Group 13
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Project Two Technical Report

Introduction

Generalized trust refers to a belief in the inherent goodness of others and a willingness to trust people in general, regardless of their specific characteristics or circumstances. Trust is a crucial element in the functioning of societies, allowing for cooperation and the establishment of social norms. However, not everyone has the same level of trust, and various factors can influence an individual's level of trust. In this research paper, we will examine three factors that we hypothesize may affect whether or not an individual exhibits generalized trust: religious identity, education, and victimization.

First, we will explore the relationship between religious identity and trust, specifically focusing on observant Jews. Our hypothesis is that those who identify as observant Jews will exhibit a higher level of generalized trust compared to those who do not identify as Jewish or are not observant. Second, we will investigate the relationship between education and trust, hypothesizing that those who have completed primary school will have a higher tendency towards generalized trust compared to those who have not. Finally, we will examine the impact of victimization on trust, hypothesizing that being a victim of a crime will lead to a decrease in the value of generalized trust.

Theory and Hypotheses

In comparing individuals, those who identify as observant Jews are more likely to exhibit generalized trust than those who identify as something other than Jew or are not observant.

Those Jews who are observant, follow what is written in the *Torah* as well as rabbitic tradition contained in the *Talmud* (Lawton, 170). It is written in the book of Leviticus, a part of the Torah, that "you shall love your neighbor as yourself" (Leviticus 19:18). This can be interpreted to mean that the observant Jew must love and trust others. If a Jew does not try to follow this commandment, he or she would not be considered an observant Jew, since this comes from the *Torah*, which is considered the infallible word of God. Additionally, Rabbi Hillel told an enquirer that "the whole of Judaism was summed up by the expression, ' Do not unto others as you would not have done to yourself" (Lawton, 173). This teaching promotes equality among all men and women in society. No person is any more or less deserving of dignity, fair treatment, and trust than another. In light of these teachings, an observant Jew should have generalized trust.

On the other hand, not all Jews believe the same teachings down to a very specific level. Some of these particular beliefs coupled with regional and cultural differences can make some Jews more or less trusting than others. As Wilson puts it, "Due to intermarriage, conversion, and dispersion among the nations, there has been a branching out over the centuries, and wide cultural differences between Jews have resulted" (WILSON, 99). These other factors can change one's perspective on particular issues and shape individual beliefs. Trauma from events such as the Holocaust certainly influence the way a Jew sees others. No studies or articles could be found

that specifically addressed Jews' generalized trust. Depending on the results of this project, this may be an area for further exploration.

In comparing individuals, those who have completed primary school are more likely to have a tendency towards generalized trust compared to those who have not.

As individuals receive higher levels of education, they tend to gain more knowledge, which can increase their propensity for general trust. According to Delhey Newton (2005)," Education as a force underpinning trust in modern society.Generalized trust is more abstract than personal trust, and it requires greater cognitive skill to handle it and its related concepts of reciprocity, equality, justice, and citizenship" (p.312). Attending a formal academic institution like a school or university familiarizes individuals with social norms and regulations, resulting in more trustworthy citizens. Thus, education not only enhances one's learning but also cultivates approachability, compassion, and ethical awareness. Education equips individuals with essential qualities that lead to the establishment of a fairer and more trusting society.

One possible rebuttal to the assertion that trust in the education system leads to increased knowledge acquisition is that learning is not solely dependent on formal education. People can acquire knowledge through multiple channels, including personal experiences, self-directed research, or guidance from subject matter experts. Thus, formal education is not an obligatory condition for obtaining knowledge.

In comparing individuals, those who are victims of a crime are less likely to exhibit generalized trust.

Disruption of the normative order leads to suspicion not only of the people around us but also toward organizations and even the justice system. This can be seen in everyday life. For

instance, a simple act of a cashier selling one short can lead to that person never visiting that store again. A small act of unkindness can break relationships. If these minor disruptions of the normative order can lead to such vast suspicion and distrust, one can only imagine the impacts of crimes on trust. “Anything that undermines the normative order is likely to produce an increase in distrust and untrustworthy behavior” (Delhey and Newton 312).

Crimes decrease the value of trust by disrupting the normative order. Crimes disrupt the normative order by breaking the law and violating the interpersonal trust of the victims involved. For example, if an individual was pickpocketed on xyz street recently, they would be less inclined to walk on that street in the near future or if the individual did have to walk on that street they would be more cautious, alert, and less trusting of others on that street. The trust between the pickpocket victim and those around them has diminished as a result of the crime.

