Government Equalities Office

THE BEHAVIOURAL INSIGHTS TEAM

Encouraging sexual orientation disclosure in recruitment

Research report

July 2021

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Contents

Acknowledgements

We wish to acknowledge the roles that the following individuals had in this project:

- Michael Penrose at Applied for providing us with the historical and trial data, and implementing the trial
- Kate Glazebrook, Hew Ingram and Diana Rocha at Applied for implementing the trial
- Zac Baynham-Herd at the Behavioural Insights Team (BIT) for writing up the trial into this report
- Rony Hacohen, James Lawrence and Marta Garnelo at BIT for their QA input at various stages of the project

Executive summary

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Collecting information about sexual orientation and other protected characteristics helps to identify inequalities, better understand their underlying causes and monitor progress towards reducing disadvantages for protected groups. In the workplace, increased disclosure of sexual orientation data by job applicants helps organisations to identify bias in their recruitment processes and adjust these processes to make them fairer. However, disclosure rates for sexual orientation data are often lower than for other demographic data such as gender and ethnicity. Unfortunately, there is limited evidence on how to increase personal information disclosure in recruitment.

This report is the first published randomised controlled trial (RCT) exploring how introductory messaging in equal opportunities forms for job applications influences job applicants' disclosure of personal information (n = 24,581).

We partnered with the recruitment platform Applied, which aims to remove bias from the hiring process. We ran a pre-registered four-armed RCT on the platform to test whether alternative introductory statements to an equal opportunities form in a job application could change applicants' voluntary disclosure rates of sexual orientation. Each alternative introductory statement addressed a key negative attitude towards disclosure of sexual orientation: mistrust about the security of data storage, the belief that disclosure could harm recruitment outcomes, and a lack of understanding of the purpose or value of disclosure.

None of the treatment statements had a significant impact on the probability of sexual orientation disclosure. Neither did they change the probability of opting out of the entire disclosure form, the disclosure rates of any other demographic characteristics or of submitting the application. This suggests that introductory statements that target negative attitudes towards disclosure are not effective in this context. Possible explanations for the findings are that applicants do not pay attention to the introductory text, other behavioural barriers are more important or that the already high disclosure rate in this recruitment context could not increase further.

There was some evidence that the "mistrust" and "belief it harms their application" treatments resulted in significantly higher disclosure of minority sexual orientation identities compared with the control. However, these findings are likely to be spurious as they were driven by differences in a small proportion of the sample and did not remain significant after correcting for multiple comparisons.

Future research should test other aspects of the choice environment that may have an impact on behaviour, such as the layout of the form, as well as other employment contexts, such as disclosure among existing employees.

Introduction

Introduction

Information on sexual orientation is important for achieving equalities outcomes. Collecting and analysing such data can identify potential inequalities, help investigate their underlying causes and monitor progress towards removing disadvantages experienced by different groups.[1]

In the workplace specifically, increased disclosure of sexual orientation data by job applicants helps organisations to identify bias in their recruitment processes and adjust these processes to make them fairer.[2] The LGBT rights charity Stonewall notes that capturing data on sexual orientation not only enables employers to assess the effectiveness of different equality and inclusion strategies, but also sends a positive signal to lesbian, gay, bisexual and other sexual minority (LGB+) staff that their experiences are taken seriously.[3]

There is limited existing evidence to inform how to increase voluntary disclosure of personal information, including sexual orientation in the workplace. This is important as disclosure rates for sexual orientation data are often lower than for other demographic data such as gender and ethnicity.[4] Existing survey-based research has identified broader factors which influence sexual orientation disclosure in the workplace, including trust in an organisation or fear of discrimination.[5] There is also best-practice guidance for employers and researchers on how to make requests for sexual orientation data, which includes appropriate language to use.[6] However, there is no existing experimental research testing how introductory messages within job application forms can be improved to increase sexual orientation disclosure in recruitment.

This is a promising avenue of research because there is a vast body of behavioural science research that demonstrates how small changes in the way messages are communicated can have large impacts on behaviour.[7] For instance, in previous research with the Government Equalities Office (GEO), the Behavioural Insights Team (BIT) demonstrated that applying behavioural insights to the content of emails sent to human resources (HR) professionals increased their engagement with information about returner recruitment.[8]

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1 Brooks, H., Llewellyn, C. D., Nadarzynski, T., Pelloso, F. C., Guilherme, F. D. S., Pollard, A., & Jones, C. J. (2018). Sexual orientation disclosure in health care: a systematic review. Br J Gen Pract, 68(668), e187-e196.

2 Equality and Human Rights Commission (2012). Collecting information on gender identity.

3 Stonewall. Do ask, do tell: capturing data on sexual orientation and gender identity globally.

4 Based upon our own analysis (2018) of available public sector disclosure rates, such as the Civil Service, MOD, and Gloucester County Council for example

5 Capell, B., Tzafrir, S. S., Enosh, G., & Dolan, S. L. (2018). Explaining sexual minorities' disclosure: The role of trust embedded in organizational practices.

6 The Williams Institute (2009). Best practices for asking questions about sexual orientation on surveys; Stonewall. Do ask, do tell: capturing data on sexual orientation and gender identity globally.

7 Team, B. I. (2014). EAST: Four simple ways to apply behavioural insights. *Behavioural Insight Team, London*.

8 Booth, S., & Londakova, K. (2018). Encouraging hiring of returners: an email trial. The Behavioural Insights Team.

Accordingly, in this research we tested what works to increase job applicants' voluntary disclosure rates of sexual orientation. We conducted an experimental trial that tested the effects of different behaviourally informed introductory statements in an equal opportunities form on applicants' voluntary disclosure rates of sexual orientation data.

This research was part of a GEO funded three-year collaboration between BIT and GEO: the Gender and Behavioural Insights (GABI) programme. The aim of the programme is to generate evidence for what works to improve gender equality and outcomes for lesbian, gay, bisexual and transgender (LGBT) people in the workplace. We ran the trial with Applied[9], a recruitment platform that seeks to reduce bias and improve the predictivity of hiring decisions using behavioural and data science.

The policy challenge

Better collection of information about sexual orientation and other protected characteristics can help improve public services, reduce discrimination and create more inclusive workplaces. One of the goals in the GEO LGBT Action Plan is to improve data and monitoring of sexual orientation by creating standards which will also be freely available to the public and private sectors.[10] This aligns with the goals of LGBT rights organisations that see capturing data on sexual orientation (and gender identity) as a *"strong tool for championing LGBT equality and inclusion*".[11]

According to the most recent Office for National Statistics (ONS) Sexual Identity Survey, 2.8% of people identify as LGB+, while 2.5% did not disclose their sexual orientation.[12] These proportions differ by region and age, with younger people (16-24) most likely to identify as LGB+. A recent Ipsos survey finds a higher overall rate of LGB+ (8.61%) and this is more than double among the 18-24 age group (19.17%), but also a higher rate of non-disclosure (5.2%).[13] The differences in disclosure rates between the Ipsos survey and ONS data may be due to the different categories presented and different methods for collecting the data.[14] In data retrieved from the Civil Service, only 57% of civil servants disclosed their sexual orientation in 2019 demonstrating the need to find ways to increase disclosure in the workplace.[15]

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[9] Applied started life in the Behavioural Insights Team. It spun out as a separate legal entity in December 2016. The Behavioural Insights Team retains a minority shareholding in Applied (under 10%) and its General Counsel, Nicky Kerr, sits on the Applied Board as an observer.

