

The British model of policing depends on the consent of the public, and this consent requires the public's trust which has declined in recent years (POST, 2023). To increase public trust in the police, it is important to understand how members of society react to authoritative institutions such as the police. This can aid the police, to tailor their priorities to satisfy the expectations of the public as set out in the policing Code of Ethics, which is being relaunched in January 2024 following growing public distrust in the police (College of Policing, 2014). The murder of Sarah Everard by a Metropolitan police officer led to the Baroness Casey Review of 2023 which examined the systemic and fundamental issues in how the Metropolitan police operate, with a particular focus on the failing accountability mechanisms within the institution (Casey, 2023). Restoring public trust in the police has been recognised as a priority for the government, in order to re-establish the policing by consent model (Home Affairs Committee, 2023). Consequently, public trust in the police must increase, in order for them to serve the public in their role. This report will analyse data from the British Social Attitudes Survey (BSA) 2021. The research question is:

Does someone's trust in the police vary depending on where they are on the libertarian-authoritarian scale?

Literature Review:

In recent years there has been a disruption to the global political landscape, with greater populations supporting more authoritarian leadership styles than previously (Juan-Torres et al., 2020). People tend to become more authoritarian when under threat, and recent events may have increased threat in society (Juan-Torres et al., 2020). Namely, 'fallout of the financial crisis in 2008, rapid technological change, deepening spending cuts, rising inequality, demographic shifts, a diversifying population, and the health and economic fallout from Covid-19' (p.74, Juan-Torres et al., 2020).

Yesberg and Bradford (2019) researched the public's support for the arming of police. Participants were from London, which has relatively more violent crime than elsewhere in the country, however findings can be applied to the UK context. Those with authoritarian attitudes had a more positive affective response to the arming of police, with trust as the central factor in shaping this response (Yesberg and

Bradford, 2019). The police work ‘on behalf of the community’, by embodying ‘community norms and values’, so reaching the publics’ expectations will result in greater public trust as the same norms and values are shared (p.1061, Yesberg and Bradford, 2019). This acceptance of arming police is interpreted as the public accepting vulnerability, because the arming symbolises the power which the police hold. Therefore, it can be expected that the more authoritarian participants will trust the police more in the BSA 2021, similar to the aforementioned study.

A multi-level analyses conducted by Dunn (2020) used the World Values Survey to examine the relationship between authoritarianism and confidence in political institutions, including the police, conditional on perceived threat. A large sample was utilised to measure authoritarian predisposition and trust in political institutions. Results from the first hypothesis demonstrated that the most authoritarian are ~22% more likely to report a high level of trust in the police than the most libertarian (Dunn, 2020). The latter hypotheses in the study demonstrated that the presence of threat has a significant influence in how libertarian people perceive and trust the police (Dunn, 2020). Comparatively, the more authoritarian are not as affected by threat in their perception and trust of the police (Dunn, 2020).

Being a victim of crime has consistently been identified as the most significant variable influencing trust in police, but the BSA 2021 does not include a measure suitable for this (Bolger et al., 2021). Studies into public trust, perception and satisfaction with the police have found that gender, race and age are statistically significant predictors (Bolger et al., 2021). Extensive literature has recorded the disparity of ethnic minority people being disproportionately stopped and searched, in comparison to white people (Vomfell and Stewart, 2021). Often this happens as a result of police bias, where Black and Asian communities are overpoliced and at therefore targeted more to be searched, even if innocent. Over time, this has damaged the trust ethnic minority groups have in the police. Moreover, White men are disproportionately overrepresented in the police force which also contributes to a lack of trust from ethnic minorities (Casey, 2023). The persistence of a machismo culture, high-profile cases and an abuse of power have led to women losing their confidence in the police (Casey, 2023). The variables controlled for will therefore be gender, race and age. There is an expectation that females, younger people and

ethnic minority people will be less trusting of the police (Yesberg and Bradford, 2019).

Methodology:

This research uses the most recent BSA (2021), which quantitatively captures the attitudes of the British public. The sampling of the BSA 2021 involved 44,280 addresses being systematically sampled from the Postcode Address File, these were then stratified. 36,898 addresses received a postal invitation inviting up to 2 adults per household to complete the survey. Each address was randomly allocated 1 of 12 versions of the survey. The response rate was between 13% and 14.2%, resulting in 6108 fully productive cases.

The BSA is a credible, reliable resource for quantitative data analysis, which is representative of the British population (NatCen, 2024). It covers an abundance of topics, and conveniently creates a personality scales which is appropriate for the authoritarianism aspect of this research. Only version 12 included the variable which measured trust in police. This is a minor limitation for this project specifically, but the 486 observations suffice for analyses. Overall, the BSA has proven to be an effective dataset due to its longitudinal existence since 1983 (NatCen, 2024).

The main predictor of this research is someone's position on the libertarian-authoritarian scale, which is measured by '*LibAuth*'. This scale has been developed through research into libertarian-authoritarian values by Evans et al., (1996) which has provided a resource for political cultural studies in the BSA and UK. Technical details of the BSA 2021 report that the reliability of the libertarian-authoritarian scale is 0.81, which is considered good (NatCen, 2023). The BSA 2021 '*LibAuth*' variable is comprised of the responses to six statements (Appendix A). Respondents scored their agreement to each statement from 1 to 5, with 1 being the most libertarian and 5 being the most authoritarian. Scores were combined to create a mean and included in the dataset as the variable '*LibAuth*'.