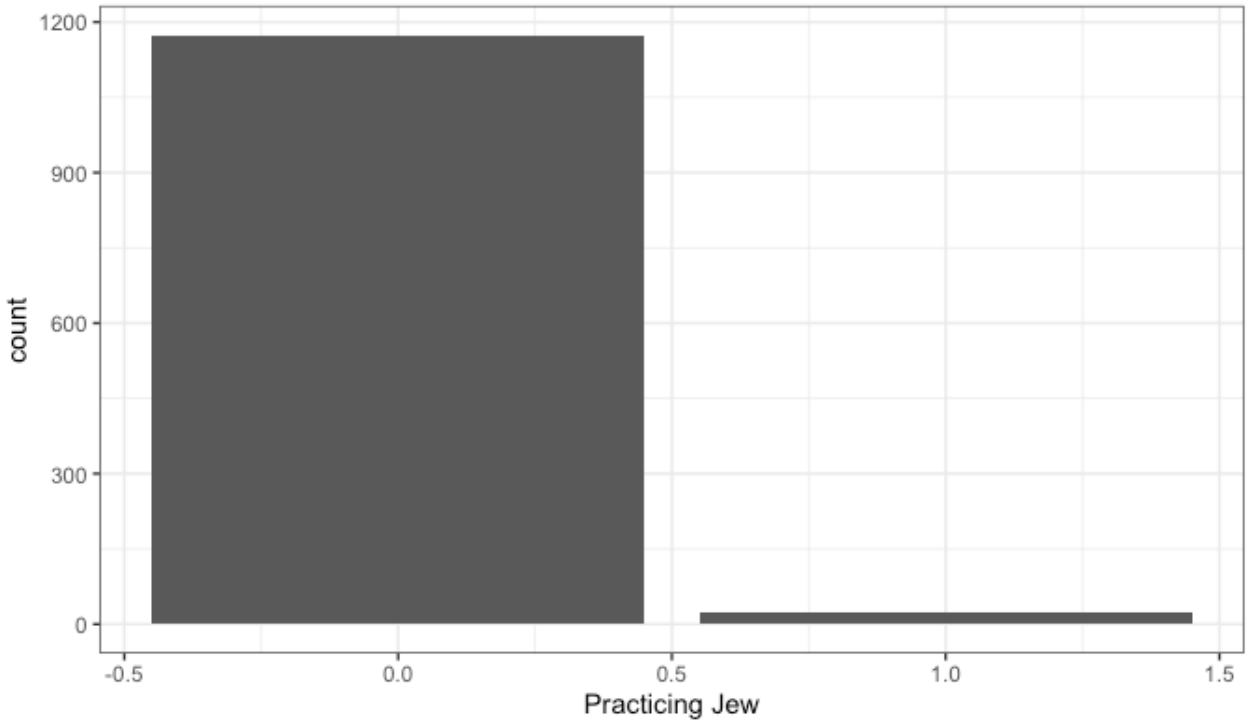
As crimes disrupt the “normative order” and as disruption of the normative order is associated with a decrease of trust (as described above), we believe that (in comparison of individuals), being a victim of a crime is associated with a decrease in the value of generalized trust.

Data and Research Design

Of all the countries included in the World Values Survey, Zimbabwe had both the highest number of practicing Jews and highest percentage of practicing Jews in their sample population. (Note: Israel was not included in the World Values Survey for Wave 7) Since practicing Jew is the most restrictive variable in this study, the choice of country was based on where most of the practicing Jewish respondents were located. For this sole reason, Zimbabwe was chosen as the country of focus for this study.

If a person is a practicing Jew, he or she is more likely to exhibit generalized trust. In this study, being a practicing Jew is measured by whether the person identifies his or her religion as Jewish and identifies as a religious person. The values for this variable were obtained from Wave Seven of the World Values Survey. This dataset included data from surveys in 64 different countries. This survey explored people's values and their beliefs. More specifically, the variable is based on data collected in Zimbabwe from question 289, "Do you belong to a religion or religious denomination? If yes, which one?" and question 173, "Independently of whether you attend religious services or not, would you say you are...?", where the answer choices were "A religious person, not a religious person, and an atheist" (Haerpfer). In this way, the variable will best capture how being a practicing Jew or not correlates with generalized trust.