[10] Government Equalities Office (2018). LGBT Action Plan: Improving the lives of Lesbian, Gay Bisexual and Transgender People

[11] Stonewall. Do ask, do tell: capturing data on sexual orientation and gender identity globally.

[12] ONS (2018). Sexual orientation, UK: 2018. Office for National Statistics

[13] Ipsos MORI (2020). Sexual orientation and attitudes to LGBTQ+ in Britain

[14] The sexual orientation categories presented differed between the two sources. ONS included: 'Heterosexual / Straight', 'Gay / Lesbian', 'Bisexual' and 'Other' (we combine these latter three categories as LGB+). The Ipsos response categories included: 'Heterosexual', 'Gay', 'Lesbian', 'Bisexual', 'Pansexual', 'Asexual', 'Omnisexual' and 'Other' (we combine all categories besides 'Heterosexual' as LGB+). The ONS survey data came from face-to-face and phone interviews, and the Ipsos data came from online interviews.

[15] Civil Service. (2019). Civil Service Diversity and Inclusion Dashboard

There is a small literature that highlights barriers to the disclosure of sexual orientation in the workplace, which we outline in the section below. However, there is little experimental evidence exploring how to increase disclosure rates of demographic information, including sexual orientation, particularly in the UK in a recruitment setting. Therefore, it is important to test best-practice guidance empirically and explore whether the way in which requests for disclosure are made can help make applicants feel more comfortable to disclose. This includes question content and structure, alleviation of privacy concerns, consideration of demographic variation, and language used to describe sexual orientations.[16] We decided not to focus on testing different versions of the question or answer categories, given the existing work by ONS.[17]

This research also complements other related policy aims. For instance, GEO has a target to ensure that the Civil Service collects data on sexual orientation and gender identity in a *"sensitive, respectful and proportionate way"*.[18] Hence, gathering this information via improved introductory statements would be more in line with these aims than other more intrusive possible alternatives, such as incentives or mandatory disclosure. Lastly, as Stonewall notes, the policy aim of encouraging greater collection of anonymised data (either before, during or after employment) is not the same as encouraging employees to be more open about their sexual orientation in the workplace.[19] In this case, all data are anonymous and allow organisations to identify potential bias against LGB+ staff while maintaining individual privacy.

Literature review

To inform the intervention development we first conducted a literature review. This aimed to understand the behavioural barriers to sexual orientation disclosure and possible behavioural levers that could be applied to overcome these. From the literature (mainly covering the US, UK and Europe from 2002-2018) we identified several underlying factors, summarised below, which influence sexual orientation disclosure in the workplace.

Firstly, applicants may not trust that their data will be stored securely or used for legitimate ends. This may particularly be the case for potentially sensitive personal information. A recent workplace survey found that trust in an organisation and supervisor mediates the willingness of sexual minorities to disclose their sexual orientation in the workplace.[20] Moreover, Stonewall recommends that information about where sexual orientation data are stored, how its safety will be secured, who will have access to it, and whether it will be stored or handled anonymously or

[16] Stonewall. Do ask, do tell: capturing data on sexual orientation and gender identity globally; The Williams Institute (2009). Best practices for asking questions about sexual orientation on surveys.; Equality and Human Rights Commission. (2010) Improving sexual orientation monitoring.
[17] Office for National Statistics. (2019). Guidance for questions on sex, gender identity and sexual orientation for the 2019 Census Rehearsal for the 2021 Census
[18] Government Equalities Office (2018). LGBT Action Plan: Improving the lives of Lesbian, Gay Bisexual and Transgender People
[19] Stonewall. Do ask, do tell: capturing data on sexual orientation and gender identity globally.
[20] Capell, B., Tzafrir, S. S., Enosh, G., & Dolan, S. L. (2018). Explaining sexual minorities' disclosure: The role of trust embedded in organizational practices. *Organization Studies*, *39*(7), 947-973.

confidentially should be included in disclosure request statements.[21] This is supported by experimental evidence that finds that concerns about disclosing personal information can be alleviated by more comprehensive privacy policies, such as those that indicate how the disclosed information will be used.[22] Other research suggests that enhancing privacy may increase accurate disclosure rates[23] and it has also been suggested that the concepts of anonymity and confidentiality should be clearly explained.[24]

Both LGB+ and non-LGB+ applicants may believe that disclosure could harm their chances of selection in the recruitment process. Numerous studies from other European countries (such as Sweden) have found evidence that LGB+ applicants are still discriminated against during recruitment and in the workplace.[25] For instance, in one Greek experiment a fictitious candidate who indicated that they were gay on their CV had significantly lower interview rates than a comparable candidate who did not indicate their sexual orientation.[26] Other research, such as in the US, has found that majority group members can fear the outcomes for themselves of diversity policies and perceived positive discrimination.[27]

Applicants may not know or understand the purpose of providing their data. Clearly explaining why information on protected characteristics is being collected and how it will be used is thought to help improve disclosure rates. This can include emphasising the benefits of disclosing information as a means to achieving positive change for an individual and others.[28] However, some forms of reasoning may be stronger than others. For instance, a previous trial reported that when requesting employees to anonymously submit demographic information, emphasising the organisational commitment to reflect the wider community was more effective than emphasising fairness and inclusion more broadly.[29] Furthermore, it is thought that where possible, information about how collecting the data in the past has led to specific improvements should be included.[30]

Disclosure is also thought to be influenced by the questions and categories used in requests. This includes the specific language used, including how comfortable it makes participants feel and whether participants identify with the available categories, as well as the nature of questions asked immediately before (for example, religious identity questions may affect sexual orientation disclosure if asked immediately before).[31] ONS research has also recently used cognitive testing

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[21] Stonewall. Do ask, do tell: capturing data on sexual orientation and gender identity globally.
[22] Andrade, E.B., Kaltcheva, V., Weitz, B.,(2002). Self-disclosure on the web: the impact of privacy policy, reward, and company reputation.
[23] The Williams Institute (2009). Best practices for asking questions about sexual orientation on surveys
[24] Equality and Human Rights Commission. Improving sexual orientation monitoring.
[25] Ahmed, A. M., Andersson, L., & Hammarstedt, M. (2013). Are gay men and lesbians discriminated against in the hiring process?. *Southern Economic Journal*, *79*(3), 565-585.
[26] Drydakis, N. (2009). Sexual orientation discrimination in the labour market. *Labour Economics*, *16*(4), 364-372.
[27] Kalev, A., Dobbin, F., & Kelly, E. (2006). Best practices or best guesses? Assessing the efficacy of corporate affirmative action and diversity policies. *American sociological review*, *71*(4), 589-617.
[28] Equality and Human Rights Commission. Improving sexual orientation monitoring.
[29] Elfer, J. (2019). How we talk matters part 2. More Than Now.
[30] Stonewall. Do ask, do tell: capturing data on sexual orientation and gender identity globally.
[31] Equality and Human Rights Commission. (2010) Improving sexual orientation monitoring

to understand how the framing of questions on sex, gender and sexual orientation affects understanding, and provides guidance for the upcoming UK census.[32] However, to date, studies have not found an order of importance for these reasons or tested them experimentally with regards to disclosure behaviour.

