment strenuous. The lack of electricity also means limited access to media. So, policies made to improve infrastructure and provide electricity can positively impact education as more energy and time can be available for educational attainment and attendance, which, in turn, could affect the individual's perception of insecurity.

- II. Another crucial factor to keep in mind is that the quality of education should be assigned as a high priority. Such 'quality education' should include a better attitude towards the individuals in addition to good books or a better/ more comfortable environment for studying.
- III. Female and male students should not be discriminated against based on gender, and female students having the same rights as their male counterparts should be one of the primary concerns of the curriculum. This can be achieved through teaching young, impressionable boys and girls about gender inequality and workplace discrimination. The policymakers are to focus their attention towards more anti-discriminatory policies to minimise discrimination based on gender as well as those based on religion, race, ethnicity and social class.
- IV. To improve the citizens' trust in the police system, it needs to be ensured that the behaviour of the police towards the victims reflects that the steps being taken are in the best interest of the victims. To make the police system more effective and fair, it is necessary to implement policies which focus on lowering biases (based on religion, gender, race, class and politics) and aggression of the police towards the victims. Appropriate performance and psych evaluations should be implemented, and the police should be monitored consistently.
- V. Some individuals become totally distressed due to crime-related property loss. In such cases, it might be appropriate to consider institutionalising the social insurance system to compensate for such losses. Such a social insurance system may be an integral part of the national social protection (safety net) programme.
- VI. Mental and emotional health services, as well as medical health services, should be made more accessible for both the victims and their family members. Psychological trauma has been found to be linked to certain serious illnesses. Therefore, the availability of services that help victims deal with their experiences should unquestionably be a critical concern for policymakers.

References

- Abu-Ras, W. M., & Suarez, Z. E. (2009). Muslim men and women's perception of discrimination, hate crimes, and PTSD symptoms post 9/11, *Traumatology*, 15(3), 48–63.
- Akhter, S., Rutherford, S., KumKum, F.A., Bromwich, D., Anwar, I., Rahman, A. & Chu, C. (2017). Work, gender roles, and health: neglected mental health issues among female workers in the ready-made garment industry in Bangladesh, *International Journal of Women's Health*, 9, 571-579.
- Baba, Y. & Austin, D.M. (1989). Neighborhood Environmental Satisfaction, Victimization, and Social Participation as Determinants of Perceived Neighborhood Safety, *Environment and Behavior*, 21(6), 763-780.
- Barka, M.B. (2006). Religion, Religious Fanaticism and Hate Crimes in the United States, *Revue française d'études américaines*, 110, 107-121.
- Barkat, A., Khandoker, M.S.H., Mahiyuddin, G., Nurunnahar. & Ahamed, F.M. (2019). Socio-economic Dimensions of Police Work in the Society: An Impact Analysis. Human Development Research Centre, prepared for the Police Staff College Bangladesh. <https://www.hdrc-bd.com/study-on-socio-economic-dimensions-of-police-works-in-the-society-an-impact-analysis/> [This survey-based study has collected relevant data from various stakeholders using six separate data collection instruments, including individual interviews with the victims of crime (victims of theft, burglary, robbery, dacoity), individual interviews with police officials (duty officers of Police Station, Officer in Charge of Police Station, ASP/ACP of Police Station, SP/DC of police), and discussion meetings with experts (Senior police Officers, Criminologist, Sociologist, Lawyer, Psychologist). For the accompanying paper, I have used the raw data sets of 167 victims of crime].
- Braungart, M.M., Braungart, R.G. & Hoyer, W.J. (2012). Age, Sex, and Social Factors in Fear of Crime, *Sociological Focus*, 13(1), 55-66.
- Gale, L.R., Heath, W.C. & Ressler, R.W. (2002). An Economic Analysis of Hate Crime, *Eastern Economic Journal*, 28(2), 203-216.
- GOV. UK (no date) Bangladesh travel advice, GOV.UK. Available at: <https://www.gov.uk/foreign-travel-advice/bangladesh> (Accessed: 10 December 2022).
- Hanson, R.F., Sawyer, G.K., Begle, A.M. & Hubel, G.S. (2010). The Impact of Crime Victimization on Quality of Life, *J Trauma Stress*, 23(2), 189–19.
- Islam, A.K.M.S., Islam, N. & Ehsan, S.M.A. (2020). Public Perception Regarding the Efficiency of Bangladesh Police: Quest for a New Paradigm, *Public Affairs And Governance*, 8(2), 233-254.
- Köseoglu, M. (2021). Fear of crime perceptions of university students, *Sociologia, Problemas e Praticas*, 96, 41-57.
- King, J., King, M., Edwards, N., Carroll, J.-A., Watling, H., Anam, M., Bull, M. & Oviedo-Trespalacios, O. (2021). Exploring Women's Experience of Gender-Based Violence and Other Threats to Safety on Public Transport in Bangladesh, *International Journal for Crime, Justice and Social Democracy*, 10(4), 158-173.