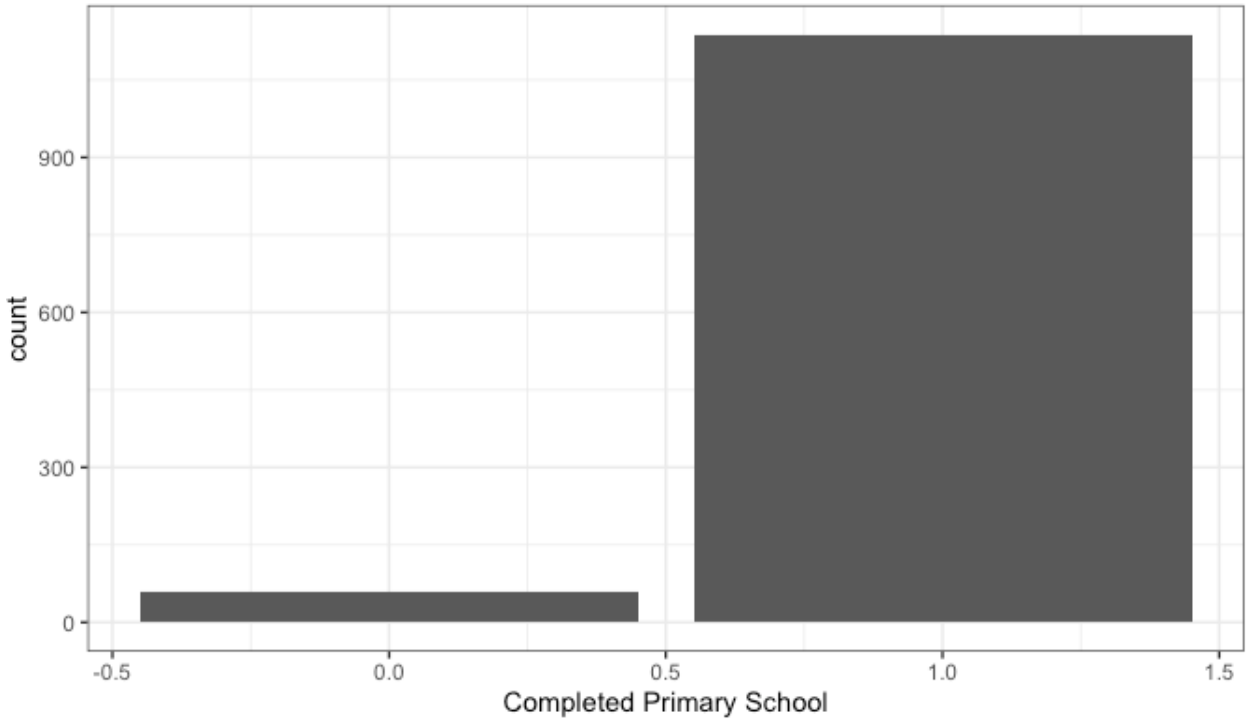
Figure 1: Bar Chart of Jew Variable



The bar chart above shows a strongly right-skewed distribution of practicing Jews in Zimbabwe. Very few respondents in this country are practicing Jews. The mean value, 0.01893, indicates that approximately 2% of respondents from this country are practicing Jews. The actual count is 23.

In comparing individuals, those who have completed primary school are more likely to have a tendency towards generalized trust compared to those who have not. More specifically, this study examines individuals from Zimbabwe who have completed primary school. The values for this variable are from Wave 7 of the World Values Survey which includes data from 64 countries on people's values and beliefs. The specific question that we are examining in order to measure this variable is question 275, which asks "What is the highest educational level that you have attained?" (Haerpfer). This question will best capture how completion of primary school correlated with generalized trust.

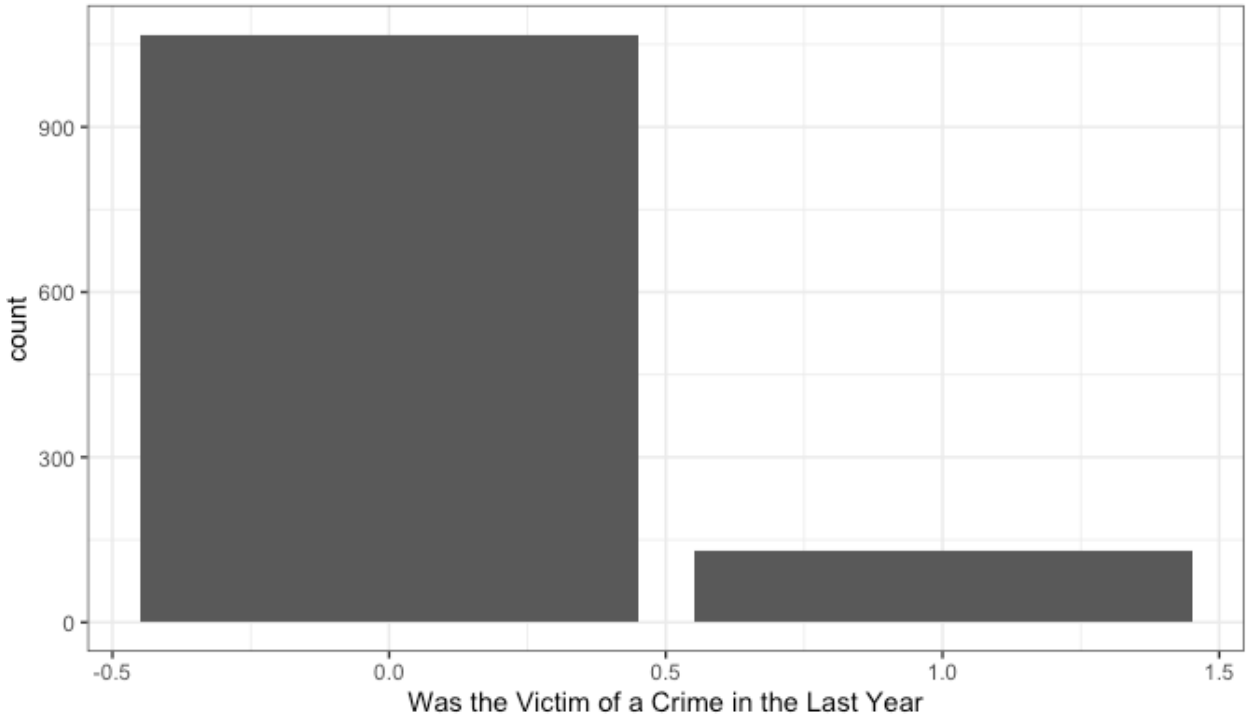
Figure 2: Bar Chart of Education Variable



The bar chart above shows a strongly left-skewed distribution of primary school completion in Zimbabwe. The vast majority of th respondents in this country have completed primary school. The mean value, 0.9498, indicates that approximately 95% of respondents from this country have completed primary school. The actual count is 1,154.

In comparing individuals, those who have been victims of a crime are less likely to exhibit generalized trust. More specifically, we are examining individuals from Zimbabwe who have been a victim of a crime during the past year. The values for this variable are from Wave 7 of the World Values Survey which includes data from 64 countries on people's values and beliefs. The specific question that we are examining in order to measure this variable is question 144, which asks "Have you been a victim of a crime during the past year?" (Haerpfer). In this way, the variable will best capture how being the victim of a crime in the last year correlates with generalized trust.