Concerns and attitudes towards disclosure may also differ somewhat across demographic groups and in specific contexts. For instance, in one higher education study, ethnic minority respondents trusted the privacy of personal information less than White respondents.[33] In this trial, the effectiveness of each message type differed by ethnic group. In particular, the social norms message had the strongest effect on people from ethnic minorities.[34] The institution or organisation making the request – the messenger – may also be important, but this has not yet been explored in this context.[35]

In summary, from the literature review we identified that whilst there are many studies about the barriers that lead to the lack of disclosure of personal information, there are few about how to address them. In particular, there is scarce evidence around increasing sexual orientation disclosure generally and none in UK recruitment settings. On the basis of the literature we focused the design of the RCT around messaging related to mistrust, the impact of disclosure on application success and the reason for asking. In the section below we highlight how we co-designed these messages and why we did not test some other potentially important factors.

Solutions co-design workshop

We held a workshop with representatives from the GEO LGBT policy team and Applied to communicate these findings and determine the appropriate concepts to test in the trial. The negative attitudes towards disclosure identified from the literature review were explored with the workshop participants to understand whether these aligned with their practitioner and policy experience and whether there were any additional attitudes towards disclosure that had not been identified.

The attitudes determined by the literature review were categorised under three main themes: mistrust that data will be stored securely, a belief that disclosure could harm recruitment prospects, and not understanding the purpose or value of disclosure. Workshop participants then discussed which additional behavioural concepts might be appropriate to explore within these themes. These were discussed with consideration to both LGB+ and non-LGB+ respondents in each case. Participants then agreed upon the final negative attitudes towards disclosure to test in each arm of the trial, outlined below.

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[32] Office for National Statistics. (2019). Guidance for questions on sex, gender identity and sexual orientation for the 2019 Census Rehearsal for the 2021 Census

[33] Strebler, M., & O'Regan, S. (2005). *Non-disclosure and hidden discrimination in higher education*. Institute For Employment Studies.

[34] Elfer, J. (2019). How we talk matters part 2. More Than Now.

[35] Dolan, P., Hallsworth, M., Halpern, D., King, D., & Vlaev, I. (2010). MINDSPACE: influencing behaviour for public policy.

Interventions tested

On the basis of the workshop discussion, we designed a four-armed RCT, in which the control arm was the existing introductory statement used by Applied. The three other arms each included an alternative introductory statement addressing a different negative attitude towards disclosure of sexual orientation. These alternatives replaced the introductory text used in the original equal opportunities form (Figure 1). Applied introduced the sexual orientation question to the equal opportunities form for the trial and the form was otherwise exactly the same, including the location and wording of the questions, in each trial arm. We decided to test the following three themes:

- **Mistrust:** addressed by highlighting applicants' legal rights to the proper storage and handling of their data, and that their personal information would not be identifiable.

- **Belief it harms their application:** addressed by highlighting that the content from the form is processed separately to applicants' applications and that the hiring team do not view individual responses.

- **Value not understood:** addressed by highlighting the personal relevance of applicants sharing their information in terms of improving the recruitment process.

We also drew upon principles from the behavioural science literature when designing the treatment introductory messages (see section 4.2). For instance, we considered how best to remove friction costs, simplify information, and include an element of reciprocity. There were other important factors identified in the literature review which were not considered for testing in the trial. For instance, workshop participants felt that a social norms message would be inappropriate given that the aim was to increase disclosure for both minority and majority sexual orientations. Likewise, we deemed that addressing other possible concerns of applicants, such as perceived personal or political sensitivity of sexual orientation, might overlap somewhat with either the 'mistrust' or 'value not understood' treatments. Hence, we limited the treatments to three distinct themes of negative attitudes towards disclosure.

We did not change the data information section or the consent ('opt-out') section (Figure 2). We felt that the data information section would have little impact on applicant behaviour as it came at the end of the form and is likely to have been perceived as 'small print' and elicit little engagement from most applicants. While we felt that the active opt in or out choice at the end of the form probably would have a greater impact on applicant behaviour, Applied did not want to change this to ensure they were receiving active consent from applicants.

Figure 1. Screenshot of the 'control' Applied equal opportunities form, including the introductory statement and other questions

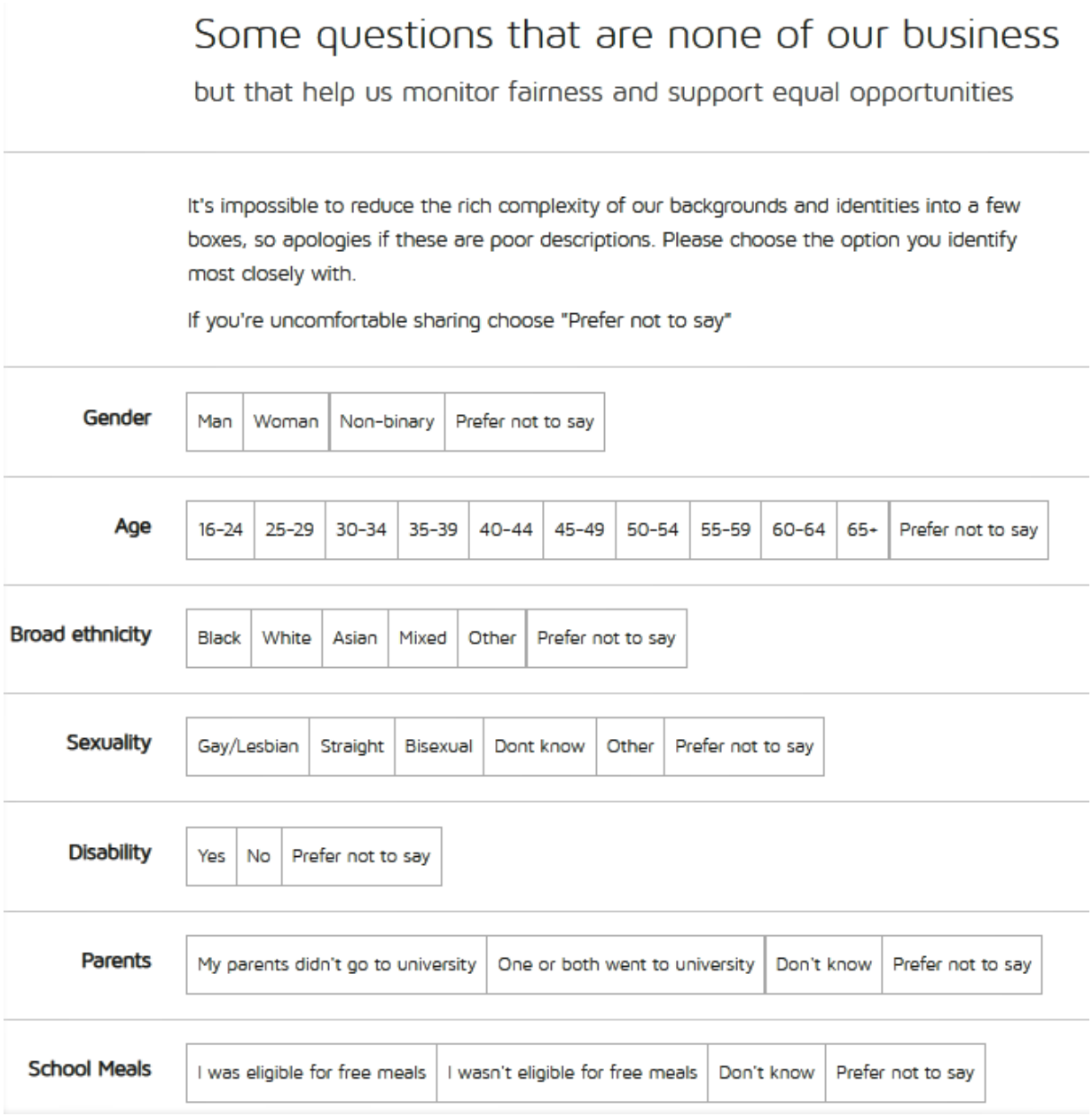
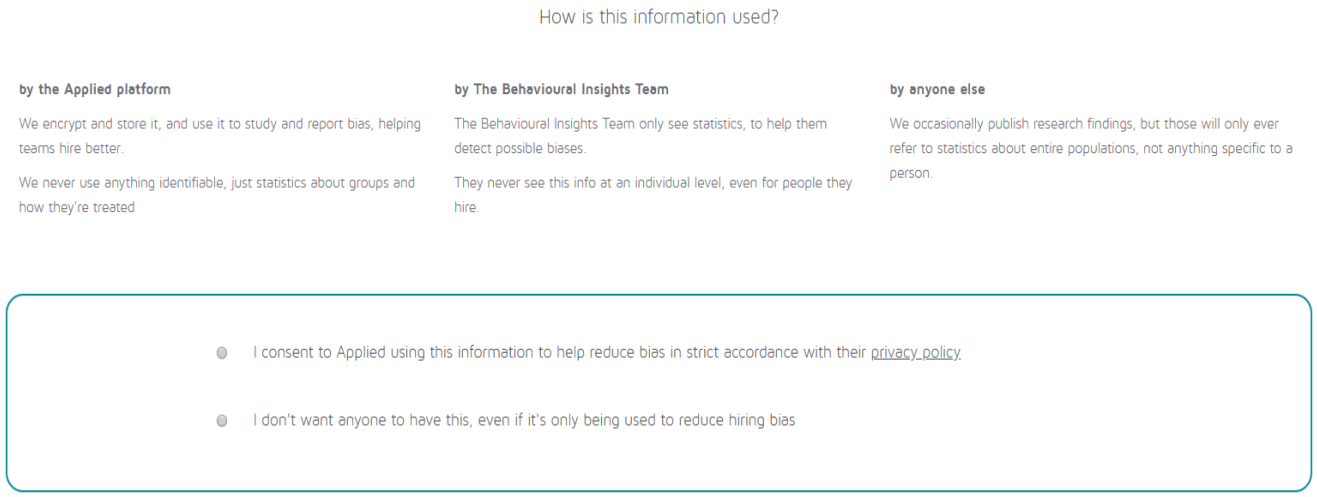


