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TEAM

Facilitating return to the labour market with a novel CV format intervention

Research report

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Leonie Nicks, Tim Hardy, Vivek Roy-Chowdhury,
Hannah Burd – The Behavioural Insights Team

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Executive Summary

Executive Summary

Periods of time out of the workforce pose a potential barrier to the labour market for returners: people who have taken time out of employment for caring responsibilities. **We tested how UK employers react to employment gaps in CVs (also known as resumé)s and whether the presentation of the gap affects employer responses.**

We ran a randomised controlled trial, comparing four equivalent CVs and cover letters, with the following differences in the way the employment history was described:

1. **Unexplained gap (control):** Gap of 2.5 years since last job left *unexplained*
2. **Currently employed:** No gap
3. **Explained gap:** Gap of 2.5 years since last job *explained* for childcare
4. **No dates:** Dates of employment history replaced with the number of years' experience

We applied to 9,022 job vacancies over a 6-month period spanning October 2019 to March 2020. We applied to a combination of low and high skill level roles, and male- and female-dominated occupations. We focused the trial on employer responses to female applicants both to ensure sufficient statistical power and because 91% of returners are women.

We found that displaying experience in terms of the number of years rather than dates led to a 4.8 percentage point (14.6%) increase in the positive callback rate where positive callback was defined as an interview invitation, a job offer, or other indication of progress in the recruitment process. Further analysis suggested that the 'no dates' CV variant performed best for high skill and full-time roles.

It made no difference to the callback rate whether the gap was explained for childcare or left unexplained. Qualitative research finds that HR professionals express a preference for an explanation in interviews, but this does not translate to recruitment behaviour. This highlights the importance of empirical evaluation.

The difference in callback rates for CVs with and without gaps was not significant. These results do not replicate findings from previous studies in the unemployment literature and may be due to specific contextual factors of this trial.

Overall these results suggest that we may be able to **redesign the traditional format of CVs to support returners to find employment.**

Introduction

Introduction

Periods of time out of the workforce (CV gaps) pose a potential barrier to those looking to re-enter the labour market, as employers may view applicants with gaps in their CVs less favourably. Numerous experimental studies have found that applicants reporting current periods of long-term unemployment have reduced job application success compared to those without a gap.¹ This may particularly be the case for ‘returners’: those who have taken time out of employment for caring responsibilities for at least one year and want to return to paid work.² For instance, US experimental evidence finds that gaps for childcare are penalised more than gaps for unemployment.³ Since 91% of UK returners are women, such penalties for care-explained gaps could contribute to the gender pay gap and systematically place women at a disadvantage in the labour market.⁴ Generally, research on the effect of CV gaps is relatively thin, particularly in the UK. Returners are currently encouraged by the government to provide details about their gap for care when applying for jobs.⁵

In this research, we sought to establish how employers react to CV gaps in the UK and whether particular ways of presenting those gaps affect their response towards them. We are not aware of any previous research that experimentally evaluates the effect of providing alternative ways of displaying experience, including explanations for CV gaps and displaying experience in terms of the number of years rather than dates, on employment chances.

To examine this, we ran a randomised controlled CV trial. We compared how employers responded to four different CVs and cover letters that were equivalent except for the way gaps in employment were represented. Specifically, we tested the effect of the presence of a CV gap, providing an explanation for the gap, and replacing the dates of work experience with the total number of years’ experience.

We submitted 9,022 job applications to job vacancies for eight job roles across high and low skill, and male- and female-dominated occupations. The vast majority (92.9%) were submitted before March, when the UK enacted social distancing measures related to COVID-19. Since the proportion of applications submitted in March was not balanced across trial arms, we controlled for the date the application was submitted to reduce the impact of lockdown on the analysis.

This research was part of a Government Equalities Office (GEO) funded three-year collaboration between The Behavioural Insights Team (BIT) and GEO: the Gender and Behavioural Insights (GABI) programme. The aim of the GABI programme is to generate evidence for what works to improve gender equality in the workplace.

¹ Baert, S. (2018). Hiring discrimination: An overview of (almost) all correspondence experiments since 2005. In *Audit studies: Behind the scenes with theory, method, and nuance* (pp. 63-77). Springer, Cham

² Kendall, G. (2018). [Analysis of responses to the call for evidence on returning to work after time out for caring](#)

³ Weisshaar, K. (2018). From opt out to blocked out: The challenges for labor market re-entry after family-related employment lapses. *American Sociological Review*, 83(1), 34-60.

