Assessing the Impact of Declining to State One's Ethnicity on an Application

1. INTRODUCTION

Discrimination exists in many different forms. If an employer knowingly or subconsciously rejects a candidate based on that candidate's race or ethnicity, then that candidate was discriminated against. Proving such discrimination is very difficult and often goes unnoticed.

According to the GOV.UK website, employers must not ask candidates about 'protected characteristics' which include age, gender reassignment, marital status, pregnancy or on maternity leave, disability, race (including colour, nationality, ethnic or national origin), religion or belief, sex, or sexual orientation. However, the employer can choose a candidate who has a protected characteristic over one who does not if they're both suitable for the job and the employer believes that people with that characteristic are underrepresented in the workforce, profession or industry (GOV.UK, 2021). Of course, the only way an employer can choose a candidate who has a protected characteristic over one who does not is if they asked the question and the applicant answered it.

On many job applications, one of the categories for race or ethnicity is invariably "Decline to state." Some white job applicants are afraid to identify a race or ethnicity because they believe some employers are hiring applicants strictly to increase workplace diversity (Reddit, 2013). Some other applicants are afraid to decline identifying a race or ethnicity because they think that failing to submit voluntary information will negatively affect their application (Reddit, 2017). So, the question becomes, should an applicant (with a protected characteristic or without) choose "Decline to state?" Would it hurt or help their chances for a successful application?

This paper investigates the impact, if any, of choosing "Decline to state" for a protected characteristic on an application. If results show no statistically significant impact of choosing "Decline to state," then no additional actions (education or legislation) need to take place. Conversely, if results show a positive or negative statistically significant impact of choosing "Decline to state" on an application then the Black Asian Minority Ethnic (BAME) communities should be educated to select or avoid that option.

2. METHODOLOGY

Data was obtained from volunteer applications to charities to be appointed to trustee roles. The completely anonymized data contained ethnicity and gender information and whether or not the applicant was successful. The data set contained 15,398 observations with 8,725 unique applicants (i.e., some applicants applied multiple times to different charities).

A generalized linear mixed model with a binary response distribution and a logit link function was created to assess the statistical impact of choosing "Decline to state" on the application. The response variable was whether the applicant was appointed to the trustee role (12,229 applications were not successful while 3,169 applications were successful). Ethnicity and gender were fixed effects in the model, while multiple applications from an applicant were considered a random effect. Statistical significance was assumed at $p < 0.05$.

The model included the following fixed effects:

- Gender (denoted as *Gender* throughout the analysis): Female (n = 3,226), Male (n = 3,509), and those who declined to state their gender (n = 1,990)
- Ethnicity (denoted as *Ethnicity* throughout the analysis): Asian (n = 824), Black (n = 440), Mixed/Other (n = 302), White (n = 5,050), and those who declined to state their ethnicity (n = 2,109).

3. RESULTS

Table 1 shows that *Ethnicity* ($p < 0.0001$), *Gender* ($p < 0.0001$), and the interaction between *Gender* and *Ethnicity* ($p = 0.0321$) were statistically significant in determining the probability of being appointed to a trustee position. The results suggest that an applicant's ethnicity and gender affect whether their application was successful.

Table 1. Significance of fixed effects in the model

Type III Tests of Fixed Effects				
Effect	**Num DF**	**Den DF**	**F Value**	**Pr > F**
Ethnicity	4	6671	6.47	<.0001
Gender	2	6671	9.36	<.0001
Gender*Ethnicity	8	6671	2.10	0.0321

3.1. Ethnicity

Table 2 shows that white applicants have the highest predicted probability of being appointed to a trustee position (22.71% [20.24%, 25.39%]), while applicants who identified themselves as "Asian" have the lowest (12.31% [9.18%, 16.32%]). Those who declined to state their ethnicity have the 2nd highest probability (17.10% [14.74%, 19.76%]).