Figure 2. Screenshot of the original Applied equal opportunities form, including the description of how information is used and the consent ('opt out') section



Research aims and trial methodology

Research aims and trial methodology

On the recruitment platform Applied, we ran a four-armed randomised controlled trial (RCT) to test three treatment introductory statements on applicants' voluntary disclosure rates of sexual orientation data. The trial design was approved by GEO's Research Board on 11 July 2019. Our pre-registration is available here.

Each arm of the trial sought to address a key hypothesised negative attitude towards disclosure (section 4.2):

1. **"Mistrust":** applicants may not trust that their data will be stored securely
2. **"Belief it harms their application":** applicants may believe that disclosure could harm their chances of selection in the recruitment process
3. **"Value not understood":** applicants may not understand the purpose of disclosure

The control was the current equal opportunities form used by Applied (as displayed in Figure 1).

Beyond disclosure rates of sexual orientation, we were also interested in whether there were downstream consequences in recruitment outcomes and application completion to ensure there were no unintended consequences.

Applicant journey

The applicant journey (Figure 3) was as follows:

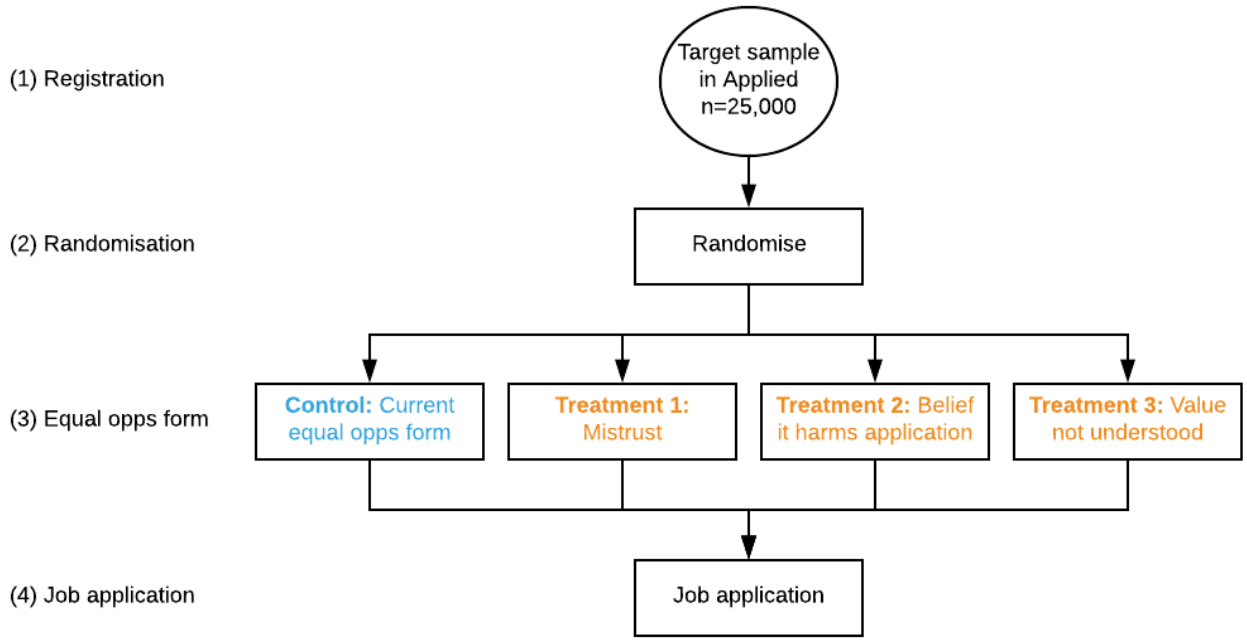
(1). **Registration:** Applicants applying to UK-based roles registered to apply for the role they were interested in with their email address. Previous applicant users of the Applied platform were excluded from the trial as they would have seen the form before.

(2). **Randomisation:** Applicants (uniquely identified by their email address) were randomly assigned to one of four variations of the equal opportunities monitoring form. Even if they registered for a new role with the same email address, they continued to see the same variation. The outcome measure was taken from their disclosure behaviour in the first application.

(3). **Equal opportunities form:** After applicants registered, the first thing they completed on their application was the equal opportunities monitoring form. They had the choice to select one of the available categories or 'prefer not to say' for individual questions, or to opt out of the form entirely at the end of the form. In addition to sexual orientation, the form also asked applicants about their gender, age, ethnicity, disability status, parents' education and eligibility for free school meals as a child.

(4). **Job application:** After completing the form, applicants went on to fill out their job application. They were able to come back to the equal opportunities form at any point during their application and to not submit their application. We took the latest version of the form at the point of application submission or at the end of the trial if an application was not submitted.

Figure 3. The trial design



Treatments

For the comparison condition (the control), we used the existing content used by Applied. The control version was a) longer than the treatment arms, and b) didn't specifically target one of the negative attitudes towards disclosure that we were seeking to address. The behaviourally-informed statements were based on the three negative attitudes towards disclosure identified from the literature and in our workshop with GEO and Applied: mistrust that data will be stored securely, a belief that disclosure could harm recruitment prospects, and not understanding the purpose or value of disclosure. Figure 4 summarises all four statements and the attitude themes that were applied to the three behaviourally-informed statements (see Table 1 for the full statement content).