- Malik, S. & Hasan, M.K. (2016, October 27). Fear of stigma keeps women from reporting abuse. *DhakaTribune*. <https://archive.dhakatribune.com/bangladesh/2016/10/27/fear-stigma-keeps-women-reporting-abuse>.
- Mullen, R.E. & Donnermeyer, J.F. (1985). Age, trust, and perceived safety from crime in rural areas, *Gerontologist*, 25(3), 237-242.
- Naved, R.T. & Persson, L.A. (2005). Factors Associated with Spousal Physical Violence against Women in Bangladesh, *Studies in Family Planning*, 36(4), 289–300.
- Neilsen, I. & Smyth, R. (2008). Who wants safer cities? Perceptions of public safety and attitudes to migrants among China's urban population, *International Review of Law and Economics*, 28(1), 46-55.
- Poverty Data: Bangladesh. (2019). <https://www.adb.org/countries/bangladesh/poverty>.
- Rashid, S. (2021). Impact of COVID-19 on Selected Criminal Activities in Dhaka, Bangladesh, *Asian Journal of Criminology*, 16, 5-17.
- Ren, L., Cao, L., Lovrich, N. & Gaffney, N. (2005). Linking confidence in the police with the performance of the police: Community policing can make a difference, *Journal of Criminal Justice*, 33(1), 55-66.
- Shields, G., King, W., Fulks, S. & Fallon, L.F. (2008). Determinants of Perceived Safety Among the Elderly, *Journal of Gerontological Social Work*, 38(3), 73-83.
- Shoji, M. (2017). Religious Fractionalisation and Crimes in Disaster-Affected Communities: Survey Evidence from Bangladesh, *The Journal of Development Studies*, 54(10), 1891-1911.
- Soto, J.J., Orozco-Fontalvo, M.J. & Useche, S.A. (2021). Public transportation and fear of crime at BRT Systems: Approaching to the case of Barranquilla (Colombia) through integrated choice and latent variable models, *Transportation Research Part A Policy and Practice*, 155(10), 142-160.
- Sultana, H. & Subedi, D.B. (2015). Caste System and Resistance: The Case of Untouchable Hindu Sweepers in Bangladesh, *International Journal of Politics, Culture, and Society*, 29, 19–32.
- The Impact of Victimization. (2005, October). The Canadian Resource Centre for Victims of Crime. <https://www.crcvc.ca/docs/victimization.pdf>.
- Toseland, R.W. (1982). Fear of crime: Who is most vulnerable? *Journal of Criminal Justice*, 10(3), 199-209.
- Tucker-Seeley, R.D., Subramanian, S.V., Li, Y. & Sorensen, G. (2009). Neighborhood safety, socioeconomic status, and physical activity in older adults, *Am J Prev Med*, 37(3), 201-213.