⁴ Paull, G. (2018). [Quantitative analysis of those returning to the labour market following a break to care for others](#)

⁵ GEO (2019). [Toolkit for returners: helping you back to work](#)

Existing evidence

Survey evidence finds that returners believe that CV gaps pose a barrier for re-entering the labour market.⁶ This finding is supported by some experimental evidence, but none in the UK. There is also no existing research comparing the effect of explaining CV gaps as due to childcare, or the effect of framing employment history by total years rather than dates.

There is strong evidence that current, but not historical, long-term unemployment negatively impacts job application success. For instance, one Swedish field experiment found that employers respond negatively to current long-term unemployment periods of nine months.⁷ Callback rates for job applications were approximately 20% lower for applicants reporting nine months of current unemployment. However, employers did not discriminate against historical, or short-term periods of current unemployment (less than six months). A similar effect was found for an experimental CV trial in Belgium for male university graduates. Fictitious applicants applying straight after graduation received 23% more positive responses from employers than those reporting a current one-year unemployment gap following university.⁸

It appears, however, that the negative effect of a CV gap does not follow a linear trend with time and differs by context. For instance, one US experiment found that the likelihood of receiving an interview callback significantly decreased with the length of a worker's unemployment spell.⁹ At eight months of unemployment, callbacks were about 45% lower than at one month of unemployment. However, after eight months, the effect of additional months of unemployment was negligible. Contrastingly, in an experimental Swiss trial with only female job applicants, unemployed workers were initially more likely to be successful, but that effect reversed over time. Specifically, individuals currently unemployed for less than six months were 23 percentage points (pp) more likely to be invited to an interview than an employed individual. At 18 months of unemployment, there was no statistically significant difference, but those without work for 2.5 years were 51pp less likely to receive an interview.

There is evidence that gaps due to childcare specifically may be penalised more than gaps due to unemployment. In the only previous audit trial testing CV gaps specifically due to childcare, positive callback rates were twice as high for CVs with an 18-month gap due to unemployment as for CVs that had the same length of gap due to childcare.¹⁰ This US-based study also found that unemployed men and women were equally penalised compared to employed applicants. However, in more competitive cities the childcare penalty was also greater for fathers. Similarly, in one US lab experiment, parenthood was found to negatively affect the perception of women applicants but not men.¹¹ However, the particular penalties of parenting likely differ across socio-cultural contexts. For instance, in a French CV trial, mothers were not more penalised than fathers, but there was evidence for discrimination against young women applying for higher skill

⁶ Kendall, G. (2018). [Analysis of responses to the call for evidence on returning to work after time out for caring](#)

⁷ Eriksson, S., & Rooth, D. O. (2014). Do employers use unemployment as a sorting criterion when hiring? Evidence from a field experiment. *American economic review*, 104(3), 1014-39.

⁸ Baert, S., & Verhaest, D. (2019). Unemployment or overeducation: which is a worse signal to employers? *De Economist*, 167(1), 1-21.

⁹ Kroft, K., Lange, F., & Notowidigdo, M. J. (2013). Duration dependence and labor market conditions: Evidence from a field experiment. *The Quarterly Journal of Economics*, 128(3), 1123-1167.

¹⁰ Weisshaar, K. (2018). From Opt Out to Blocked Out: The Challenges for Labor Market Re-entry after Family-Related Employment Lapses. *American Sociological Review*, 83(1), 34-60.

¹¹ Correll, S. J., Benard, S., & Paik, I. (2007). Getting a job: Is there a motherhood penalty? *American journal of sociology*, 112(5), 1297-1338.

jobs.¹² Here, it was suggested that this may be due to stereotypes around younger women being more likely to take maternity leave. Indeed, in a Belgian CV trial recently pregnant women were discriminated against in job applications.¹³ Elsewhere there is observational data that part-time work histories among women may be used as proxies for motherhood and penalised.¹⁴

There is mixed evidence for how the CV gap penalty differs across the skill level of jobs and the characteristics of applicants - including gender and current working pattern. For instance, in the Swedish study, the unemployment penalty was only present for low skill jobs, and there was preliminary evidence it may have been higher for men.¹⁵ However, in a similar US study, no significant gender or skill level effects were found for the unemployment penalty.¹⁶ It is possible that current working patterns may also mediate these relationships and differ by gender. In another US study, although men and women had similar callback rates when they were currently working full-time, women were more likely than men to receive a callback when they were currently working part-time or unemployed.¹⁷

There is limited evidence for how the characteristics of the job vacancy may affect bias against a CV gap. There is experimental evidence that women have a higher callback rate in female-dominated professions, although it is not clear how this may affect bias against an employment gap.¹⁸ There is no evidence we are aware of that looks at whether employers respond differently to applicants with a CV gap depending on whether the vacancy is advertised as part-time or full-time.