Figure 4. Attitude themes used in the control and treatment conditions

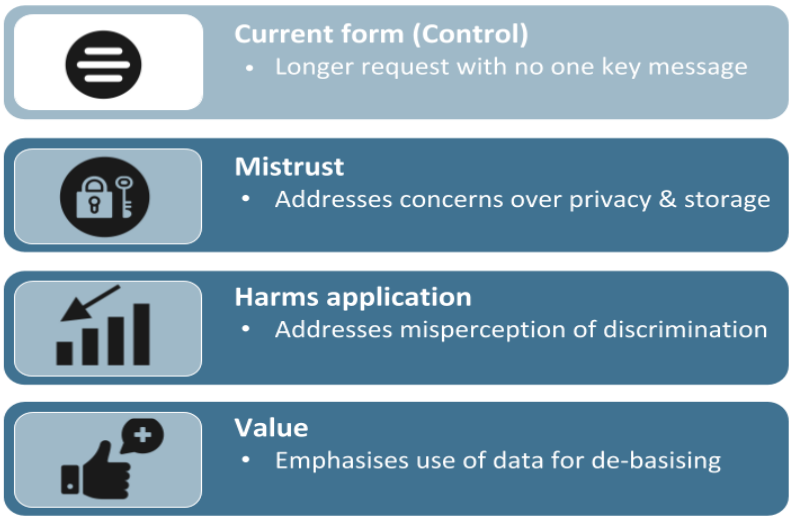


Table 1. The content used in the control and experimental treatment conditions

Treatment	Text
Control – current form	Some questions that are none of our business but that help us monitor fairness and support equal opportunities It's impossible to reduce the rich complexity of backgrounds and identities into a few small boxes, so apologies if these seem like poor descriptions. Please choose the option you identify most closely with. If you're uncomfortable sharing please select "Prefer not to say".
Mistrust	Some questions that are personal, so we'll keep your answers safe Your data is protected by law. You can trust us to handle and store it securely. We will never share anything from this page that identifies you with anyone.
Belief it harms application	Some questions that won't affect your application The hiring team at <Organisation>[36] won't see these answers. No matter who you are, this won't affect your chances of getting the job.
Value not understood	Some questions that help us make this fairer Thank you for sharing. Your answers could help open doors unfairly closed to others.

[36] This would change depending on the organisation the applicant was applying for.

Description of data and sample

We obtained a single dataset of 28,805 applications from Applied at the end of trial. This dataset contained all applications whose disclosure forms were finished between 12 September and 6 December 2019 (and one application whose disclosure form was finished on the morning of 9 December). Data on application status and the most up-to-date responses within disclosure forms were collected on 9 December. The proportion of applications which were completed was, therefore, likely to be slightly understated, but there was no reason that the extent of this understatement should have varied across the trial arms.

We excluded 658 applications which were not exposed to the trial (because they were completed on a different part of the Applied platform, which is used for multiple-choice assessments only). Since we were interested in the effects of the treatments on first-time users, we narrowed down the dataset further to only include users' first applications created within the trial period. This left us with a final sample size of 24,581 first-time applications.

Balance Checks

We did not have information on any characteristics for which we could calculate balance checks. Self-reported user-level characteristics, such as gender and ethnicity, were likely to be endogenous to other outcome measures, because they may have also been affected by the treatment assignment. Indeed, all recorded user-level characteristics were used as outcome measures themselves.

Outcome measures

Primary outcome measure

We had one primary outcome measure:

- Sexual orientation disclosure: probability of whether applicants disclosed their sexual orientation

This was chosen because it was a direct reflection of the main behavioural outcome of interest.

Secondary outcome measures

We had four secondary outcome measures:

- Opt out: probability of opting out of providing all data in the disclosure form
- Other disclosure: probability of disclosure for each other characteristic (age range, disability, gender, ethnicity, family education, eligibility for free school meals as a child)
- Distribution: distribution of responses to sexual orientation question across response categories
- Submission: probability of submitting application

The probability of receiving a job offer was also initially included as a secondary outcome measure. However, we were unable to obtain applicant-level data on job offers due to poor data quality (as this relies upon organisations updating outcomes in the Applied platform) and are therefore unable to use this measure in the analysis. The probability of disclosing sexual orientation as heterosexual given the applicant opted in to answer the disclosure form was also included as an exploratory outcome measure.

Table 2. Summary of outcome measures

Outcome measure	Data collection	Point of collection
Primary: probability of disclosing sexual orientation	Whether user selects an option other than “prefer not to say” in the sexual orientation category AND chooses not to withhold all their personal information by opting out of the entire disclosure form	When the user makes the final change to their application (including both submitted or not submitted)
Secondary: probability of opting out of providing all data in the disclosure form	Whether user chooses to withhold all their personal information by opting out of the entire disclosure form	When the user makes the final change to their application (including both submitted or not submitted)
Secondary: probability of disclosure for all other characteristics	Whether user selects an option other than “prefer not to say” in the given characteristic AND chooses not to withhold all of their personal information	When the user makes the final change to their application (including both submitted or not submitted)
Secondary: distribution of responses to sexual orientation question	Specific responses to the sexual orientation question	When the user makes the final change to their application (including both submitted or not submitted)
Secondary: probability of submitting application	Application status	When the user makes the final change to their application (including both submitted or not submitted)

Analytical strategy

For all outcome measures except “distribution of responses to the sexual orientation question”, the main analysis used an ordinary least squares (OLS) regression as below:

$$Y_i = \alpha + \sum_{j=1}^{3} \beta_j T_{ij} + \epsilon_i \qquad (i)$$

Here i indexes an Applied user and Y_i is an indicator variable for the outcome of interest (for example, an indicator for disclosing sexual orientation). T_{ij} are indicators for each of the three treatment arms, and the coefficients β_j capture their corresponding treatment effects relative to the control group. Since Y_i is a Bernoulli random variable, ϵ_i is heteroskedastic if the null hypothesis ($\beta_j = 0$ for $j = 1, 2, 3$) does not hold. Consequently, we use robust standard errors in all regressions. To test whether the treatments affected the distribution of responses to the sexual orientation question, we conduct a Pearson’s chi-squared test for equality of proportions between the control group and each treatment group.

Challenges with outcome data

During analysis, we encountered a number of issues with the outcome data. In addition to the 658 applications that were excluded due to not having been exposed to the trial, and our inability to access recruitment outcome data, the job vacancy associated with each application was also not recorded. This prevented us from clustering standard errors at the vacancy level for regressions that use “probability of submitting application” as the outcome measure. However, we do not think that this has influenced the significance of our results in a major way.

The dataset only registered applicants that reached the end of the disclosure form, including those who consented to their answers being recorded and those who decided to opt out of the form entirely. As a result, we were not able to observe directly the rate of attrition in each group (i.e. the proportion of applications for which the disclosure form was started but not completed). However, the number of users who were randomly allocated to each group in our dataset was very similar: the largest group (“belief it harms their application”) was less than 2% larger than the smallest group (“mistrust”). This implies that the treatments did not have a large impact on the likelihood that a first-time user reached the end of the diversity form, suggesting little differential attrition.