Table 2. Mean probability for an application to be successful, by ethnicity

Ethnicity	Mean	Lower Mean	Upper Mean
Asian	0.1231	0.09184	0.1632
Black	0.1478	0.09543	0.2219
Decline to state	0.1710	0.1474	0.1976
Mixed/Other	0.1285	0.08438	0.1908
White	0.2271	0.2024	0.2539

Most application processes include an on-line application-stage and a face-to-face interview-stage. The application-stage may include an unconscious bias when ethnicity is included on the application form (Caccavale, 2020). This unconscious bias is evidenced by the larger variances (i.e., width of the confidence intervals) within the BAME categories compared to those who declined to state their ethnicity and white applicants (Figure 1). The selection committees, or hiring managers, appear to have uncertainty in selecting appointees from BAME categories, which result in lower probabilities of being appointed to trustee roles.

Those who declined to state their ethnicity have a lower probability of being appointed compared to white applicants, which could be evidence of a conscious bias against BAME categories that occurred during the face-to-face interview-stage when ethnicity was revealed.

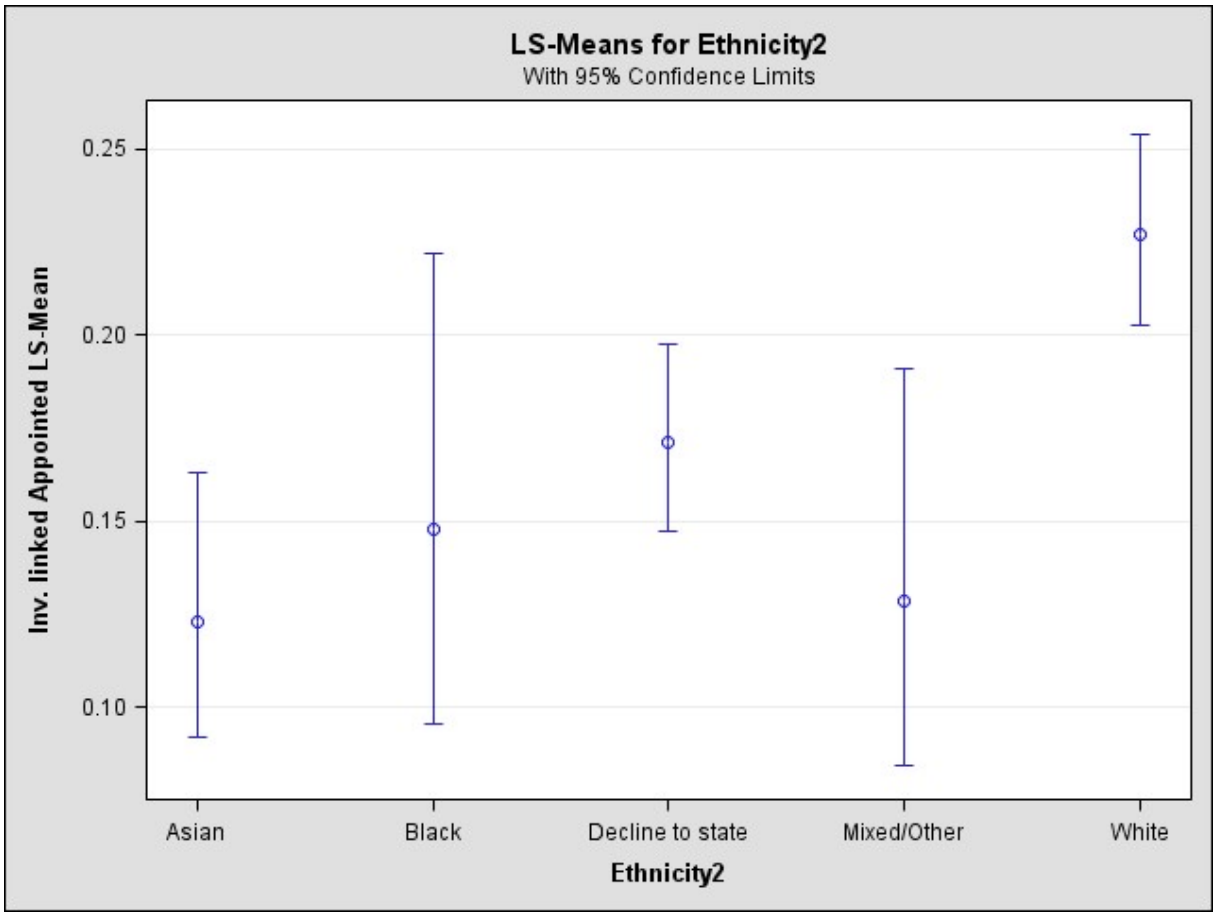

Figure 1. Mean probability of being appointed with 95% CI by ethnicity

White applicants had more than twice the odds of being appointed compared to Asian applicants, 69% greater odds than Black applicants, 99% greater odds than Mixed/Other applicants, and 42% greater odds than those who declined to state their ethnicity. White applicants were statistically more likely to be appointed to trustee roles compared to each BAME category and those who declined to state their ethnicity. Significant p-values ($p < 0.05$) are highlighted in red in Table 3.