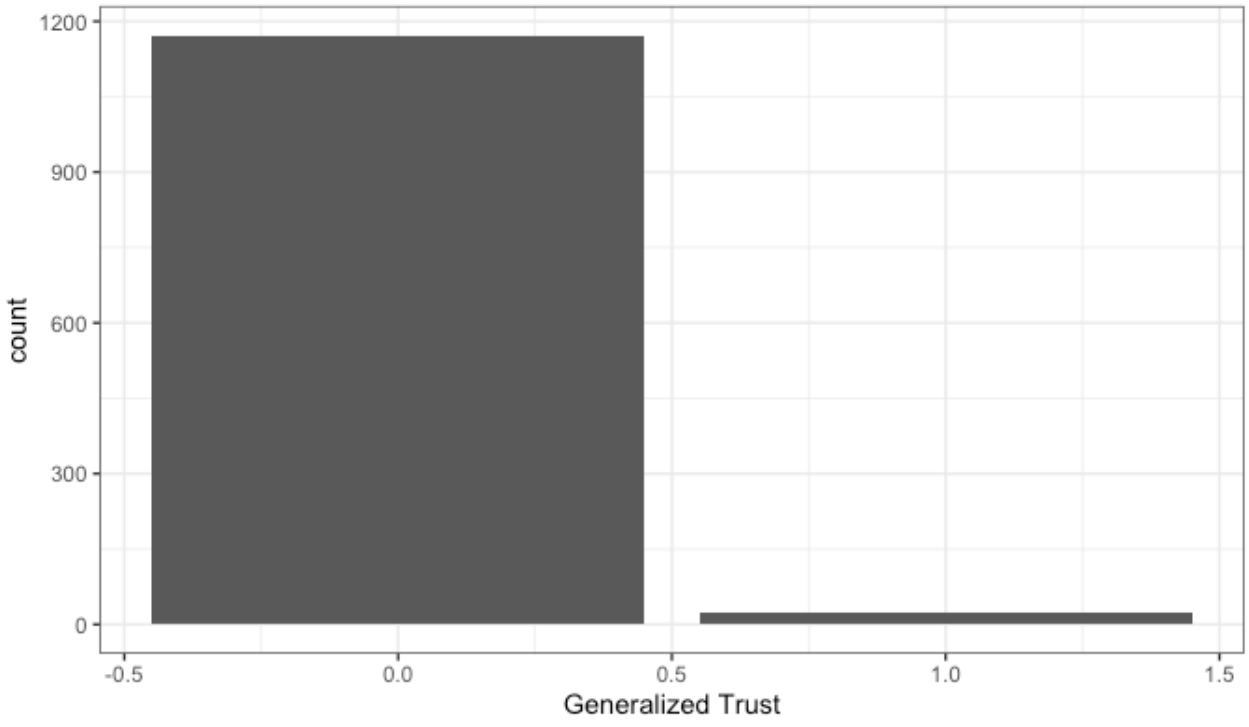
Figure 3: Bar Chart of Victim of a Crime Variable



The bar chart above shows a strongly right-skewed distribution of being the victim of a crime in Zimbabwe. Very few of the respondents in this country have been the victim of a crime in the last year. The mean value, 0.1070, indicates that approximately 11% of respondents from this country have been the victim of a crime in the last year. The actual count is 130.

Finally, the values for the generalized trust variable are from Wave 7 of the World Values Survey which includes data from 64 countries on people's values and beliefs. The specific question used to measure this variable is question 57, which asks "Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?" (Haerpfer). In this way, the variable will best capture generalized trust.