Trial results

Trial results

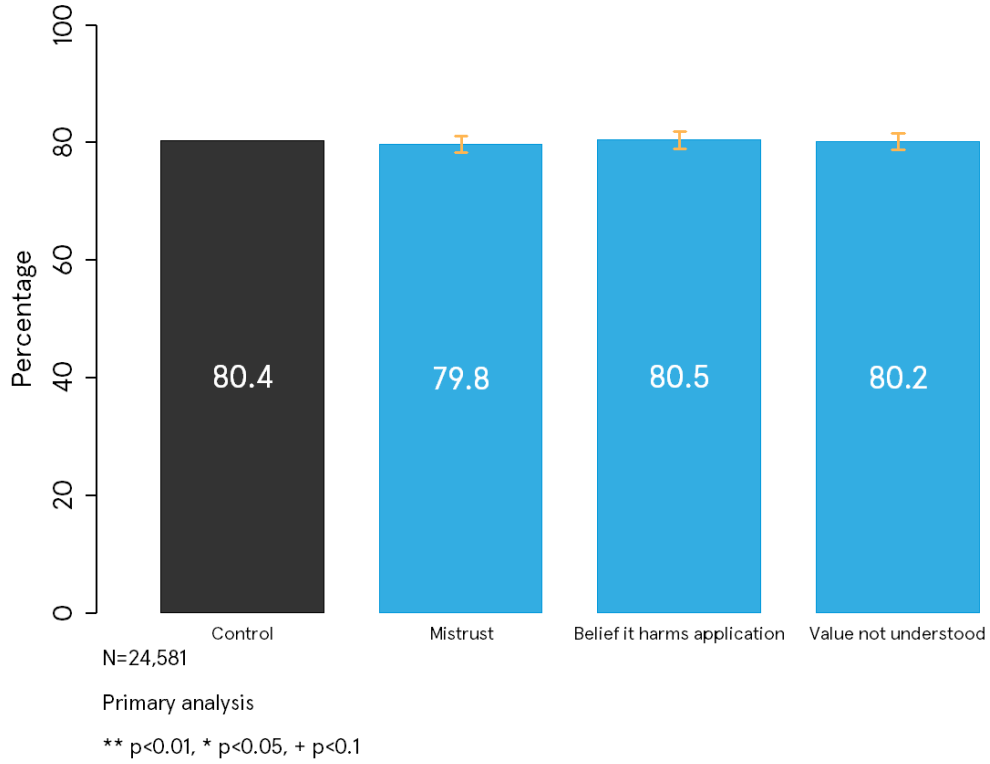
Overall, we found that none of the treatment statements had a significant impact on the probability of sexual orientation disclosure, the probability of opting out of the entire disclosure form, the disclosure rates of any other characteristics, or the probability of submitting the application. There was some evidence that the “mistrust” and “belief it harms their application” treatments altered the distribution of responses to the sexual orientation question (i.e. these messages resulted in higher disclosure of different sexual orientation identities compared with control). However, these findings were driven by differences in a small proportion of the sample and may be spurious.

Primary outcome measure

There was no significant effect at the 10% level of the treatments in increasing the likelihood a first-time user disclosed their sexual orientation. Being statistically non-significant means that we cannot achieve adequate levels of confidence that the directional findings would occur again if we ran the same test again, and the directional differences we observed here may be due to chance. Any impact was likely to be very small in magnitude and could be positive or negative.

Compared to the control, the “belief it harms their application” treatment had a disclosure rate 0.1 percentage points higher than a baseline of 80.4%. The “mistrust” and “value not understood” treatments had a lower disclosure rate of sexual orientation, but only by 0.6 percentage points and 0.2 percentage points respectively.

Figure 5. Treatment effects on probability of disclosing sexual orientation – first-time users

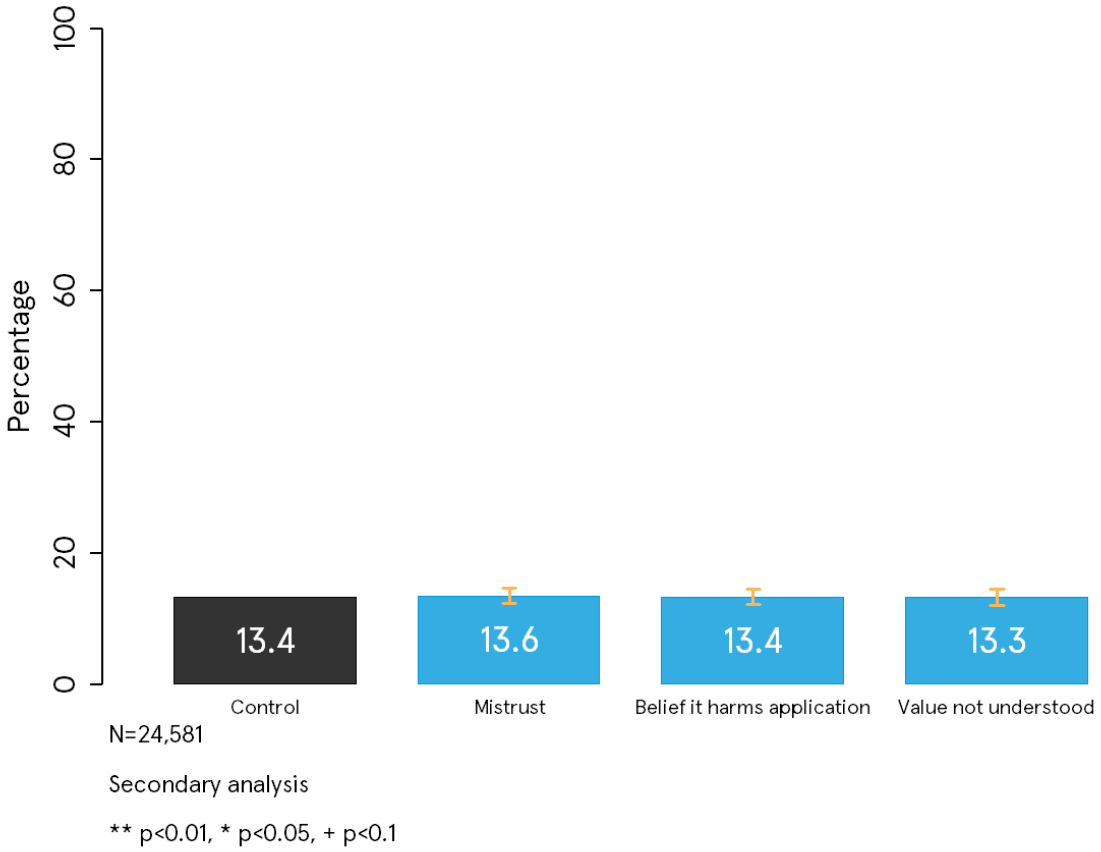


Secondary outcome measures

Opting out of the entire disclosure form

None of the treatments had a significant impact at the 10% level on the probability of opting out of the entire disclosure form. The effects are small in magnitude, ranging between -0.1 percentage points and 0.1 percentage points. The proportion of first-time users who opt out of the disclosure form entirely was highest in the “mistrust” treatment group, at 13.6%. The higher rate of opting out of the entire disclosure form explained just over 20% of the difference in disclosure rates between that treatment group and the control; the rest was attributed to a lower rate of disclosing sexual orientation conditional on not opting out entirely.

Figure 6. Treatment effects on probability of opting out of the entire disclosure form



Disclosure of other characteristics

None of the treatments had a significant effect at the 10% level on the disclosure rates of any of the other characteristics requested in the form (age range, disability, gender, ethnicity, family education and free school meals eligibility). The largest treatment effect in absolute terms was only 0.5 percentage points; this was the (negative) estimated treatment effect of the "value not understood" treatment on the disclosure rate for free school meals eligibility. All treatments had non-significant estimated impacts on the disclosure rates of disability, ethnicity and free school meals eligibility.