From Table 3, those who declined to state their ethnicity compared with Asian applicants had an odds ratio estimate of 0.3846 (sign depends on which ethnicity is listed first). Therefore, the odds of being appointed to a trustee role increase 47% for those who decline to state their ethnicity compared to Asian applicants ($e^{0.3846} = 1.469$).

In addition, those who declined to state their ethnicity had 19% greater odds than Black applicants and 40% greater odds than Mixed/Other applicants. However, only the comparison with Asian applicants was statistically significant ($p = 0.0419$).

Table 3. Differences of ethnicity least square means

Ethnicity	Ethnicity	Estimate	Pr > |t|
Asian	Black	-0.2112	0.4859
Asian	Decline to state	-0.3846	0.0419
Asian	Mixed/Other	-0.04833	0.8680
Asian	White	-0.7382	<.0001
Black	Decline to state	-0.1735	0.5182
Black	Mixed/Other	0.1628	0.6396
Black	White	-0.5271	0.0457
Decline to state	Mixed/Other	0.3363	0.1868
Decline to state	White	-0.3536	0.0023
Mixed/Other	White	-0.6899	0.0058

3.2. Gender

Table 4 shows the average predicted probability to be appointed to a trustee role for all females was 17.63% with a 95% CI [15.88%, 19.52%]. This was slightly higher than those who declined to state their gender on their application (17.16% [11.79%, 24.31%]). Males had the lowest probability to be appointed to a trustee role (12.52% [11.06%, 14.15%]).

Table 4: Mean probability for an application to be successful, by gender

Gender	Mean	Lower Mean	Upper Mean
Decline to state	0.1716	0.1179	0.2431
Female	0.1763	0.1588	0.1952
Male	0.1252	0.1106	0.1415

Figure 2 shows the mean probability of being appointed by gender. Both males and females have about the same variance (i.e., width of the confidence interval) in terms of the probability of being appointed to a trustee role. However, for those who decline to state their gender on the application, the variance is much larger. This large variance could be evidence of the selection committee's uncertainty in selecting an appointee due to gender bias.