Figure 4: Bar Chart of Trust Variable

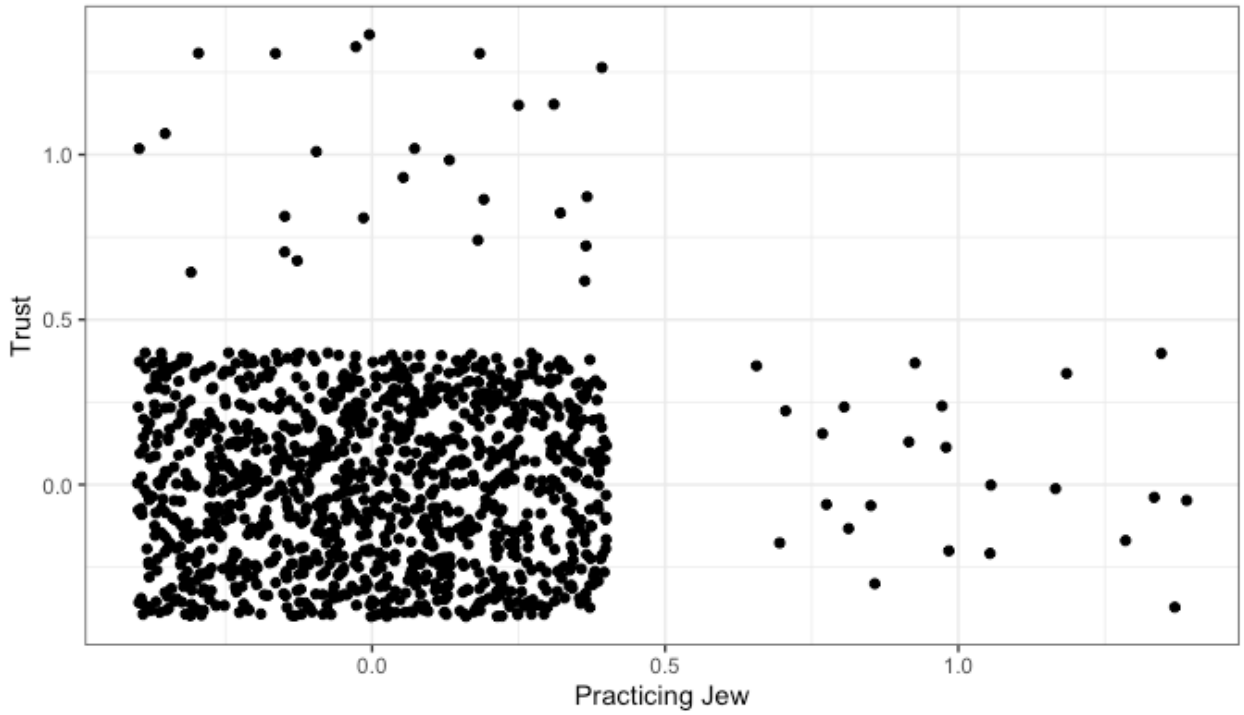


The bar chart above shows a strongly right-skewed distribution of generalized trust in Zimbabwe. Very few of the respondents in this country answered that most people can be trusted.

The mean value, 0.0208, indicates that approximately 2.1% of respondents from this country exhibit generalized trust. The actual count is 25.