Application submission

No treatment had a significant impact on application submission at the 10% level. However, all treatments had an estimated negative effect on the probability that a first-time user submitted their application relative to the control. In particular, the "value not understood" treatment had a 1.3 percentage points lower rate of submission.

Distribution of sexual orientation

To investigate whether the treatments changed the distribution of responses to the sexual orientation question itself among first-time users who did not opt out of the disclosure form entirely, we conducted Pearson's chi-squared tests. These tests

compared the numbers for each answer category in the control group to the numbers in each treatment group (after controlling for differences in the overall sizes of each group, rounding to the nearest integer as necessary). Specifically, the χ^2 test statistic was given by:

$$\sum_i \frac{(O_i - E_i)^2}{E_i}$$

where O_i is the (rescaled) number of observations in answer category i for the treatment group, and E_i is the number of observations in that category for the control group.

Table 3. Results of Pearson's chi-squared tests

Treatment	N after rescaling	χ^2 test statistic	p
"Mistrust"	5,282	9.73$^+$	0.083
"Belief it harms their application"	5,283	11.11*	0.049
"Value not understood"	5,284	4.09	0.537

*Notes: * p<0.05, + p<0.1. Critical values associated with a $\chi^2(5)$ test are 9.24 for a 10% significance level and 11.07 for a 5% significance level.*

As shown in Table 3, there is some evidence that the "mistrust" and "belief it harms their application" treatments significantly altered the distribution of responses to the sexual orientation question (at the 10% and 5% levels respectively).

Table 4. Distribution of responses to the sexual orientation question

Treatment	Hetero-sexual	Gay / lesbian	Bi-sexual	Other	Un-known	Prefer not to say	Total (χ^2)
"Mistrust"	0.45	0.02	0.07	5.94	0.69	2.56	9.73$^+$
"Belief it harms their application"	0.18	0.39	0.01	1.48	9.00	0.04	11.11*
"Value not understood"	0.49	0.48	0.30	1.94	0.11	0.77	4.09

*Notes: * p<0.05, + p<0.1. Critical values associated with a $\chi^2(5)$ test are 9.24 for a 10% significance level and 11.07 for a 5% significance level.*

Table 4 reveals that the significance of the result for the "belief it harms their application" treatment was driven by the difference in the proportion of first-time users who declared their sexual orientation as "unknown" compared to the control. These categories only consisted of 0.7% and 1.0% of responses to the sexual orientation question for the control and "belief it harms their application" treatment groups respectively as detailed in Table 5. Similarly, the significance of the result for the "mistrust" treatment is driven by the proportion of first-time users who declare their sexual orientation as "other" being 0.9% (conditional on not opting out of the entire disclosure form), relative to 0.6% for the control group. Given that we were testing numerous hypotheses relating to secondary outcomes, it is possible that both findings are spurious. Indeed, once we adjusted for 27 multiple comparisons across secondary outcomes using the Benjamin-Hochberg procedure, both results became non-significant at even the 10% level; this would have been the case if we only adjusted for the three comparisons within this outcome alone.

The probability that a first-time user who did not opt out of the entire disclosure form declared that they are heterosexual was also between 0.5 percentage points and 0.9 percentage points higher in the control group than any of the treatment groups. This result is examined further in the Exploratory Analysis (Appendix: Further results).

Table 5. Sample descriptives for responses to the sexual orientation question

Arm	N	Hetero-sexual	Gay / lesbian	Bi-sexual	Other	Un-known	Prefer not to say
Control	5,283	81.2%	4.0%	6.4%	0.6%	0.7%	7.1%
"Mistrust"	5,265	80.4%	3.9%	6.3%	0.9%	0.8%	7.7%
"Belief it harms their application"	5,392	80.7%	4.1%	6.3%	0.8%	1.0%	7.1%
"Value not understood"	5,336	80.4%	4.1%	6.6%	0.8%	0.7%	7.4%

It is worth noting that the disclosure rates of LGB+ in this sample are much higher than in the general population and this is driven by the overrepresentation of younger age groups in the sample. Excluding anyone who did not disclose their age or sexual orientation, Table 6 outlines how the LGB+ disclosure rates compare with a recent Ipsos survey[37] by age group. The table also shows the proportion of the Applied sample in each age group compared with the proportion of each age group out of the total UK population aged 16-65[38]. This shows that LGB+ disclosure rates are far higher in younger age groups. LGB+ disclosure was not higher in the Applied sample than the Ipsos survey when comparing age groups. However, younger age groups are greatly overrepresented, the 16-24 group 2.5x more than the population in the Applied sample and the 25-39 group 1.3x more, and 55+ 8x less.

Table 6. Comparison of LGB+ disclosure among those who disclosed their sexual orientation by age group between Applied and Ipsos samples, and proportions of each age group in the Applied sample compared with the UK population aged 16-65

Age group	Applied LGB+ disclosure	Ipsos survey LGB+ disclosure	Proportion of the Applied sample in each age group	Proportion of the UK 16-65 population
16(/18)-24*	17.1%	20.7%	41.8%	16.8%
25-39	11.5%	13.5%	41.9%	31.6%
40-54	7.0%	11.4%	13.5%	31.1%
55-65	4.2%	8.6%	2.8%	20.4%

**Applied data is for 16-24 and Ipsos data for 18-24*

[37] Survey available here
[38] Data taken from ONS

Discussion

Discussion

This is the first example of an RCT exploring the effect of changes to the introductory statements in the equal opportunities form on applicant disclosure of sexual orientation. The results suggest that introductory statements that address the key negative attitudes towards disclosure do not have a significant impact on the disclosure rate of sexual orientation. They do not influence the likelihood of opting out of the entire disclosure form, the disclosure rates of any other characteristics or of applying. The “mistrust” and “belief it harms their application” treatments changed the distribution of responses to the sexual orientation question; however, these findings are likely to be spurious as they did not hold after correcting for multiple comparisons.

There are several possible explanations for these results. Firstly, the original form (control) was likely already effective at encouraging disclosure. Applied’s tone is relatively informal, e.g. “Some questions that are none of our business” and empathetic towards applicants, e.g. “It’s impossible to reduce the rich complexity of backgrounds and identities into a few small boxes”. Its content overlapped with the “value not understood” treatment by referencing the value of disclosing “to monitor fairness and support equal opportunities”. Compared with other equal opportunities forms that we reviewed from a range of private, public and voluntary sector organisations, Applied’s form was shorter and used less legalistic language.

However, Applied’s existing form (the control) did not outperform any of the statements tested either. Therefore, a more likely explanation is that introductory statements do not strongly impact disclosure behaviour. This may be because applicants are used to equal opportunities forms and may not read introductory statements properly or at all. Applicants may also look directly at the questions themselves to understand what the form is asking from them and automatically begin to select the appropriate answers.

Alternatively, the messages we designed may have been less important than other behavioural factors that we did not test. At the bottom of the form applicants are asked to make an active choice to either opt in or out of the form entirely. It is possible that this part of the form (that we did not change) had the biggest impact on applicant behaviour and possibly overshadowed any effects of the treatment messages. Other process-oriented changes have been shown to have a massive impact. For example, when the Home Office required employees to complete an equal opportunities form in order to view payslips, sexual orientation disclosure increased from 29% to 98% (including ‘prefer not to say’).[39]

It is also possible that attempting to alleviate privacy concerns may actually backfire by increasing the salience of privacy problems, and, thus, priming people to be more concerned than they would have been otherwise.[40]

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[39] Civil Service. (2012). Best practice guidance on monitoring equality and diversity in employment.
[40] The Williams Institute (2009). Best practices for asking questions about sexual orientation on surveys.