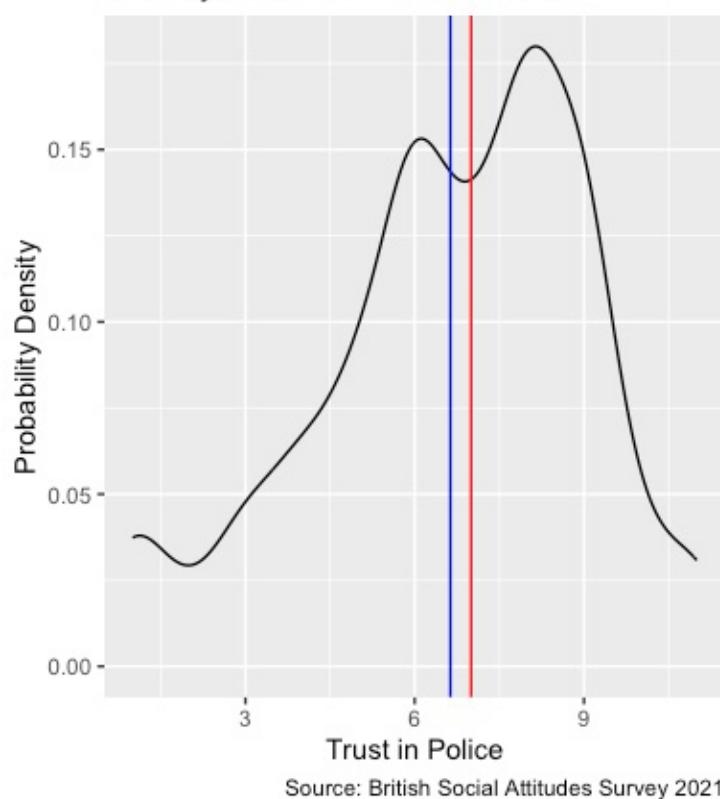
The dependent variable being measured is '*TrstPlc*', in response to the question, 'How much do you personally trust the police?'. It is measured on a scale of 0-10,

with 0 being ‘not at all’ and 10 being ‘completely’. This question was only present in the twelfth version of the BSA 2021, meaning only 486 cases are productive and of use to this analysis. Consequently, the ‘bsa21’ dataset has been subset to ‘bsa21cc’ to include only the complete cases of both ‘TrstPlc’ and ‘LibAuth’. The variable ‘TrstPlc’ is ordinal, but as the range is wide enough it will be treated as a continuous variable.

This analysis will use a simple linear regression model to analyse the association between libertarian-authoritarian personality and trust in the police. A multiple linear regression model will be fitted to analyse whether the variables gender, age and race have an effect on the association.

Univariate Analysis:

Figure 1: Density Curve of Trust in Police

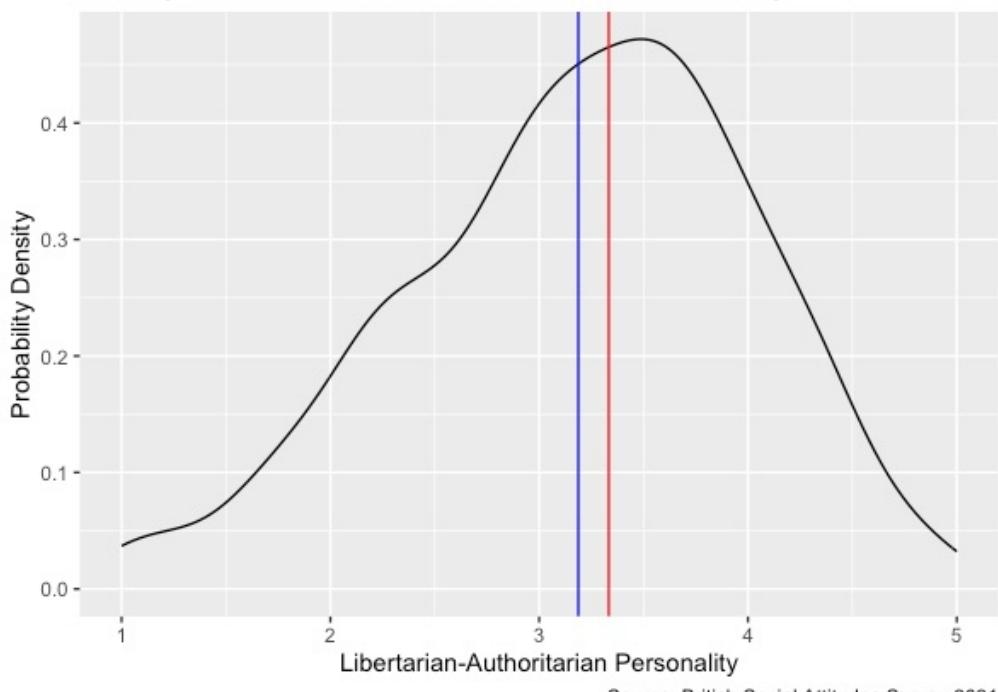


The mean score of ‘TrstPlc’ is 6.65, and the median is 7. Figure 1 visualises the variable, with the mean (blue) and median (red). The standard deviation is 2.42, meaning on average trust in police is 2.42 scored points from the mean, indicating a wide spread of responses. This is expected, as the variable measures personal trust

in the police which naturally is varied. The left-tailed skewness is -0.56, so responses are varied more with those more trusting of the police.