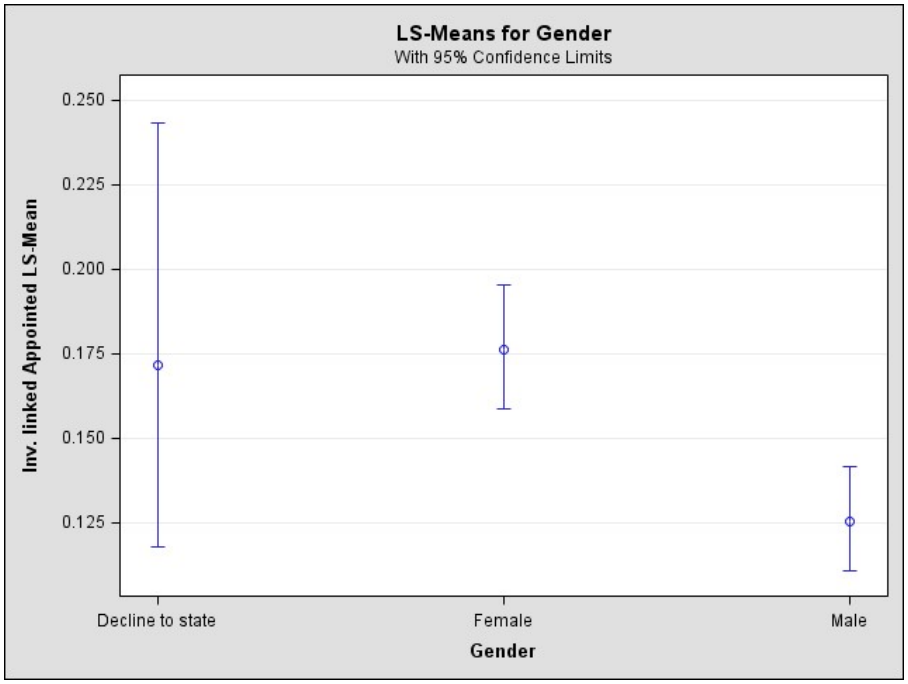

Figure 2. Mean probability of being appointed with 95% CI by gender

Females were statistically more likely to be appointed to trustee roles compared to males ($p < 0.0001$)(Table 5). The female to male comparison had an odds ratio of 0.4020, which indicates that the odds of being appointed to a trustee position increase 49.5% for females compared to males, controlling for ethnicity ($e^{0.402} = 1.495$). Those who declined to state their gender had a 44.7% increase in the odds of being appointed compared to males, but that comparison was not statistically significant ($p = 0.1134$).

Table 5. Differences of gender least square means

Gender	Gender	Estimate	Pr > |t|
Decline to state	Female	-0.03247	0.8883
Decline to state	Male	0.3696	0.1134
Female	Male	0.4020	<.0001

3.3. Gender by Ethnicity Interaction

A significant interaction term in a model indicates that the levels of one variable do not remain consistent when the levels of another variable change. Interaction between variables is evidenced by intersecting lines in interaction plots. The interaction plot in Figure 3 shows that black, mixed/other, and white applicants who decline to state their gender (green line) have a higher probability of being appointed to trustee roles compared to females in those ethnic categories (red line). The reverse is true for Asian females and females who declined to state their ethnicity. Males (blue line), generally have a lower probability of being appointed.