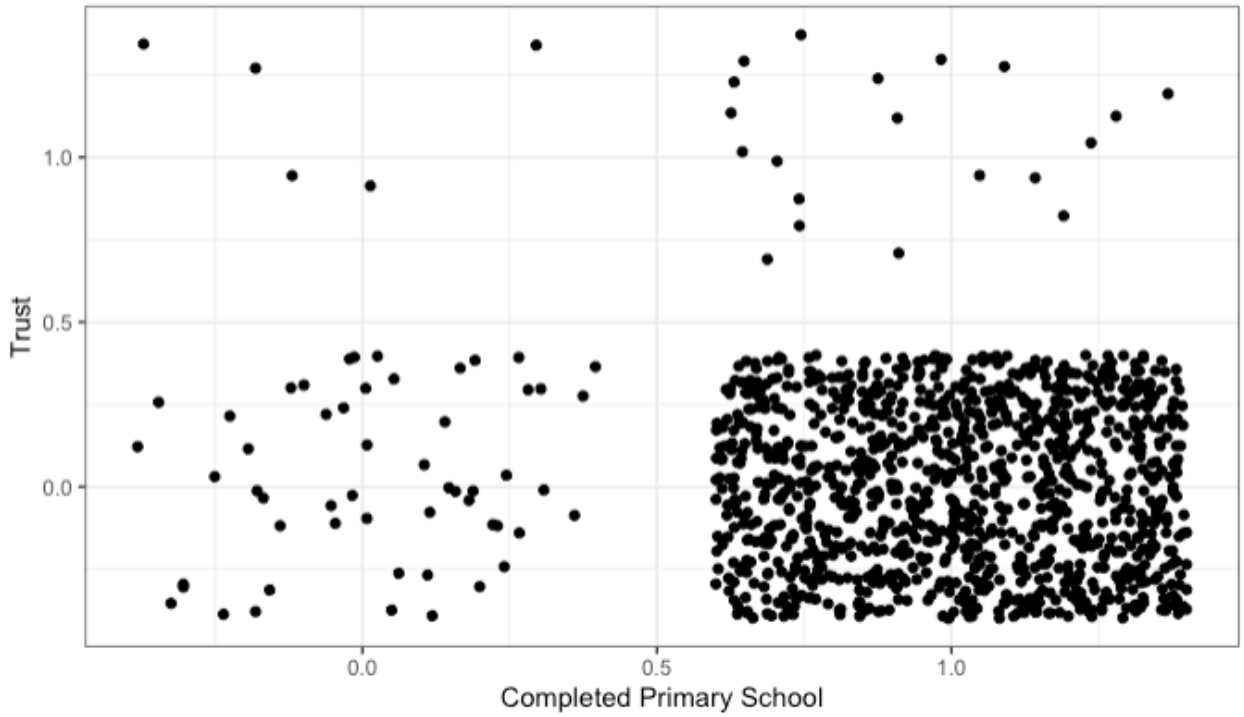
Visualization and Regression

Figure 5: Bivariate Relationship between Trust and Being a Practicing Jew



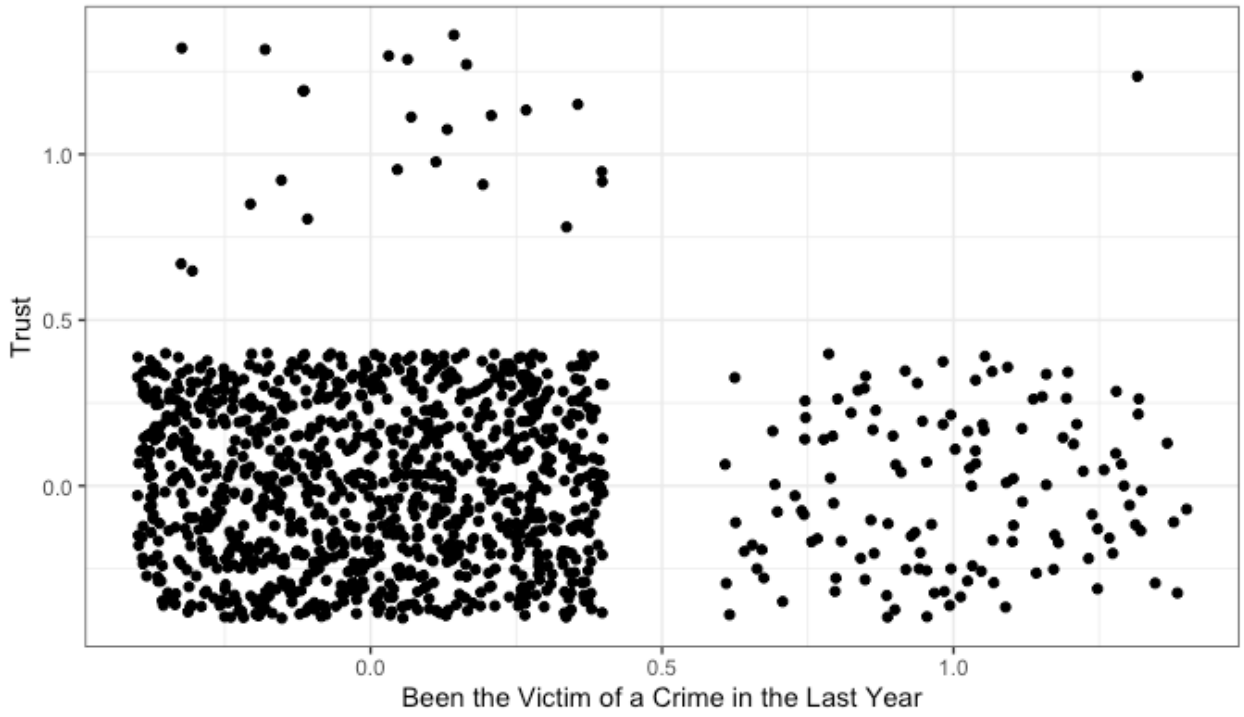
The jittered scatterplot above shows the bivariate relationship between trust and being a practicing Jew in Zimbabwe. False is shown as 0 and true is shown as 1. Most respondents in Zimbabwe are not practicing Jews and do not exhibit generalized trust. Of note is that, among respondents who identified as practicing Jews, none of them also exhibit generalized trust. This evidence is contrary to our original hypothesis which claimed that practicing Jews exhibit more generalized trust than non-practicing Jews. It appears that, in Zimbabwe, practicing Jews are much less likely to exhibit generalized trust.

Figure 6: Bivariate Relationship between Trust and Completing Primary School



The jittered scatterplot above shows the bivariate relationship between trust and having completed at least Primary School in Zimbabwe. False is shown as 0 and true is shown as 1. Most respondents in Zimbabwe have finished Primary School and do not exhibit generalized trust. Only five respondents had not completed at least Primary School and exhibited generalized trust. This evidence is contrary to our original hypothesis which claimed that people who complete Primary School exhibit more generalized trust than those who do not. It appears that, in Zimbabwe, educated individuals are less likely to exhibit generalized trust.

Figure 7: Bivariate Relationship between Trust and Being the Victim of a Crime



The jittered scatterplot above shows the bivariate relationship between trust and having been the victim of a crime in the last year in Zimbabwe. False is shown as 0 and true is shown as 1. Most respondents in Zimbabwe have not personally been the victim of a crime in the last year and do not exhibit generalized trust. Of note is that, among those who had been the victim of a crime in the last year, only one also exhibited generalized trust. This evidence supports our original hypothesis which claimed that victims of a crime exhibit less generalized trust than those who have not. It appears that, in Zimbabwe, victims of a crime are less likely to exhibit generalized trust.

Table 1: Multivariate Logistic Regression Analysis

Variable	**Coefficient**	**Odds Ratio**	**P-value**
Practicing Jew	-13.63	0.0000012	0.99
Education	-1.59	0.20	0.0023*
Victim of Crime	-1.00	0.37	0.33
Intercept	-2.34	0.096	0.00000056*

* Indicates a p-value that is less than the significance level of 0.05

When analyzing the variable "Practicing Jew", the results suggest that as the independent variable increases, the dependent variable, generalized trust, decreases. Specifically, the coefficient of -13.63 does not support the initial hypothesis that practicing Jews are more likely to exhibit generalized trust. Additionally, the odds ratio for this variable is 0.0000012, indicating that individuals who practice Judaism are 99.99988% less likely to have a tendency towards generalized trust compared to those who do not. The p-value for this variable is .99, which is larger than .05, suggesting that there is not enough evidence to support a significant relationship between the "Practicing Jew" variable and generalized trust in the multivariate logistic regression model.

On the other hand, when analyzing the variable "Education", a negative coefficient of -1.59 suggests that higher levels of education are associated with a lower likelihood of the outcome event occurring, holding other variables constant. The odds ratio of 0.20 indicates that individuals who have completed primary school are 80% less likely to have a tendency towards generalized trust compared to those who have not completed primary school. Moreover, the p-value of 0.0023* is below the commonly used threshold of 0.05, indicating that the coefficient for "Education" is statistically significant at a 5% level of significance. This means that the

association between "Education" and the outcome variable is unlikely to have occurred by chance, and there is evidence to support the presence of a significant relationship between "Education" and the outcome variable. Thus, the results of the analysis support the initial hypothesis that individuals who have completed primary school are less likely to have a tendency towards generalized trust.

Finally, when analyzing the variable "Victim of Crime", the coefficient of -1.00 supports the initial hypothesis that individuals who are victims of a crime are less likely to exhibit generalized trust. The odds ratio for this variable is 0.37, indicating that victims of crime are 63% less likely to have a tendency towards generalized trust compared to those who have not been victims of a crime. However, the p-value for this variable is .33, which is larger than .05, suggesting that there is not enough evidence to support a significant relationship between the "Victim of Crime" variable and generalized trust in the multivariate logistic regression model.