Responses were whole integers from 0 to 10 but are being treated as continuous for this project. The minimum value is 0, $Q_1 = 5$, $Q_3 = 8$ and maximum value is 10 . This demonstrates a moderate trust in the police within respondents, as 25% are represented between the scores 0 to 4, and the remaining 75% are from 5 to 10, which is a greater level of trust. The $IQR = 3$, which reinforces the higher level of trust for the majority of respondents.

Figure 2:
Density Curve of Libertarian-Authoritarian Personality



The mean value of 'LibAuth' is 3.18 and the median is 3.33, as shown by Figure 2. These values indicate a slightly more authoritarian population. The standard deviation is 0.83, meaning on average respondents are 0.83 units away from the mean libertarian-authoritarian position, indicating a fairly similar libertarian-authoritarian position amongst the population as the majority surround the centre of the scale. The skewness is -0.37, which is slightly left-tailed.

The minimum value is 1, $Q_1 = 2.67$, $Q_3 = 3.83$, and the maximum value is 5. The $IQR = 1.17$, demonstrating that the central 50% of the data fall within 1.17 units of the median of the libertarian-authoritarian scale. This variable has a relatively normal distribution.

Appendix B and C demonstrate the univariate distribution of age. Age ('*RespAge_Archive*') spans from age 18 to 80+, where those over 80 are categorised as 80. A skewness of 0.03 represents a normal distribution, as the data is approximately symmetric. The mean age is 50.66. Appendix D demonstrates sex ('*DVSex21*'), the frequency of females is greater than males. Females make up 54.95% (n=267) of the sample, and males make up 45.06% (n=219). After recoding the '*RaceOri4*' variable, there are overwhelmingly more White respondents (91.6% of the total population), compared to Black, Asian and Mixed (8.4%), as seen in Appendix E. Yesberg and Bradford (2019) found race to be a significant control variable, but there may not be a sufficient sample of non-White participants to provide these results.

Bivariate Distribution:

Graphical representation in Appendix F demonstrates that trust in police increases with age. Appendix G shows the correlation of age and trust in police is +0.13, with a p-value of 0.003, making it statistically significant. The mean trust in police is 6.79 for males, and is slightly lower at 6.53 for females, which is an extremely small difference but nevertheless does align with Casey (2023). Appendix H shows the distribution, and Appendix I shows a correlation of 0.05 between sex and trust in police, but this is statistically insignificant with a p-value of 0.23. The confidence interval spans zero, reinforcing the insignificance of the association between sex and trust in police. White people have much higher levels on trust in the police than ethnic minority groups, as expected from the previous research, but this finding may be distorted by the overrepresentation of white respondents in the sample, as seen in Appendix J. Appendix K shows a correlation of 0.07 for race and trust in police, but this is insignificant as the p-value=0.09.

Bivariate Analysis:

Bivariate association between trust in police and libertarian-authoritarian position is +0.13 as determined with Pearson's correlation coefficient (Figure 3). This is a positive, weak association. The p-value is 0.004, which is statistically significant at the 95% confidence level, and reinforced by the 95% confidence interval at 0.04 to 0.21, which does not overlap with zero.

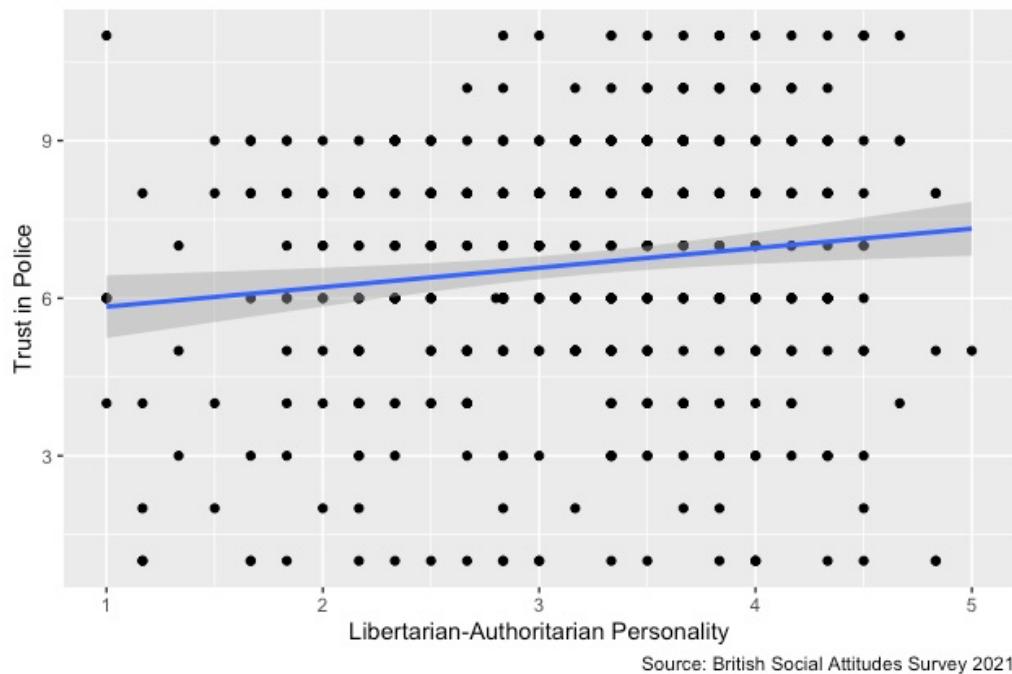
Figure 3:

```
> cor.test(bsa21cc$libauth, bsa21cc$TrstPlc, use="complete.obs")
Pearson's product-moment correlation

data: bsa21cc$libauth and bsa21cc$TrstPlc
t = 2.846, df = 484, p-value = 0.004615
alternative hypothesis: true correlation is not equal to 0
95 percent confidence interval:
0.03980287 0.21478919
sample estimates:
cor
0.1282944
```