Most studies are limited to exploring a narrow set of job types. For instance, most previous studies on employment gaps are limited to only high skill or only full-time jobs. In this study, we aim to better represent the labour market by considering a range of high and low skill jobs as well as both full-time and part-time jobs. Given that caregiving is a gendered issue, we ensured that we included a range of male- and female-dominated roles.

Finally, while there is some existing evidence exploring the impact of differently formatted CVs compared to the traditional dated chronological CV, there is none that examines swapping out only the dates of employment for the number of years' experience. CVs that categorise content based on skills (also known as 'functional' CVs) have been found to perform poorly when compared to more traditional formats that focus on work experience.¹⁹ Likewise, a Norwegian trial found that more formal CV designs were preferred over more 'creative' designs (e.g. using artwork

¹² Petit, P. (2007). The effects of age and family constraints on gender hiring discrimination: A field experiment in the French financial sector. *Labour Economics*, 14(3), 371-391.

¹³ Capéau, B., Eeman, L., Groenez, S., & Lamberts, M. (2012). Two concepts of discrimination: inequality of opportunity versus unequal treatment of equals. *Ecore Discussion Papers*, 58.

¹⁴ Correll, S. J., Benard, S., & Paik, I. (2007). Getting a job: Is there a motherhood penalty? *American journal of sociology*, 112(5), 1297-1338.

¹⁵ Eriksson, S., & Rooth, D. O. (2014). Do employers use unemployment as a sorting criterion when hiring? Evidence from a field experiment. *American economic review*, 104(3), 1014-39.

¹⁶ Kroft, K., Lange, F., & Notowidigdo, M. J. (2013). Duration dependence and labor market conditions: Evidence from a field experiment. *The Quarterly Journal of Economics*, 128(3), 1123-1167.

¹⁷ Pedulla, D. S. (2016). Penalized or protected? The consequences of non-standard employment histories for male and female workers. *American Sociological Review*, 81(2), 262-89.

¹⁸ Carlsson, M., & Eriksson, S. (2017). The effect of age and gender on labor demand-evidence from a field experiment (No. 2017: 8). Working Paper; Booth, A., & Leigh, A. (2010). Do employers discriminate by gender? A field experiment in female-dominated occupations. *Economics Letters*, 107(2), 236-238.

¹⁹ Risavy, S. D. (2017). The resume research literature: where have we been and where should we go next? *Journal of Educational and Developmental Psychology*, 7(1), 169-187

or colouring).²⁰ A US trial found that multiple stylistic cues (such as bullet points and effective use of space) correlated with hireability.²¹ Deviating too far from the traditional CV format can be received negatively by employers. We wanted to explore an alternative that would not be demanding for applicants to implement and that would still resemble the traditional CV format, but shifts the emphasis away from when a person carried out their experience to how much of it they have.

Hypotheses

We first wanted to test the effect of having a current period out of employment (CV gap) on employer responses. In line with the literature, we hypothesised that the presence of a current 2.5-year CV gap would have a negative effect on employer responses to job applications. Given the lack of evidence, we also wanted to test an unexplained gap against a gap explained as due to care. We hypothesised that leaving the gap unexplained on a CV would receive a higher callback rate than explaining that the gap was due to care responsibilities. The hypothesis was based on the previous finding that gaps for unemployment receive higher callback rates than gaps for care.²²

Furthermore, we were not aware of studies testing whether alternative ways of displaying experience affect employer responses. We hypothesised that displaying experience in terms of the number of years rather than the dates would increase callback rates compared with a gap, as we felt it would reduce the salience of the gap. While retaining the overarching structure of the CVs, we replaced dates with years worked in each position. We decided against a more substantial CV redesign given the evidence that alternative designs can perform poorly.²³

Research aims

This trial tested the hypotheses described above in line with the following research aims:

1. Investigate whether CVs with a current 2.5-year gap receive different callback rates from CVs without a gap.
2. Investigate whether CVs with a gap that is unexplained receive different callback rates from CVs with a gap that is explained for childcare.
3. Investigate whether CVs where dates are replaced with the number of years of experience receive different callback rates from CVs with dates of work experience.