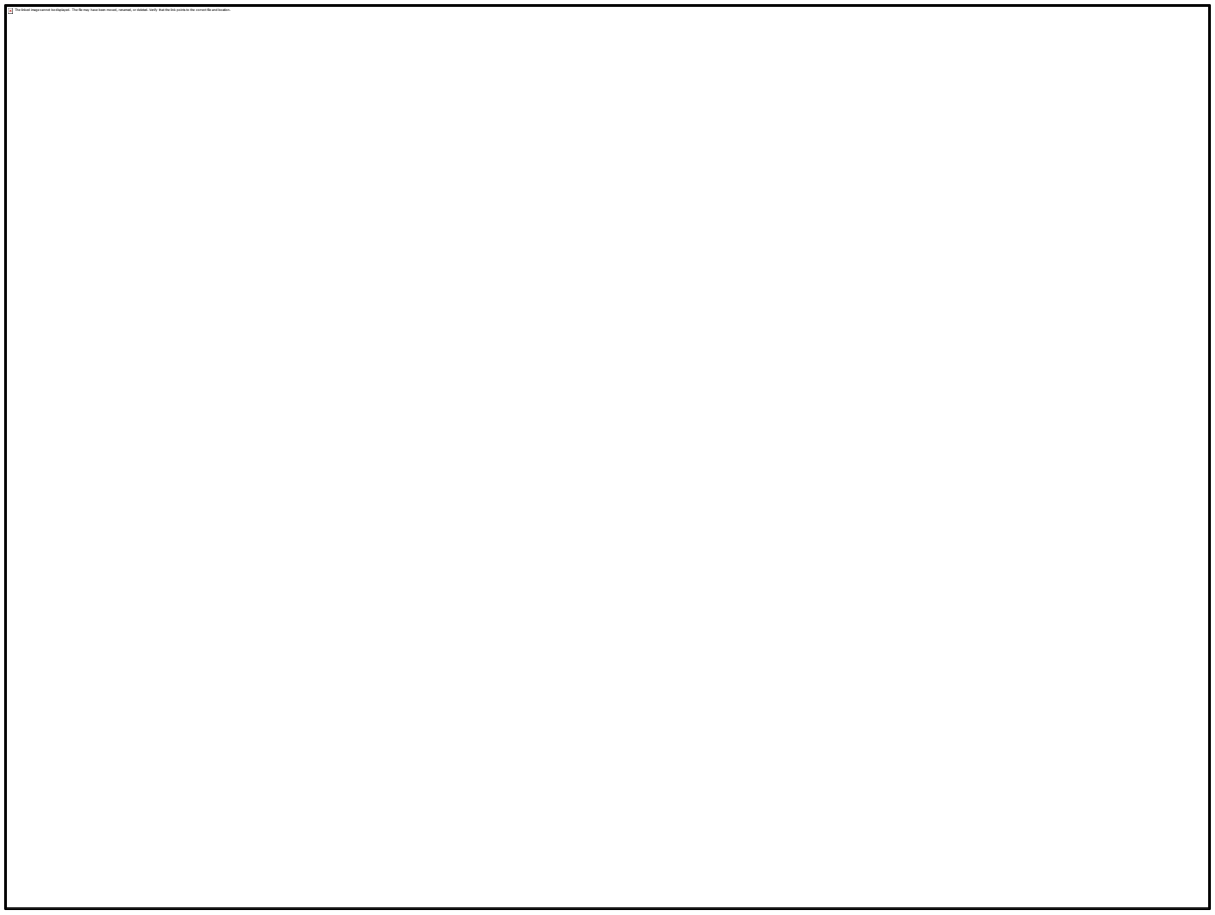

Figure 3. Ethnicity by gender interaction plot

Table 6 shows that white applicants who declined to state their gender have the highest predicted probability of being appointed to a trustee position (23.58% [16.87%, 31.94%]), while male applicants who identified themselves as "Mixed/Other" have the lowest (8.06% [5.35%, 11.98%]).

Table 6. Mean probability for an application to be successful, by gender*ethnicity interaction

Gender	Ethnicity	Mean	Lower Mean	Upper Mean
Decline to state	Asian	0.1134	0.04789	0.2455
Decline to state	Black	0.1637	0.04464	0.4504
Decline to state	Decline to state	0.1927	0.1754	0.2113
Decline to state	Mixed/Other	0.1716	0.05413	0.4284
Decline to state	White	0.2358	0.1687	0.3194

Gender	Ethnicity	Mean	Lower Mean	Upper Mean
Female	Asian	0.1412	0.1164	0.1703
Female	Black	0.1812	0.1468	0.2216
Female	Decline to state	0.1963	0.1449	0.2603
Female	Mixed/Other	0.1499	0.1104	0.2003
Female	White	0.2228	0.2076	0.2388
Male	Asian	0.1164	0.09683	0.1393
Male	Black	0.1076	0.08011	0.1430
Male	Decline to state	0.1309	0.09488	0.1779
Male	Mixed/Other	0.08064	0.05349	0.1198
Male	White	0.2229	0.2091	0.2374

In the Table 7, only interactions with statistically significant comparisons ($p < 0.05$) are shown. White applicants who declined to state their gender have 3.5 times the odds ($e^{1.2578} = 3.52$) of being appointed to a trustee role compared to males who identified as mixed/other.