Appendix

Table 1: Correlation Matrix

	Estimated value of lost property	Age	Marital status	Years of residence	Religion	Education level	Household size	Relationship with community	Gender	Trust in police	Age squared
Estimated value of lost property	1										
Age	0.155	1									
Marital status	0.003	-0.172	1								
Years of residence	0.0387	0.279	-0.017	1							
Religion	-0.072	0.037	0.029	0.133	1						
Education level	0.032	-0.025	-0.101	-0.145	-0.037	1					
Household size	0.007	-0.047	-0.035	0.225	-0.082	-0.124	1				
Relationship with community	-0.008	-0.040	0.072	0.008	-0.060	-0.179	0.023	1			
Gender	0.116	-0.004	0.149	-0.251	-0.096	-0.086	-0.104	0.051	1		
Trust in police	0.015	0.082	0.099	0.087	0.183	-0.067	0.119	-0.057	-0.103	1	
Age squared	0.152	0.989	-0.127	0.261	0.018	-0.041	-0.057	-0.033	-0.012	0.069	1

Table 2: Variance Inflation Factors (VIF) and Tolerance values (1/VIF)

Variable	VIF	1/VIF
Education level	1.140	0.878
Household size	1.130	0.887
Age	53.610	0.019
Age squared	51.990	0.019
Years of residence	1.320	0.760
Religion	1.130	0.882
Gender	1.200	0.832
Marital status	1.220	0.819
Relationship with community	1.050	0.954
Estimated value of lost property (BDT)	1.070	0.939
Trust in police		
0	1.160	0.866
1	1.170	0.853
Mean VIF	9.760	

Table 3: Variance Inflation Factors (VIF) and Tolerance values (1/VIF) with Age squared dropped

Variable	VIF	1/VIF
Education level	1.120	0.892
Household size	1.120	0.890
Age	1.190	0.843
Years of residence	1.290	0.774
Religion	1.110	0.897
Gender	1.170	0.858
Marital status	1.100	0.913
Relationship with the community	1.050	0.954
Estimated value of lost property (BDT)	1.060	0.939
Trust in police		
0	1.150	0.873
1	1.170	0.857
Mean VIF	1.140	

Table 4: Regression of Log of Worry Index on all explanatory variables

Log of Worry Index (logWI)	Estimated coefficient	T value	P>t
Education level	-0.010** (0.005)	-2.280	0.024
Household size	-0.010 (0.017)	-0.580	0.563
Age	0.008 (0.015)	0.550	0.586
Age squared	-0.0001 (0.0002)	-0.660	0.508
Years of residence	-0.0002 (0.001)	-0.150	0.883
Religion	-0.0004 (0.069)	-0.010	0.995
Gender	0.101 (0.081)	1.250	0.214
Marital status	0.011 (0.067)	0.180	0.857
Relationship with community	0.056 (0.064)	0.880	0.382
Estimated value of lost property (BDT)	2.080X10 ⁻⁶ *** (6.1X10 ⁻⁶)	3.410	0.001
Trust in police			
0	0.086 (0.066)	1.310	0.193
1	0.135** (0.051)	2.620	0.010
Constant	0.674 (0.342)	1.970	0.051

Note: (i) Robust standard errors in parentheses; (ii) p values less than 0.01, 0.05 and 0.1 denote significance at 1%, 5% and 10% levels of significance and are shown as ***, ** and *, respectively

Table 5: Standardized Beta Regression Estimation

Log of Worry Index (logWI)	Estimated coefficient	T value	P>t	Beta
Education level	-0.010** (0.005)	-2.270	0.024	-0.177
Household size	-0.010 (0.015)	-0.670	0.503	-0.052
Age	0.008 (0.013)	0.640	0.525	0.339
Age squared	-0.0001 (0.0001)	-0.780	0.435	-0.410
Years of residence	-0.0002 (0.001)	-0.140	0.888	-0.012
Religion	-0.0004 (0.066)	-0.010	0.995	-0.0005
Gender	0.089 (0.079)	1.280	0.203	0.102
Marital status	0.012 (0.084)	0.140	0.887	0.011
Relationship with community	0.056 (0.061)	0.910	0.365	0.068
Estimated value of lost property (BDT)	2.08×10^{-6} *** (5.80×10^{-7})	3.580	0.000	0.269
Trust in police				
0	0.086 (0.078)	1.100	0.271	0.086
1	0.135** (0.053)	2.550	0.012	0.201
Constant	0.834 (0.287)	2.310	0.022	

Note: (i) Standard errors in parentheses; (ii) p values less than 0.01, 0.05 and 0.1 denote significance at 1%, 5% and 10% levels of significance and are shown as ***, ** and *, respectively