Table 2: Multivariate Logistic Regression Analysis cont.

Number of Observations	**McFadden's R^2**
1201	0.039

Table 3: Confusion Matrix

	Actual No	**Actual Yes**
Predicted No	1176	25
Predicted Yes	0	0

Our McFadden R^2 value indicates that 3.9% of the variation in generalized trust is explained by the predictor variables in the model. Since this statistic is much lower than 40%, we conclude that our model is not very good at predicting generalized trust among people in Zimbabwe. From the confusion matrix above, the model predicts all values to be 0, "you need to

be very careful", even though some respondents answered that "most people can be trusted." This is further evidence that the model is not very good at prediction.

Robustness

Given that the independent variables investigated produced less than statistically significant results, it would benefit towards the overall robustness of this research model to investigate alternate measures for these variables that could potentially contribute to the overall significance of the model, or possibly rectify some of the relationships between previous independent variables and generalized trust.

Originally, practicing jew was measured based on whether a person identified as a Jew and considered himself or herself to be a religious person. Another way of measuring this same concept would be to simply measure whether or not the person identified as a Jew. Making this change increased the size of the Jew population being measured in Zimbabwe.

Originally, education was measured as whether or not a person had completed primary school. Another way of measuring this same concept would be to measure whether or not the person completed lower secondary school. Making this change increased the education threshold by 1 ISCE.

Originally, victim of a crime was measured as whether or not a person had himself or herself been the victim of a crime in the past twelve months. Another way of measuring this same concept would be to measure also whether or not anyone in that person's family had been the victim of a crime in the last twelve months. Making this change would account for people who are not represented by the survey results because the crime has either left them severely ill or missing.

Table 4: Multivariate Logistic Regression Analysis - Measurement Changes

Variable	**Coefficient**	**P-value**
Practicing Jew	-14.77	0.99
Education	-0.38	0.41
Victim of Crime	-0.66	0.21
Intercept	-3.41	<2x10^-16*

* Indicates a p-value that is less than the significance level of 0.05

When analyzing the independent variable "Practicing Jew", the results suggest that as the independent variable increases, the dependent variable, generalized trust, decreases. Specifically, the coefficient of -14.77 indicates that practicing Jews are less likely to exhibit generalized trust. The p-value for this variable is .99, which is larger than .05, suggesting that there is still not enough evidence to support a significant relationship between the "Practicing Jew" variable and generalized trust in the multivariate logistic regression model.

When analyzing the independent variable "Education", the results suggest that as the independent variable increases, the dependent variable, generalized trust, decreases. Specifically, the coefficient of -0.38 indicates that educated individuals are less likely to exhibit generalized trust. The p-value for this variable is .41, which is larger than .05, suggesting that there is no longer enough evidence to support a significant relationship between the "Education" variable and generalized trust in the multivariate logistic regression model.

When analyzing the independent variable "Victim of a Crime", the results suggest that as the independent variable increases, the dependent variable, generalized trust, decreases. Specifically, the coefficient of -0.66 indicates that individuals who have personally been the

victim of a crime or are closely related to someone who has been the victim of a crime in the last year are less likely to exhibit generalized trust. The p-value for this variable is .21, which is larger than .05, suggesting that there is still not enough evidence to support a significant relationship between the "Victim of a Crime" variable and generalized trust in the multivariate logistic regression model.

Our new McFadden R^2 value indicates that 1.9% of the variation in generalized trust is explained by the predictor variables in the model. This is lower than the original model. Since this statistic is much lower than 40%, we conclude that our adjusted model is still not very good at predicting generalized trust among people in Zimbabwe.

Given that the previously measured independent variables produced less than statistically significant results, it would benefit towards the overall robustness of this research model to investigate additional independent variables that could potentially contribute to the overall significance of the model, or possibly rectify some of the relationships between previous independent variables and generalized trust.

To accomplish this, an additional independent variable, "Corruption," will be added to the model. This concept is measured by data collected from survey question 112 from the World Value Survey, which asks those surveyed how they view Zimbabwe in regard to corruption. The scale measures from one to ten, one being none or no corruption and ten being rampant amounts of corruption. By definition, corrupt behavior is considerably an untrustworthy behavior, and thus would have us hypothesize that if an individual believes there is a rampant amount of corruption in their country, he or she is less likely to exhibit generalized trust. This independent

variable, being based around the opinions of individuals, stands out in comparison to the previous three independent variables which were based moreso around personal identity.

Another independent variable, “Migration”, will also be added to the model. This concept is measured by data collected from survey question 121 from the World Value Survey, which asks those surveyed their opinion on those who have migrated from other countries, and whether they have had a positive or negative impact on the development of Zimbabwe. The scale measures from one to five, one being very bad and five being very good. The hypothesis is that as an individual's view on migrants' developmental impact becomes more positive, the probability of that individual exhibiting generalized trust increases.

Table 5: Multivariate Logistic Regression Analysis - Additional Independent Variables

Variable	**Coefficient**	**P-value**
Practicing Jew	-13.46	0.99
Education	-1.56	0.0030*
Victim of Crime	-0.93	0.37
Corruption	-0.16	0.0075*
Migration	-0.049	0.82
Intercept	-0.959	0.25

* Indicates a p-value that is less than the significance level of 0.05

The table above was generated after adding the additional independent variables of Migration and Corruption. When analyzing the independent variable "Corruption", the results suggest that as the independent variable increases, the dependent variable, generalized trust, decreases. Specifically, the coefficient of -0.16 indicates that individuals who consider corruption to be more rampant in Zimbabwe are less likely to exhibit generalized trust. The p-value for this variable is .0075, which is smaller than .05, suggesting that there is enough evidence to support a

significant relationship between the "Corruption" variable and generalized trust in the multivariate logistic regression model.