²⁰ Arnulf, J. K., Tegner, L., & Larssen, Ø. (2010). Impression making by résumé layout: Its impact on the probability of being shortlisted. *European Journal of Work and Organizational Psychology*, 19(2), 221-230.

²¹ Burns, G. N., Christiansen, N. D., Morris, M. B., Periard, D. A., & Coaster, J. A. (2014). Effects of applicant personality on resume evaluations. *Journal of Business and Psychology*, 29(4), 573-591.

²² Weisshaar, K. (2018). From opt out to blocked out: The challenges for labor market re-entry after family-related employment lapses. *American Sociological Review*, 83(1), 34-60.

²³ Risavy, S. D. (2017). The resume research literature: where have we been and where should we go next? *Journal of Educational and Developmental Psychology*, 7(1), 169-187.



Trial methodology

Trial methodology

Trial design

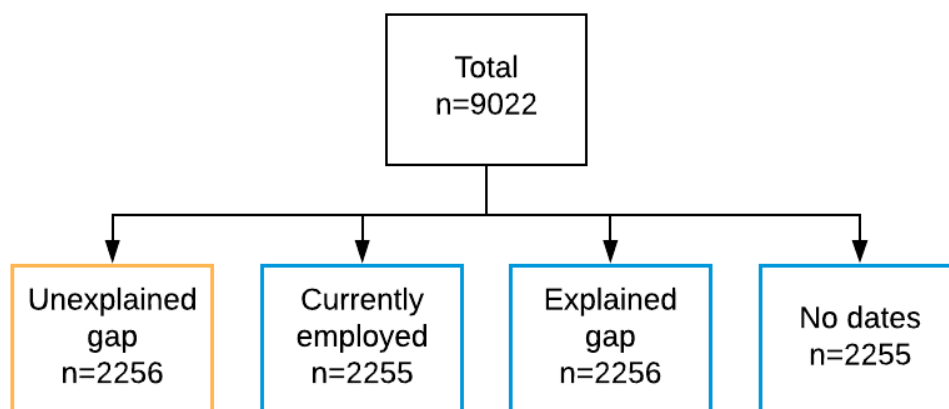
We ran a four-arm randomised controlled trial comparing four CVs and cover letters which were equivalent except for the experimental manipulation. The trial design was approved by GEO's Research Board on 31 July 2019. For our pre-registration see: <https://aspredicted.org/blind2.php>.

We applied to real job vacancies found on a job search platform for eight roles: Warehouse Operative, Call Centre Worker, Support Worker, Admin Assistant, Software Engineer, HR Manager, Finance Manager and Production Manager. We developed one CV and cover letter for each of the eight roles. To ensure consistency, we did not adjust the CVs and cover letters to job vacancies. We randomly assigned each job vacancy to one of the four experimental conditions (Table 1) and sent only one application to each employer in the trial.

In total, we applied to 9,022 job vacancies over a 6-month period spanning October 2019 to March 2020. The vast majority (92.9%) were submitted before March, when the UK enacted social distancing measures related to COVID-19. We controlled for the date the application was submitted to reduce the impact of lockdown on the analysis.

We categorised the outcome of the application using specified criteria (Section 4.4.1). We then used regression analysis to test whether the probability that an application received a positive callback was predicted by the experimental group (CV gap condition).

Figure 1. Trial structure and arms



Experimental conditions

We created the application materials (CVs and cover letters) from existing CVs taken from a publicly available bank of real CVs (12 for each role). We extracted the most common skills and experience from across the 12 real CVs. We revised these to ensure that the typical requirements listed in relevant job vacancies were met. Next, one or more HR professionals within the relevant sector reviewed each CV and we updated them accordingly to ensure that they were both realistic and of above average quality. We then kept the final application materials constant across conditions, except for the key sentences which formed each of the four experimental conditions (Table 1).