Figure 4 graphically represents the association between the DV and main predictor. Although some points are overlapping, this scatter plot reflects the relatively small sample, and a weak dispersion of points represent that for any position on the libertarian-authoritarian scale, there could generally be any level of trust in the police. The regression line demonstrates the positive, weak correlation ($r=0.13$). This therefore means that other factors may be responsible for determining trust in police, with a greater significance than libertarian-authoritarian position.

Figure 4 Scatter Plot of Bivariate Association



Source: British Social Attitudes Survey 2021

Regression Models and Discussion:

Figure 5

Predictors	Trust in Police (modelsimple)			
	Estimates	std. Error	CI	p
Intercept	5.47	0.43	4.62 – 6.31	<0.001
Libertarian-Authoritarian Personality	0.37	0.13	0.12 – 0.63	0.005
Observations				486
R^2 / R^2 adjusted				0.016 / 0.014
AIC				2225.621

Figure 5 shows the output of the simple linear regression model, the output from R is in Appendix L. The intercept is 5.47 with standard error 0.429 and a highly significant p-value of $p < 0.001$. The coefficient of libertarian-authoritarian attitude is 0.37, with a standard error of 0.130 and a significance of $p < 0.001$. The confidence intervals do not cross zero. The F-statistic of 8.1 with a p-value of 0.005 indicates overall statistical significance of the model.

So, trust in police increases by 0.37 points, with every increased point on the libertarian-authoritarian attitude scale. The R² value of 0.016 indicates that the attitude only accounts for an extremely small variation in trust in police, but this may increase with added control variables. Overall, the model indicates that there is a statistically significant relationship between authoritarianism and trust in police.

Figure 6

Predictors	Trust in Police (modelsimple)				Trust in Police (modelmultiple)			
	Estimates	std. Error	CI	p	Estimates	std. Error	CI	p
Intercept	5.47	0.43	4.62 – 6.31	<0.001	3.70	0.85	2.03 – 5.37	<0.001
Libertarian-Authoritarian Personality	0.37	0.13	0.12 – 0.63	0.005	0.30	0.13	0.04 – 0.57	0.023
Female					0.20	0.22	-0.23 – 0.63	0.359
Age (in years)					0.01	0.01	-0.00 – 0.03	0.065
Race - Asian origin					0.70	0.89	-1.04 – 2.45	0.430
Race - White origin					1.34	0.73	-0.09 – 2.77	0.065
Race - Mixed origin					0.62	1.04	-1.42 – 2.66	0.549
Observations	486				486			
R ² / R ² adjusted	0.016 / 0.014				0.040 / 0.028			
AIC	2225.621				2223.973			

Figure 6 displays the multiple regression model (output displayed in Appendix M). As a result of holding sex, age and race constant, the effect of libertarian-authoritarian position on trust in the police has decreased from 0.37 to 0.30. This is still a positive, significant association. Whilst the coefficient of each variable increases, none of the variables controlled for have statistically significant p-values. Although only extremely marginal, the R² has increased from 0.016, to 0.028, indicating an improvement in

model fit for the multiple linear regression model, as it explains a greater variance of the overall data regarding trust in police.

With the reference category for race being Black origin, trust in police increases by 1.34 for someone of White origin which aligns with literature but is not of statistical significance, although this is the smallest p-value alongside age. For every year increase, trust in police increases by 0.01 points but again this is not statistically significant.

The positive association between trust in police and libertarian-authoritarian position has shown statistical significance and reflects the existing literature in the area (Yesberg and Bradford, 2019) (Dunn, 2020). This therefore answers the research question: 'does someone's trust in the police vary depending on where they are on the libertarian-authoritarian scale?'.

However, the control variables used have not represented the expectations, and therefore do not explain the association between the variables. Previous studies have found that age, sex and gender are confounding factors (Bolger et al., 2021), but this model did not find statistical significance. Evidence of the expectation that women may trust the police considerably less than men may be stronger in a more recent version of the BSA, to coincide with the Casey Review (2023), however the 2021 study was the most recently accessible.

A strength of this analysis is the finding that the two main variables, libertarian-authoritarian attitude and trust in police, are positively associated to a statistically significant level. Improvement of this analysis could be made by testing the same variables on a larger sample than 486 which would hopefully provide associations of more significance, however this was not of possibility with this dataset. Alternatively, testing the possibility of a more theoretical variable rather than demographical could produce a more insightful model.