Table 7. Differences of gender*ethnicity interaction LS means

Gender	Ethnicity	Gender	Ethnicity	Estimate	Pr >|t|
Decline to state	Decline to state	Female	Asian	0.3730	0.0030
Decline to state	Decline to state	Female	White	-0.1831	0.0107
Decline to state	Decline to state	Male	Asian	0.5946	<.0001
Decline to state	Decline to state	Male	Black	0.6834	<.0001
Decline to state	Decline to state	Male	Decline to state	0.4605	0.0170
Decline to state	Decline to state	Male	Mixed/Other	1.0013	<.0001
Decline to state	Decline to state	Male	White	-0.1836	0.0080
Decline to state	White	Female	Asian	0.6295	0.0091
Decline to state	White	Female	Mixed/Other	0.5596	0.0443
Decline to state	White	Male	Asian	0.8511	0.0003
Decline to state	White	Male	Black	0.9399	0.0005

Gender	Ethnicity	Gender	Ethnicity	Estimate	Pr >|t|
Decline to state	White	Male	Decline to state	0.7170	0.0111
Decline to state	White	Male	Mixed/Other	1.2578	<.0001
Female	Asian	Female	White	-0.5561	<.0001
Female	Asian	Male	Mixed/Other	0.6283	0.0120
Female	Asian	Male	White	-0.5566	<.0001
Female	Black	Male	Asian	0.5188	0.0016
Female	Black	Male	Black	0.6076	0.0036
Female	Black	Male	Mixed/Other	0.9255	0.0003
Female	Decline to state	Male	Asian	0.6175	0.0038
Female	Decline to state	Male	Black	0.7063	0.0046
Female	Decline to state	Male	Mixed/Other	1.0242	0.0004
Female	Mixed/Other	Female	White	-0.4862	0.0081
Female	Mixed/Other	Male	Mixed/Other	0.6982	0.0145
Female	Mixed/Other	Male	White	-0.4867	0.0077
Female	White	Male	Asian	0.7776	<.0001
Female	White	Male	Black	0.8665	<.0001
Female	White	Male	Decline to state	0.6435	0.0007
Female	White	Male	Mixed/Other	1.1844	<.0001
Male	Asian	Male	White	-0.7782	<.0001
Male	Black	Male	White	-0.8670	<.0001
Male	Decline to state	Male	White	-0.6441	0.0006
Male	Mixed/Other	Male	White	-1.1849	<.0001

An unconscious bias is evidenced by the larger variances within the BAME categories (Figure 4). Those who declined to state their gender and ethnicity have a lower probability of being appointed compared to white male and female applicants, which could be evidence of a conscious bias against BAME categories that occurred during the face-to-face interview-stage.