Table 6: Regression of Worry Index on all explanatory variables

Worry Index (WI.)	Estimated coefficient	T value	P>t
Education level	-0.022** (0.010)	-2.150	0.033
Household size	-0.010 (0.037)	-0.260	0.792
Age	0.012 (0.035)	0.350	0.726
Age squared	-0.0002 (0.0004)	-0.400	0.688
Years of residence	-0.001 (0.003)	-0.480	0.633
Religion	0.039 (0.155)	0.250	0.800
Gender	0.262 (0.193)	1.350	0.148
Marital status	-0.022 (0.164)	-0.130	0.893
Relationship with community	0.141 (0.140)	1.000	0.318
Estimated value of lost property (BDT)	$5.27 \times 10^{-6}***$ (1.44×10^{-6})	3.650	0.000
Trust in police			
0	0.197 (0.147)	1.340	0.183
1	0.317*** (0.118)	2.690	0.008
Constant	1.063 (0.757)	1.400	0.162

Note: (i) Robust standard errors in parentheses; (ii) p values less than 0.01, 0.05 and 0.1 denote significance at 1%, 5% and 10% levels of significance and are shown as ***, ** and *, respectively

Table 7: Regression of Log of Worry Index on all explanatory variables (except the estimated value of property and Trust in police)

Log of Worry Index (log WI)	Estimated coefficient	T value	P>t
Education	-0.010** (4.71X10 ⁻³)	-2.130	0.035
Household size	-0.014 (0.019)	-0.770	0.443
Age	0.007 (0.017)	0.410	0.683
Age squared	-8.5X10 ⁻⁵ (0.0002)	-0.460	0.647
Years of residence	0.0003 (0.002)	0.190	0.853
Religion	-0.056 (0.073)	-0.760	0.447
Gender	0.142* (0.079)	1.790	0.076
Marital status	-0.013 (0.066)	-0.200	0.846
Relationship with community	0.066 (0.062)	1.080	0.282
Constant	0.842 (0.354)	2.380	0.019

Note: (i) Robust standard errors in parentheses; (ii) p values less than 0.01, 0.05 and 0.1 denote significance at 1%, 5% and 10% levels of significance and are shown as ***, ** and *, respectively

Table 8: Regression of Estimated value of lost property on all demographic variables

Estimated value of lost property (BDT)	Estimated coefficient	T value	P>t
Education level	397.796 (593.094)	0.670	0.503
Household size	502.236 (1815.600)	0.280	0.782
Age	662.128 (1955.730)	0.340	0.735
Age squared	-1.854 (22.487)	-0.080	0.934
Years of residence	83.106 (195.298)	0.430	0.671

Estimated value of lost property (BDT)	Estimated coefficient	T value	P>t
Religion	-7610.300 (8236.433)	-0.920	0.357
Gender	15758.300 (9880.194)	1.590	0.113
Marital status	2991.790 (8917.735)	0.340	0.738
Relationship with community	-499.000 (7440.000)	-0.070	0.947

Note: (i) Robust standard errors in parentheses; (ii) p values less than 0.01, 0.05 and 0.1 denote significance at 1%, 5% and 10% levels of significance and are shown as ***, ** and *, respectively

Table 9: Logistic regression of Trust in police on the demographic variables

Trust in police	Odds Ratio	Estimated coefficient	Z value	P>z
Education level	0.959	-0.042 (0.034)	-1.200	0.229
Household size	0.858	-0.154 (0.102)	-1.290	0.196
Age	0.953	-0.048 (0.096)	-0.470	0.636
Age squared	1.001	0.001 (0.001)	0.500	0.614
Years of residence	1.013	0.013 (0.011)	1.150	0.249
Religion	0.139	-1.971** (0.108)	-2.540	0.011
Gender	0.832	-0.184 (0.514)	-0.300	0.765
Marital status	0.443	-0.815 (0.321)	-1.120	0.261
Relationship with the community	1.397	0.334 (0.649)	0.720	0.472
Constant	3.039	1.111 (6.659)	0.510	0.612

Note: (i) Robust standard errors in parentheses; (ii) p values less than 0.01, 0.05 and 0.1 denote significance at 1%, 5% and 10% levels of significance and are shown as ***, ** and *, respectively