Figure 2. Control and experimental conditions

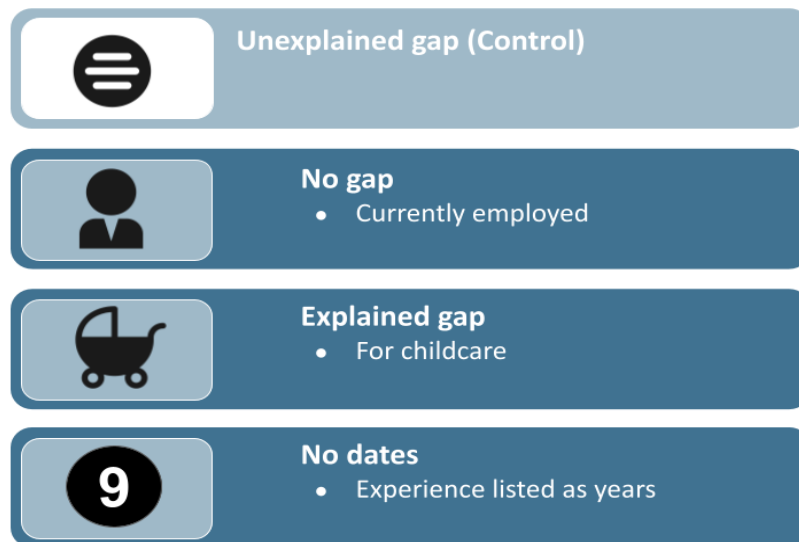


Table 1. Content used in the control and experimental conditions

Experimental condition	CV	Cover letter
Control: Unexplained gap	Current work experience ran from '[Date] to [2.5 years ago according to current month]', for example: "January 2013 to January 2017."	There was no conditional sentence
Condition 1: Currently employed (no gap)	Current work experience ran from '[Date] to Present', for example: "July 2015 to Present."	Conditional sentence read 'I am currently employed at [Organisation]'
Condition 2: Explained gap (for childcare)	Current work experience ran from '[Date] to [2.5 years ago according to current month, e.g. January 2017]', followed by a sentence stating, 'Left to become a full-time mother and look after my children', for example: "January 2013 to January 2017. Left to become a full-time mother and look after my children"	Conditional sentence read 'I was most recently employed at [Organisation] and left in [Date] to become a full-time mother and care for my children, and am now eager to return to work.'
Condition 3: No dates	Instead of dates, the number of years of experience was inserted below the title of each work experience, for example: "4 years"	There was no conditional sentence

Trial procedure

Following an initial pilot (Appendix A1.3), Research Assistants (RAs) conducted separate daily searches for each of the eight roles (Table 2). They used a browser extension designed by BIT to automate assigning the job vacancies to an experimental condition and transfer the information on assignment to a database. This ensured that random assignment was completely random and not at risk of human error. Vacancies were automatically excluded if they had previously been seen by the extension. Vacancies were ordered by time and date posted and selected in order of the latest up until reaching the daily target. Sponsored vacancies always come first in the list, so they were excluded for roles that had an abundance of vacancies to avoid skewing the sample towards the kinds of companies that sponsor adverts online. However, they were included if all other

appropriate vacancies had been applied to in a given day. As we based our fictitious applicant in the city of Nottingham, to limit the possibility that any employers had associations with local institutions linked to our applicant, we did not apply for any roles in Nottingham (see Appendix A1.2 for more details).

The following additional sample selection criteria were applied manually to exclude vacancies in which:

- We previously applied to another role with the same employer at any stage of the project.
- The vacancy had a minimum requirement which was not met by our application.
- The application required significant additional content beyond basic eligibility questions and/or the CV and cover letter, such as references or further detail on the applicant's skills, experience and motivations. This was to ensure consistency.
- The application could not be submitted without entering employment dates. In the pilot this accounted for 1% of all the vacancies across the initial searches (before manual exclusion criteria were applied).
- The vacancy was clearly not relevant to the role that the application materials were targeting.

The RAs then submitted applications to each of the vacancies listed in line with the experimental condition assigned. We gave each of the experimental conditions a unique corresponding email address and phone number. RAs monitored email inboxes and phones daily and politely declined any positive callbacks within one working day to reduce the burden on employers.

Correspondence studies typically send all versions of the CV to the same vacancy. We chose not to do this so that a) the experimental conditions were not competing for the same vacancy, which could overestimate the effect and b) hiring managers only reviewed one rather than up to four applications from the trial, reducing the burden of the trial on employers. We considered employer burden and other ethical concerns in-depth internally and with GEO and show how we mitigated for these in Table A3 (Appendix A1.4)

We kept the personal characteristics of the applicant constant across all applications. This included length of gap (2.5 years), timing of the gap (current), gender (woman), caring responsibilities (children only, no adult care), years of work experience (9), number of previous roles (2), parenthood and name (Sarah Smith). We chose this name as it was one of the most common first names for women of our age category in the UK, the most common surname in Great Britain, and had no strong association with class (Appendix A1.1). We did not test the ethnicity perception of the name 'Sarah Smith', but it is likely to be perceived as White.²⁴ We adjusted the highest qualification achieved and specifics of the work experience to match the typical requirements of each role. The rationale for these characteristics is outlined in the Appendix A1.2 (Table A1).