With implication to society, the findings of this model could be used to argue that police can approach different demographics in similar ways, however this conflicts with the literature.

Model Fit Statistics:

The following figures (7-12) can be found in Appendix N.

The Bonferroni outlier test did not identify any observations as outliers in the data. The leverage indication output is 0.014. Figure 7 shows that a significant number of points are far from the main cloud, with many reaching 0.1. Due to a relatively small sample size, these outliers may have had an effect on the model. Figure 8 demonstrates that the varying distances are very close to zero, so the outliers are of minor influence on the model. Figure 9 shows that most points are not exactly on the line of residuals, and the ends are heavily tailed. This was expected as the '*TrstPlc*' variable was treated as continuous. Figure 10 demonstrates the non-normal distribution. Figure 11 indicates that the predicted trust in police is more precise when it is higher, but it slightly concaves. The VIF values are not close to 2, so it can be concluded that there is no collinearity (Figure 12).

Conclusion:

To conclude, this analysis has found that, in answer to the research question, the variables trust in police and libertarian-authoritarian position are weakly, positively associated. This is through the use of the British Social Attitudes Survey (2021). For this particular model and sample, this association cannot be explained by the variables sex, age and race.

Bibliography:

- Bolger, M., Lytle, D. and Bolger, P. 2021. What matters in citizen satisfaction with police: A meta-analysis. *Journal of Criminal Justice*, **72**, p.101760.
- Casey, B.L. 2023. *Final Report: An independent review into the standards of behaviour and internal culture of the Metropolitan Police Service*. [Online]. [no place]: [no publisher]. [Accessed 25th November 2023]. Available from: <https://www.met.police.uk/>
- College of Policing. 2014. *Code of Ethics*. [Online]. Coventry: College of Policing Limited. [Accessed 10 January 2024]. Available from: <https://assets.college.police.uk/>
- College of Policing. 2024. *Code of Ethics*. [Online]. [Accessed 10 January 2024]. Available from: <https://www.college.police.uk/>
- Dunn, K. 2020. [Preprint]. The authoritarian predisposition, perceived threat, and trust in political institutions.
- Evans, G., Heath, A. and Lalljee, M. 1996. Measuring Left-Right and Libertarian-Authoritarian Values in the British Electorate. *The British Journal of Sociology*, **47**, pp.93-112.
- Home Affairs Committee. 2023. *Policing priorities*. (HC 635, 2022-23). [Online]. London: The Stationery Office. [Accessed 3 January 2024]. Available from: <https://committees.parliament.uk/>
- Juan-Torres, M., Dixon, T. and Kimaram, A. 2020. *Britain's Choice: Common Ground and Division in 2020s Britain*. [Online]. United Kingdom: More in Common. [Accessed 15 December 2023]. Available from: <https://www.britainschoice.uk/>
- National Centre for Social Research (NatCen). 2023. British Social Attitudes Survey, 2021. *UK Data Service*. [Online]. [Accessed 20 November 2023] Available from: <https://beta.ukdataservice.ac.uk/>

National Centre for Social Research (NatCen). 2024. *British Social Attitudes*. [Online]. [Accessed 15 January 2024]. Available from: <https://natcen.ac.uk/>

POST (Parliamentary Office of Science and Technology). 2023. *Trust in the police – POSTnote 693*. [Online]. UK Parliament. [Accessed 9 December 2023]. Available from: <https://post.parliament.uk/>

Vomfell, L., Stewart, N. 2021. Officer bias, over-patrolling and ethnic disparities in stop and search. *Nature Human Behaviour*, **5**, pp.566–575.

Yesberg, J. and Bradford, B. 2018. Affect and trust as predictors of public support for armed police: Evidence from London. *Policing and Society*, **29**(9), pp.1058–1076.

Appendices

Appendix A

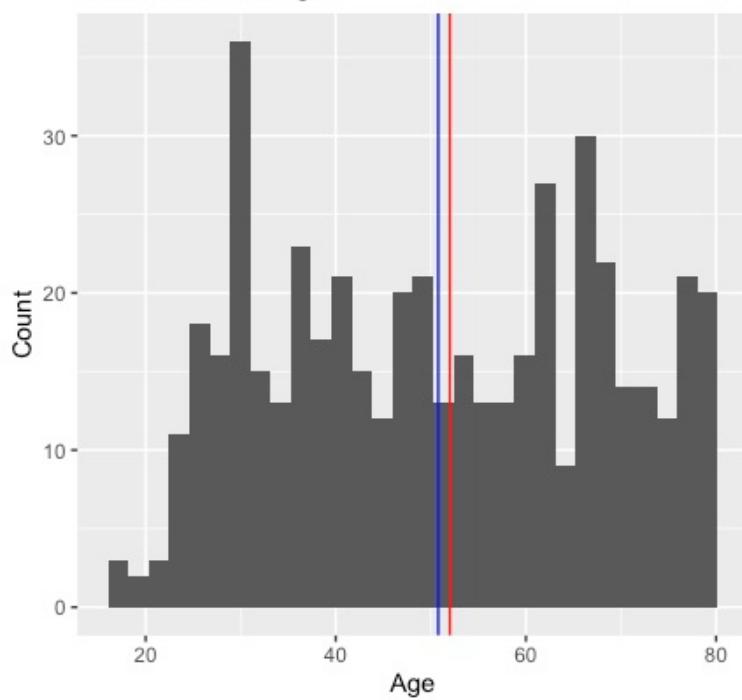
TradVals	Young people today don't have enough respect for traditional British values
StifSent	People who break the law should be given stiffer sentences
DeathApp	For some crimes, the death penalty is the most appropriate sentence
Obey	Schools should teach children to obey authority
WrongLaw	The law should always be obeyed, even if a particular law is wrong
Censor	Censorship of films and magazines is necessary to uphold moral standards