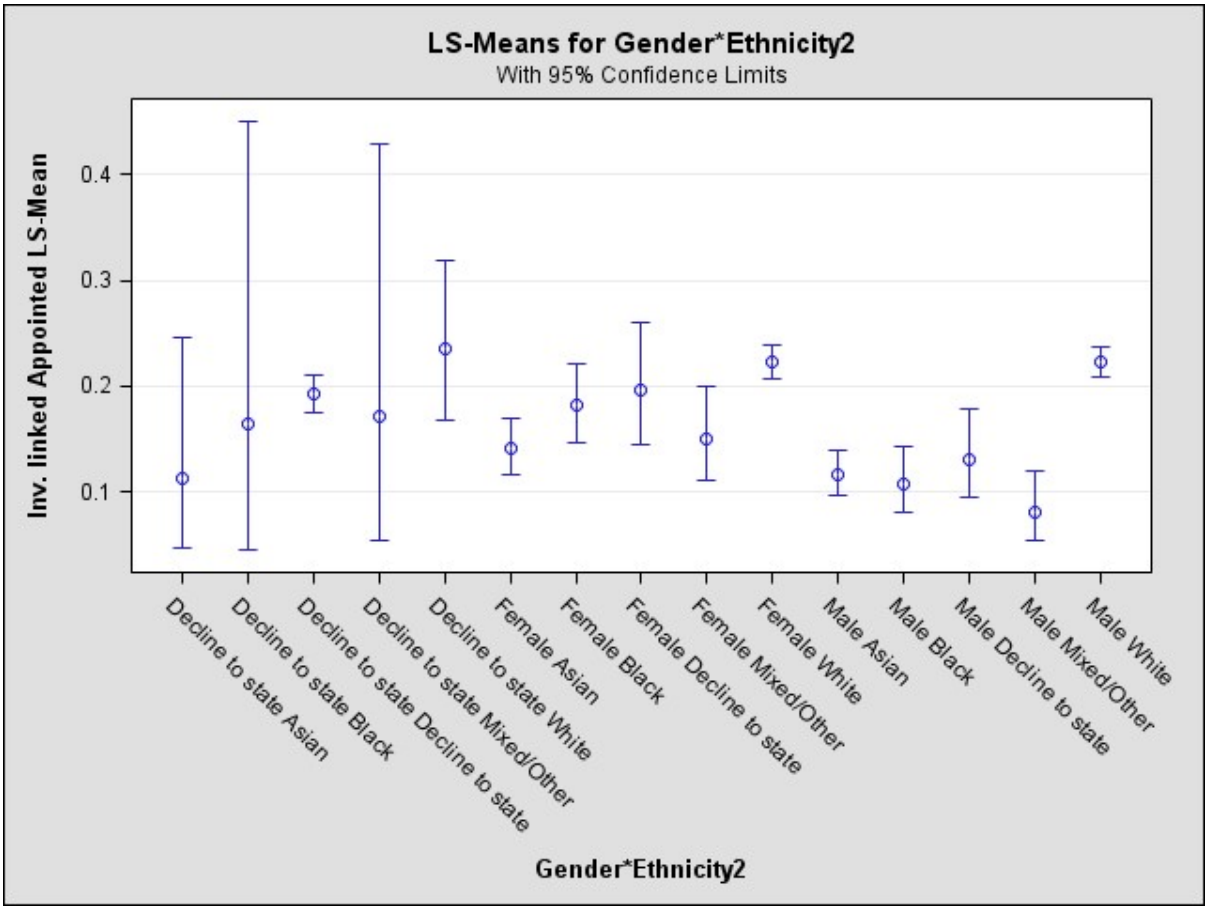

Figure 4. Mean probability of being appointed with 95% CI by gender*ethnicity interaction

4. CONCLUSIONS

This paper investigated the impact of choosing "Decline to state" for protected characteristics (ethnicity and gender) on an application. Results showed that those who declined to state their ethnicity on the application had a higher probability of being appointed to a trustee role compared to applicants who identified with one of the BAME categories and a lower probability compared to applicants who identified with the white ethnicity.

White applicants had the highest probability of being appointed to a trustee role, regardless of gender (Figure 5) and the highest rate of being appointed (i.e., 28% of total applications were successful (Figure 6)). Those who declined to state their ethnicity had a higher probability of being appointed, regardless of gender, and a higher application success rate (23%) compared to the BAME categories.