Finally, in this context the likelihood of disclosure may have been generally higher than usual. During the recruitment process, disclosure is likely to be higher than in other employment settings, such as with existing employees. It is not clear how far that it is because there is a procedurally consistent moment to complete the form in a recruitment process (compared to existing employees) or because applicants may feel that their chances of selection will be harmed if they do not complete every aspect of the application form. That, alongside the broader equality-based ethos of the platform and emphasis on anonymous recruitment, may explain the high disclosure rates overall and suggest that these findings may not apply to other recruitment contexts or beyond recruitment. It is also worth noting that while Applied is used by employers in a variety of sectors, younger applicants are overrepresented on its platform. However, although younger people are more likely to identify as LGB+ than older age groups,[41] it is unclear how disclosure of other characteristics differs across age groups.

Future research could test other aspects of the choice architecture that may impact on behaviour, such as the messenger, the layout of the form, or removing any behavioural barriers to accessing and completing the form. Other contexts that experience lower disclosure rates, such as with existing employees, are worth further investigation.

[41] ONS (2018). Sexual orientation, UK: 2018. Office for National Statistics. Retrieved from: https://www.ons.gov.uk/peoplepopulationandcommunity/culturalidentity/sexuality/bulletins/sexualidentityuk/2018

Conclusion

Conclusion

We sought to understand how to encourage greater disclosure of sexual orientation information by applicants in the recruitment process.

Our research found that introductory statements that address key negative attitudes towards disclosure do not have a significant impact on the disclosure rate of sexual orientation. Further, the results suggest that none of the statements changed the probability of opting out of the entire disclosure form, the disclosure rates of any other characteristics or the probability of submitting the application.

This research is the first to test alternative introductory statements on disclosure in an RCT setting. The results suggest that, in this context, introductory statements do not have a strong impact on disclosure behaviour since none of the statements tested, including the control version, performed significantly better or worse than the others. This may suggest that applicants do not pay attention to these statements, that other aspects of the choice architecture are more impactful, or that the already high disclosure rate could not increase further especially in the recruitment setting.

We recommend that future research explore these findings and other related evidence gaps further to help build the evidence base and best-practice guidelines around encouraging sexual orientation disclosure in the workplace.

Appendix: Further results

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Table A1 shows sample statistics for the primary outcome. Since we did not use other covariates in any of the regression analysis, the sample means for every outcome except “distribution of responses to sexual orientation question” are reflected in the corresponding bar charts and can also be inferred from regression tables.

The disclosure rate for the control group was 80.4%

Table A1. Sample statistics for probability of disclosing sexual orientation

Arm	N	Mean	SD
Control	6,103	0.804	0.397
“Mistrust”	6,092	0.798	0.402
“Belief it harms their application”	6,200	0.805	0.397
“Value not understood”	6,161	0.802	0.398

Table A2. Treatment effects on probability of disclosing sexual orientation

Arm	First time users: probability of disclosing sexual orientation	All users: probability of disclosing sexual orientation
“Mistrust”	-0.00643 (0.00723)	-0.00768 (0.00679)
“Belief it harms their application”	0.000593 (0.00715)	0.00103 (0.00670)
“Value not understood”	-0.00185 (0.00718)	-0.00295 (0.00674)
Constant	0.804** (0.00508)	0.803** (0.00478)

*Notes: Robust standard errors in parentheses; ** p<0.01, * p<0.05, + p<0.1*

Table A2 provides the main results of the analysis. Column 1 presents results from the main OLS regression (i) specified in the Analytical Strategy. Column 2 presents results from the robustness check – estimates of regression (i) using a sample of all applications with a completed disclosure form, rather than a sample of users’ first applications only. In this sample, disclosure rates were between 0.1 percentage points and 0.3 percentage points lower for the control and all treatment groups.

Again, none of the treatments led to a significantly different disclosure rate compared to the control at the 10% level. Furthermore, the disclosure rates for the control and treatment groups also ranked in the same order.

It should be noted that there was no need to correct for multiple comparisons when judging which treatment effects were significant, even at the 10% level. This was because no treatment effect above was significant at the 10% level before correcting for multiple comparisons.

Table A3. Treatment effects on secondary outcomes (except "distribution of responses to sexual orientation question")

	Opt out of entire form	Age range	Disability	Gender	Ethnicity	Family education	Free school meals	Submit application
"Mistrust"	0.00139 (0.00619)	-0.000438 (0.00650)	-0.00441 (0.00687)	-0.00108 (0.00637)	-0.00603 (0.00665)	-0.00443 (0.00703)	-0.00233 (0.00725)	-0.00146 (0.00903)
"Belief it harms their application"	0.0000113 (0.00614)	0.00227 (0.00645)	-0.00278 (0.00682)	0.000341 (0.00632)	-0.00324 (0.00659)	0.000649 (0.00696)	-0.000311 (0.00719)	-0.000363 (0.00898)
"Value not understood"	-0.00102 (0.00615)	0.00247 (0.00646)	-0.00288 (0.00684)	-0.000525 (0.00634)	-0.00284 (0.00660)	-0.00229 (0.00700)	-0.00475 (0.00724)	-0.0132 (0.00900)
Constant	0.134** (0.00437)	0.848** (0.00459)	0.828** (0.00483)	0.856** (0.00449)	0.843** (0.00466)	0.817** (0.00495)	0.801** (0.00511)	0.462** (0.00638)
Observations	24,581	24,581	24,581	24,581	24,581	24,581	24,581	24,581
R^2	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Notes: Robust standard errors in parentheses; ** p<0.01, * p<0.05, + p<0.1

Table A3 shows the treatment effects estimated by regression (i) for all secondary outcomes except "distribution of responses to sexual orientation question". Column 1 presents estimated treatment effects on the probability that applicants opted out of the disclosure form entirely. Columns 2-7 provide estimated treatment effects on the probability that applicants disclosed other characteristics requested in the form (such as age range, disability, gender, ethnicity, family education and free school meals eligibility). Finally, as shown in Column 8, all treatments had an estimated negative effect on the probability that a first-time user submitted their application relative to the control.

As with the primary analysis, there was no need to correct for multiple comparisons when examining which treatment effects were significant at the 10% level or smaller, because no treatment effect above was significant at the 10% level.

Exploratory Analysis - probability of disclosing sexual orientation as heterosexual given applicant opted in to answer disclosure form

As discussed in the “Distribution of responses to sexual orientation question” subsection the probability of a first-time user disclosing their sexual orientation as heterosexual, given that they do not opt out of the disclosure form entirely, is between 0.5 percentage points and 0.9 percentage points higher in the control group than in any of the treatment groups. We are unable to identify the mechanisms behind this finding given the data available. It is possible that the treatments induce some LGB+ users to reveal their sexual orientation truthfully. It may also be the case that the treatments cause some heterosexual users to refuse to disclose their sexual orientation (but still complete the disclosure form without opting out entirely). Nevertheless, none of the treatments have a significant impact at the 10% level on the probability that a first-time user who opts in discloses their sexual orientation as heterosexual. The lowest p-value (associated with the “value not understood” treatment) is 0.259.

Figure A1. Treatment effects on probability of disclosing sexual orientation as heterosexual given opted in