Appendix B

```
> table(bsa21cc$RespAge_Archive)
18 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49
 3 2 2 1 4 7 7 11 10 6 10 14 12 6 9 7 6 12 11 10 7 14 7 10 5 5 7 4 9 7 11
50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80
10 7 6 11 5 7 6 8 5 8 8 8 14 5 5 4 16 14 8 14 7 7 6 8 10 2 12 6 3 3 17
> describe(bsa21cc$RespAge_Archive)
   vars   n   mean     sd median trimmed   mad min  max range skew kurtosis    se
X1     1 486 50.66 17.14      50  50.66 23.72   18  80    62 0.03 -1.24 0.78
> summary(bsa21cc$RespAge_Archive)
   Min. 1st Qu. Median     Mean 3rd Qu.    Max.
 18.00  36.00  50.00  50.66  66.00  80.00
```

Appendix C

Distribution of Age



Source: British Social Attitudes Survey 2021

Appendix D

Table 1: Distribution of Sex

<u>val</u>	<i>label</i>	<i>frq</i>	<i>raw.prc</i>	<i>valid.prc</i>	<i>cum.prc</i>
1	Female	267	54.94	54.94	54.94
2	Male	219	45.06	45.06	100.00

total N=486 · valid N=486 · $\bar{x}=1.45$ · $\sigma=0.50$

Appendix E

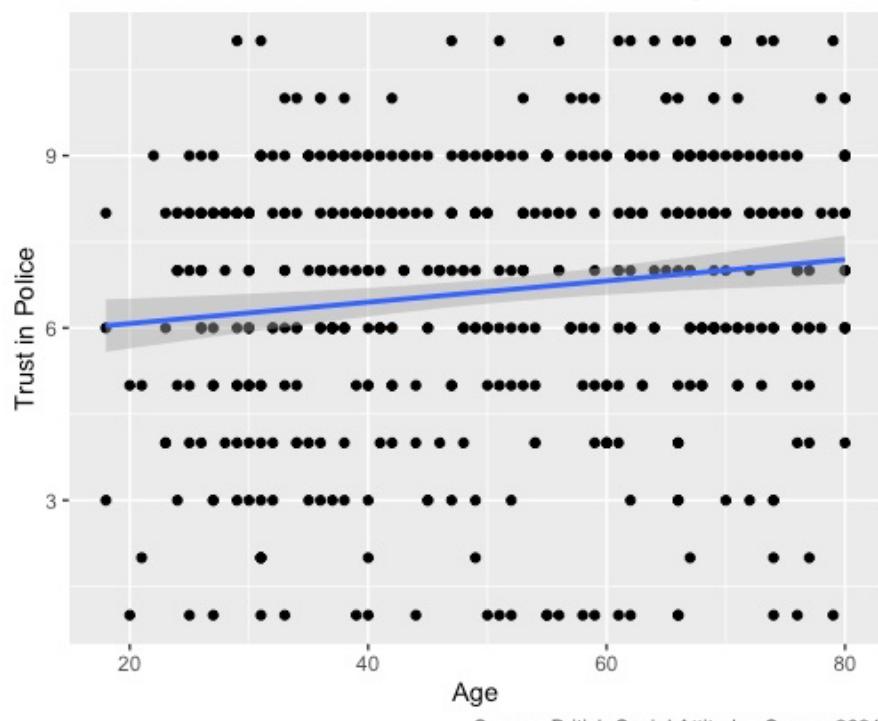
Table 2: Distribution of Race

<u>val</u>	<i>label</i>	<i>frq</i>	<i>raw.prc</i>	<i>valid.prc</i>	<i>cum.prc</i>
1	Black origin	11	2.26	2.26	2.26
2	Asian origin	20	4.12	4.12	6.38
3	White origin	445	91.56	91.56	97.94
4	Mixed origin	10	2.06	2.06	100.00

total N=486 · valid N=486 · $\bar{x}=2.93$ · $\sigma=0.39$

Appendix F

Bivariate Distribution of Trust in Police and Age



Source: British Social Attitudes Survey 2021

Appendix G

```
> cor.test(bsa21cc$RespAge_Archive, bsa21cc$TrstPlc, use="complete.obs")

Pearson's product-moment correlation

data: bsa21cc$RespAge_Archive and bsa21cc$TrstPlc
t = 2.9472, df = 484, p-value = 0.003362
alternative hypothesis: true correlation is not equal to 0
95 percent confidence interval:
0.0443543 0.2191341
sample estimates:
cor
0.1327762
```