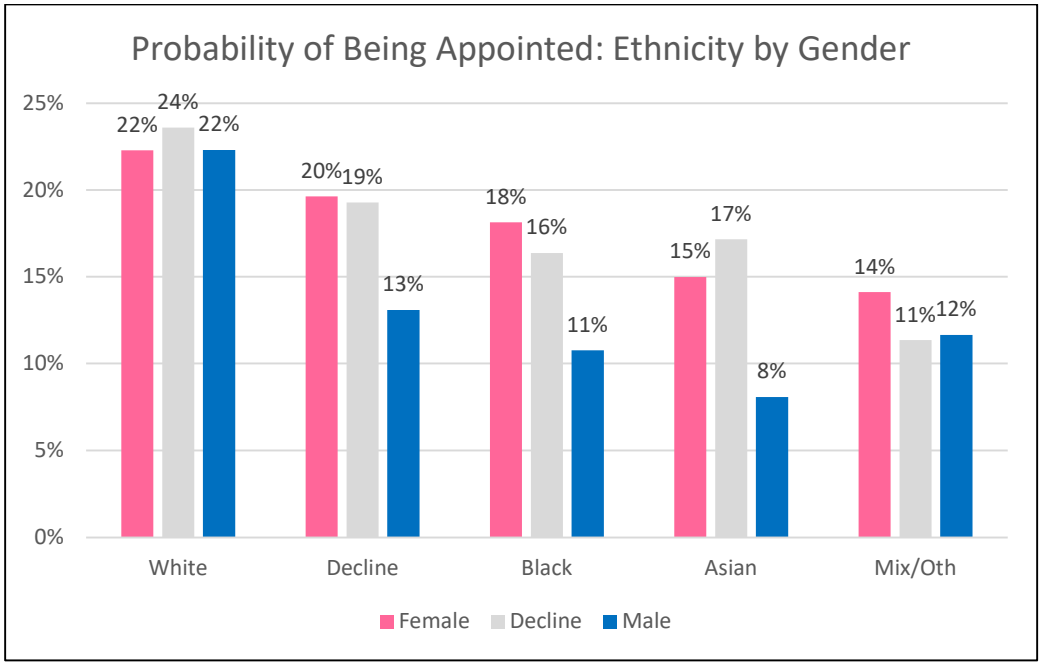

Figure 5. Probability of being appointed to a trustee role, ethnicity by gender

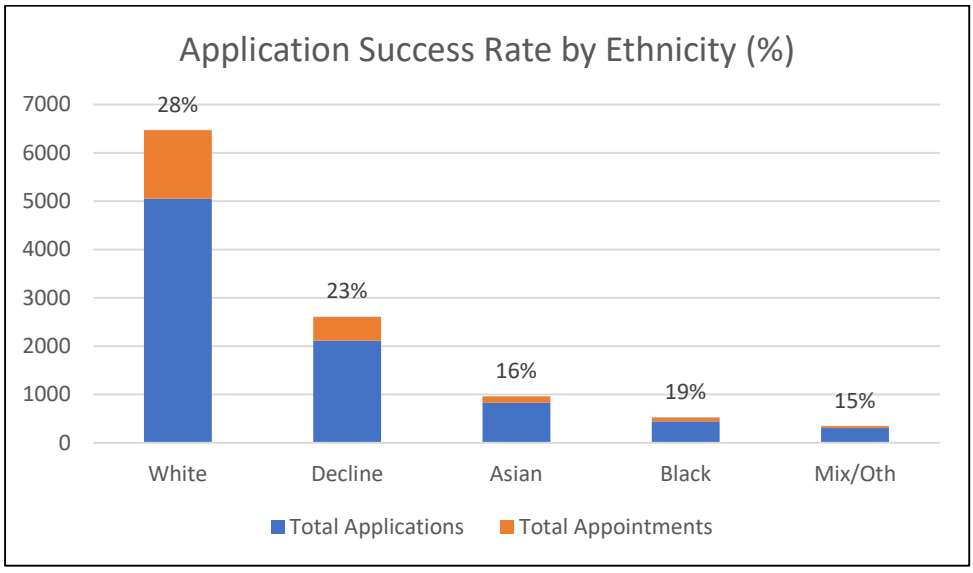

Figure 6. Application success rate by ethnicity

5. RECOMMENDATIONS

If declining to state one's ethnicity helps to reduce unconscious bias against BAME categories, then the results from this study suggest the BAME communities should be educated to select that option, if available.

In addition, the UK government allows for protected characteristics data to be gathered and collected so the employer can choose a candidate who has a protected characteristic over one who does not if they're both suitable for the job and the employer believes that people with that characteristic are underrepresented in the workforce (GOV.UK, 2021). Unfortunately, it is difficult to calculate whether the noble intent outweighs the prevalent unconscious bias without knowing the number of BAME candidates who were hired because the characteristic was underrepresented in the workforce. Comparing those numbers would enable us to determine whether BAME candidates are being summarily dismissed from contention at a higher rate than being selected because they were underrepresented in the workforce.

6. REFERENCES

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