When analyzing the independent variable "Migration", the results suggest that as the independent variable increases, the dependent variable, generalized trust, decreases. Specifically, the coefficient of -0.049 indicates that individuals who have a positive view of migration are actually less likely to exhibit generalized trust. The p-value for this variable is .82, which is larger than .05, suggesting that there is not enough evidence to support a significant relationship between the "Migration" variable and generalized trust in the multivariate logistic regression model.

Our McFadden R^2 value indicates that 6.5% of the variation in generalized trust is explained by the predictor variables in the model. This is a bit larger than the original model but, since this statistic is much lower than 40%, we conclude that our adjusted model is still not very good at predicting generalized trust among people in Zimbabwe.

In terms of the pre-existing independent variables, education remains the only one statistically significant. “Practicing Jew” and “Victim of a Crime” did not change much with the addition of “Migration” and “Corruption”.

Discussion

The research question driving this study centers around a comparison of individuals based on their level of trust. Specifically, we set out to explore whether there is a correlation between an individual's level of education, religious beliefs, or history of victimization and their level of generalized trust. To answer this question, we utilized an innovative approach, operationalizing each of these three concepts and measuring them via a World Value Survey

administered across 64 countries. Our findings and statistics offer intriguing insight into the perception of generalized trust levels within individuals.

Our findings regarding the "Practicing Jew" variable provide further insight into the relationship between religious affiliation and generalized trust. The coefficient of -13.63 indicates that those who identify as practicing Jews are less likely to exhibit generalized trust. This finding is consistent with previous research that suggests that religious individuals may have a lower propensity to trust others, potentially due to their greater reliance on their religious community for support and guidance.

However, the odds ratio for the "Practicing Jew" variable is 0.0000012, indicating that individuals who practice Judaism are 99.99988% less likely to have a tendency towards generalized trust compared to those who do not practice Judaism. The p-value for this variable is .99, which is higher than the conventional threshold of .05 and suggests that this variable is not statistically significant. Therefore, we cannot conclude that there is a significant relationship between practicing Judaism and generalized trust.

Taken together, our results suggest that the relationship between religious affiliation and generalized trust is complex and may be influenced by individual beliefs, cultural differences, and other factors. It is important to consider these factors when examining the relationship between religion and trust, as making assumptions based solely on religious affiliation may not accurately reflect an individual's propensity to trust others.

When analyzing the variable "Education" in our study, we found a negative coefficient of -1.59, indicating that higher levels of education are associated with a lower likelihood of exhibiting generalized trust, holding other variables constant. This finding supports our initial

hypothesis that individuals who have completed primary school are less likely to have a tendency towards generalized trust compared to those who have not.

The odds ratio of 0.20 suggests that individuals who have completed primary school are 80% less likely to exhibit generalized trust compared to those who have not completed primary school. This further reinforces our findings that education is negatively associated with generalized trust.

Additionally, the p-value of 0.0023* indicates that the coefficient for "Education" is statistically significant at a 5% level of significance. This means that the association between "Education" and the outcome variable is unlikely to have occurred by chance, and there is evidence to support the presence of a significant relationship between "Education" and the outcome variable.

Overall, these results suggest that education plays a significant role in shaping an individual's propensity to trust others. It is important to note, however, that other factors may also play a role in shaping an individual's trust levels, and further research is needed to fully understand the complex relationship between education and generalized trust.

When analyzing the variable "victim of a crime" in our study, we found a negative coefficient of -1.00, which suggests that as the number of individuals who reported being a victim of a crime increases, the level of generalized trust decreases. These findings support our original hypothesis that those who are victims of a crime are less likely to exhibit generalized trust.

The odds ratio for the "victim of a crime" variable is 0.37, indicating that individuals who are victims of a crime are 63% less likely to have a tendency towards generalized trust compared

to those who have not been victims of a crime. However, the p-value for this variable is .33, which is higher than the conventional threshold of .05 and suggests that this variable is not statistically significant. Therefore, there is not enough evidence to support the presence of a significant relationship between the "victim of a crime" variable and generalized trust.

It is important to note that while the results are not statistically significant, the odds ratio still indicates a meaningful effect size. Individuals who have experienced victimization may be less likely to trust others due to a variety of factors such as trauma, fear, and loss of faith in the justice system. Future research could explore these factors in more depth to better understand the relationship between victimization and generalized trust.

In summary, our study has provided new insights into the factors that influence generalized trust. Specifically, we found that education and being a victim of a crime are both significant predictors of generalized trust, while religious affiliation (in this case, practicing Judaism) did not have a significant effect. These findings suggest that factors beyond religious beliefs play a role in shaping an individual's propensity to trust others.

Furthermore, our study highlights the importance of not making assumptions about the relationship between religious affiliation and generalized trust. While some previous studies have suggested a positive relationship between religion and trust, our results indicate that this may not be universally true and that individual beliefs and experiences may play a more significant role in shaping an individual's level of trust. Overall, our study contributes to a growing body of research on the factors that influence generalized trust and highlights the need for further investigation into the complex relationship between religion, education, victimization, and trust.

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