Appendix H

Bivariate Association of Sex and Trust in Police

		<i>What is your sex?</i>		<i>Total</i>
<i>how much do you personally trust the police ?</i>		Female	Male	
0 - Not at all		12	11	23
		4.5 %	5 %	4.7 %
1		6	3	9
		2.2 %	1.4 %	1.9 %
2		14	11	25
		5.2 %	5 %	5.1 %
3		19	13	32
		7.1 %	5.9 %	6.6 %
4		32	12	44
		12 %	5.5 %	9.1 %
5		41	42	83
		15.4 %	19.2 %	17.1 %
6		33	26	59
		12.4 %	11.9 %	12.1 %
7		49	46	95
		18.4 %	21 %	19.5 %
8		47	34	81
		17.6 %	15.5 %	16.7 %
9		5	14	19
		1.9 %	6.4 %	3.9 %
10 - Completely		9	7	16
		3.4 %	3.2 %	3.3 %

<i>Total</i>	267	219	486
	100 %	100 %	100 %
<hr/>			
$\chi^2=14.558 \cdot df=10 \cdot Cramer's\ V=0.173 \cdot Fisher's\ p=0.148$			

Appendix I

```
> cor.test(bsa21cc$DVSex21, bsa21cc$TrstPlc, use="complete.obs")
Pearson's product-moment correlation

data: bsa21cc$DVSex21 and bsa21cc$TrstPlc
t = 1.1992, df = 484, p-value = 0.231
alternative hypothesis: true correlation is not equal to 0
95 percent confidence interval:
-0.0346868 0.1426819
sample estimates:
cor
0.05442689
```

Appendix J

Bivariate Association of Race and Trust in Police

		To which of these racial groups do you consider you belong?				<i>Total</i>	
		(compressed)					
		Black origin	Asian origin	White origin	Mixed origin		
trust the police ?							
0 - Not at all		1	2	19	1	23	
		9.1 %	10 %	4.3 %	10 %	4.7 %	
1		1	0	8	0	9	
		9.1 %	0 %	1.8 %	0 %	1.9 %	
2		2	0	23	0	25	
		18.2 %	0 %	5.2 %	0 %	5.1 %	
3		1	2	28	1	32	
		9.1 %	10 %	6.3 %	10 %	6.6 %	

		0	4	39	1	44
4		0 %	20 %	8.8 %	10 %	9.1 %
		0	5	75	3	83
5		0 %	25 %	16.9 %	30 %	17.1 %
		3	2	51	3	59
6		27.3 %	10 %	11.5 %	30 %	12.1 %
		3	1	91	0	95
7		27.3 %	5 %	20.4 %	0 %	19.5 %
		0	3	77	1	81
8		0 %	15 %	17.3 %	10 %	16.7 %
		0	0	19	0	19
9		0 %	0 %	4.3 %	0 %	3.9 %
	10 - Completely	0	1	15	0	16
	Total	11	20	445	10	486
		100 %	100 %	100 %	100 %	100 %

$$\chi^2=33.706 \cdot df=30 \cdot Cramer's V=0.152 \cdot Fisher's p=0.109$$

Appendix K

```
> cor.test(bsa21cc$RaceOri4, bsa21cc$TrstPlc, use="complete.obs")
Pearson's product-moment correlation

data: bsa21cc$RaceOri4 and bsa21cc$TrstPlc
t = 1.7099, df = 484, p-value = 0.08792
alternative hypothesis: true correlation is not equal to 0
95 percent confidence interval:
-0.01153462 0.16529712
sample estimates:
cor
0.07749065
```

Appendix L

```
> summary(modelsimple)

Call:
lm(formula = TrstPlc ~ libauth, data = bsa21cc)

Residuals:
    Min      1Q  Median      3Q     Max 
-6.2616 -1.4567  0.3266  1.7980  5.1625 

Coefficients:
            Estimate Std. Error t value Pr(>|t|)    
(Intercept) 5.4660     0.4285 12.758 < 2e-16 ***
libauth      0.3715     0.1305  2.846  0.00462 **  
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 2.379 on 484 degrees of freedom
Multiple R-squared:  0.01646,   Adjusted R-squared:  0.01443 
F-statistic:  8.1 on 1 and 484 DF,  p-value: 0.004615
```

Appendix M

```
> summary(modelmultiple)

Call:
lm(formula = TrstPlc ~ libauth + DVSex21 + RespAge_Archive +
RaceOri4, data = bsa21cc)

Residuals:
    Min      1Q  Median      3Q     Max 
-6.6408 -1.4065  0.3018  1.7801  4.6495 

Coefficients:
            Estimate Std. Error t value Pr(>|t|)    
(Intercept) 3.701744  0.848987  4.360 1.59e-05 ***
libauth     0.304916  0.133673  2.281  0.0230 *  
DVSex212   0.200415  0.218076  0.919  0.3586  
RespAge_Archive 0.012153  0.006571  1.850  0.0650 .  
RaceOri42   0.701430  0.888766  0.789  0.4304  
RaceOri43   1.341256  0.726108  1.847  0.0653 .  
RaceOri44   0.621488  1.037379  0.599  0.5494  
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 2.363 on 479 degrees of freedom
Multiple R-squared:  0.03975,   Adjusted R-squared:  0.02772 
F-statistic: 3.305 on 6 and 479 DF,  p-value: 0.003383
```

Appendix N

Figure 7

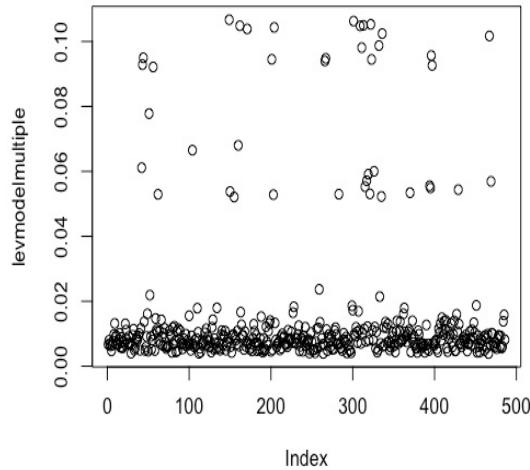


Figure 9

QQ Plot for Multiple Regression Model

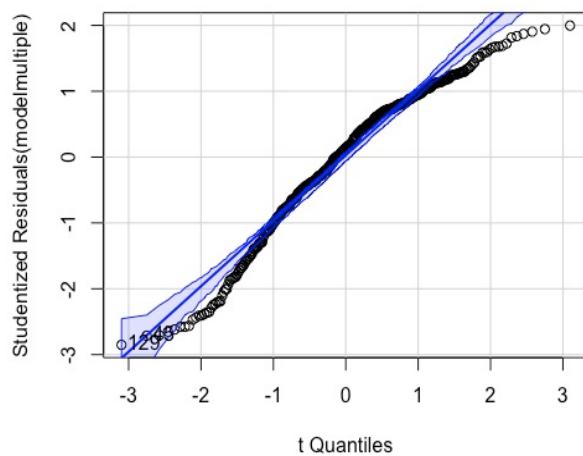


Figure 11

Spread-Level Plot for modelmultiple

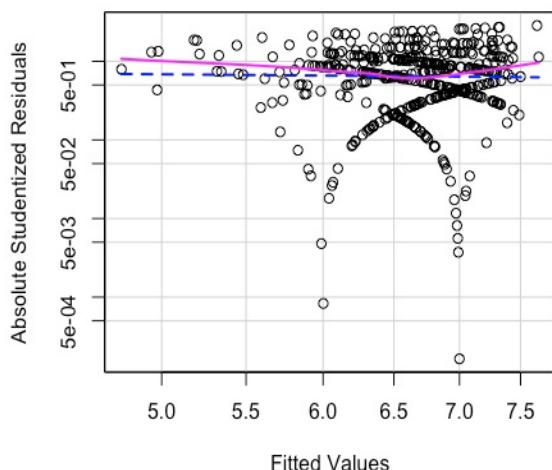


Figure 8

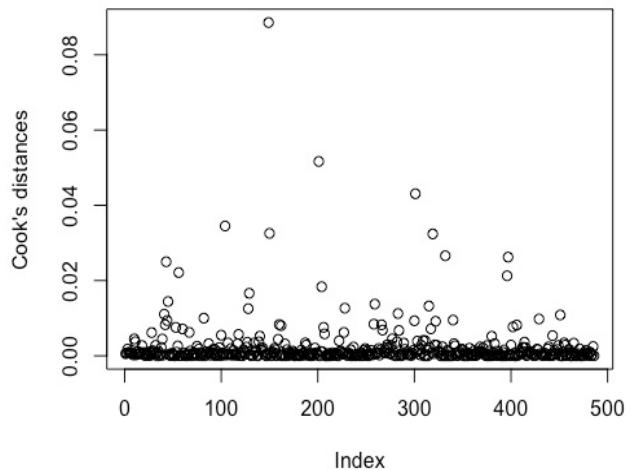


Figure 10 Distribution of Studentized Residuals

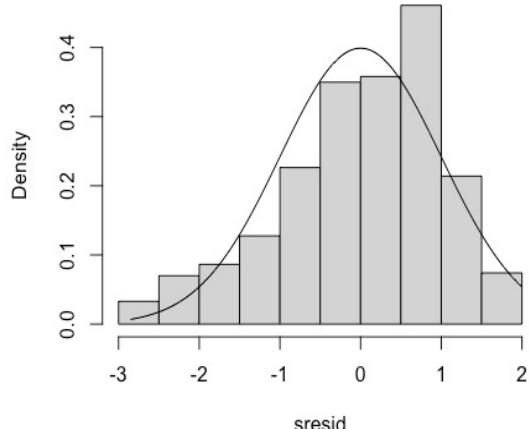


Figure 12

> vif(modelmultiple)

	GVIF	Df	GVIF^(1/(2*Df))
libauth	1.063049	1	1.031043
DVSex21	1.024803	1	1.012326
RespAge_Archive	1.102434	1	1.049969
RaceOri4	1.039144	3	1.006420

>

> sqrt(vif(modelmultiple)) > 2

	GVIF	Df	GVIF^(1/(2*Df))
libauth	FALSE	FALSE	FALSE
DVSex21	FALSE	FALSE	FALSE
RespAge_Archive	FALSE	FALSE	FALSE
RaceOri4	FALSE	FALSE	FALSE

> |