The roles and their gender type and skill level are reported in Table 2. The gender type of each role was based on ONS employment data for the proportion of men and women working in each

²⁴ Zschirnt, E., & Ruedin, D. (2016). Ethnic discrimination in hiring decisions: a meta-analysis of correspondence tests 1990–2015. *Journal of Ethnic and Migration Studies*, 42(7), 1115-1134.

occupation,²⁵ and the skill level according to Standard Occupational Classification codes.²⁶ The full rationale for each job role is outlined in Appendix A1.2.

Table 2. The job roles by skill level and gender type

		Skill level	
		High	Low
Gender type	Female-dominated	HR Manager	Administrative Assistant Support Worker Call Centre Worker
	Male-dominated	Finance Manager Production Manager Software Engineer	Warehouse Operative

Outcome measures

Primary outcome measure:

The primary outcome measure was whether the application received a positive response (i.e. a positive callback). We classified responses as follows:

- **Positive:**
 - Invitation to interview (including assessment days)
 - Offer
 - Invitation to further non-interview stage (e.g. requests for a call back, or a test or assessment task), this included the following:
 - Request for a call back including with no reason given or demonstration of strong positive interest (e.g. “to discuss the role”, “really keen to speak to you”, or “really like your CV”)
 - Request to get in touch once the applicant has moved (note that the applicant was relocating from Nottingham)
 - Request about availability to start working
 - More than one missed call
 - Any other indication that the applicant has progressed to a next stage

²⁵ ONS (2018). [Employment by occupation](#)

²⁶ ONS (2020). [The current Standard Occupational Classification for the UK.](#)

-
- **Neutral:**
 - No response
 - Request for further information that could be responded to (e.g. salary expectation)
 - Request for further information that could not be responded to (e.g. references)
 - Other outcome (e.g. automated responses including non-selective tests, only one missed call)
 - **Negative:**
 - Rejection

Secondary outcome measures

Our secondary outcome measures examined whether the effect of our conditions differed by working pattern and role type. To do so, we performed four separate analyses:

- Interacting the experimental condition with **working pattern**
- Interacting the experimental condition with **individual role types**
- Interacting the experimental condition with the **role gender type** (female-dominated or male-dominated)
- Interacting the experimental condition effect with the **role skill level** (“high” or “low”)

Data and Sample

Our final sample included 9,022 applications. We sent between 281 and 282 applications for each of the 32 condition-role combinations. Where data collection deviated from the stated procedure, applications were omitted or additional analysis was conducted to account for the deviation (Appendix A1.5).

While applications were monitored for errors (for example, if the CV or cover letter sent to the employer did not match the assigned condition) and removed from the sample as the trial progressed, two applications with errors were not removed during the trial. These were excluded from the final sample.

We used the salary listed for the role as a covariate in one specification. To convert pay into a yearly figure where necessary, we assumed that there were 8 working hours per day, 5 working days per week and 52 working weeks per year. When pay was given as a range (e.g. £30,000 - £35,000 a year), we took the midpoint. This covariate was missing for 48.5% of observations, so we used multiple imputation (Appendix, A1.7). Data was anonymous and stored in a secure location.

Analytical Strategy

We tested whether the experimental condition (presence or framing of CV gaps) predicted the probability of a callback for a job application. To do this, we conducted comparisons across all possible pairs of arms by re-specifying the reference group in the analysis.

The main model for our primary analysis estimates via OLS the specification:

$$Y_i = \alpha + \sum_{j=1}^3 \beta_j T_{ij} + \Gamma X_i + \epsilon_i$$

Y_i is the event that application i received a callback. T_{ij} are dummy variables denoting whether the application was in experimental condition j , and β_j are therefore the effects of interest. X_i is a vector of covariates consisting of categorical variables for location and working pattern. Since the outcome was binary, we used heteroskedasticity-robust standard errors (specifically, White (1980) standard errors).

We also compared each pair of conditions by re-specifying the reference group in the analysis (resulting in six primary comparisons in total). We applied the Benjamini-Hochberg correction for multiple comparisons and performed balance checks (Appendix A1.6, Table 3).

Trial results

Trial results

Primary outcome measures: CV gaps and callback rates

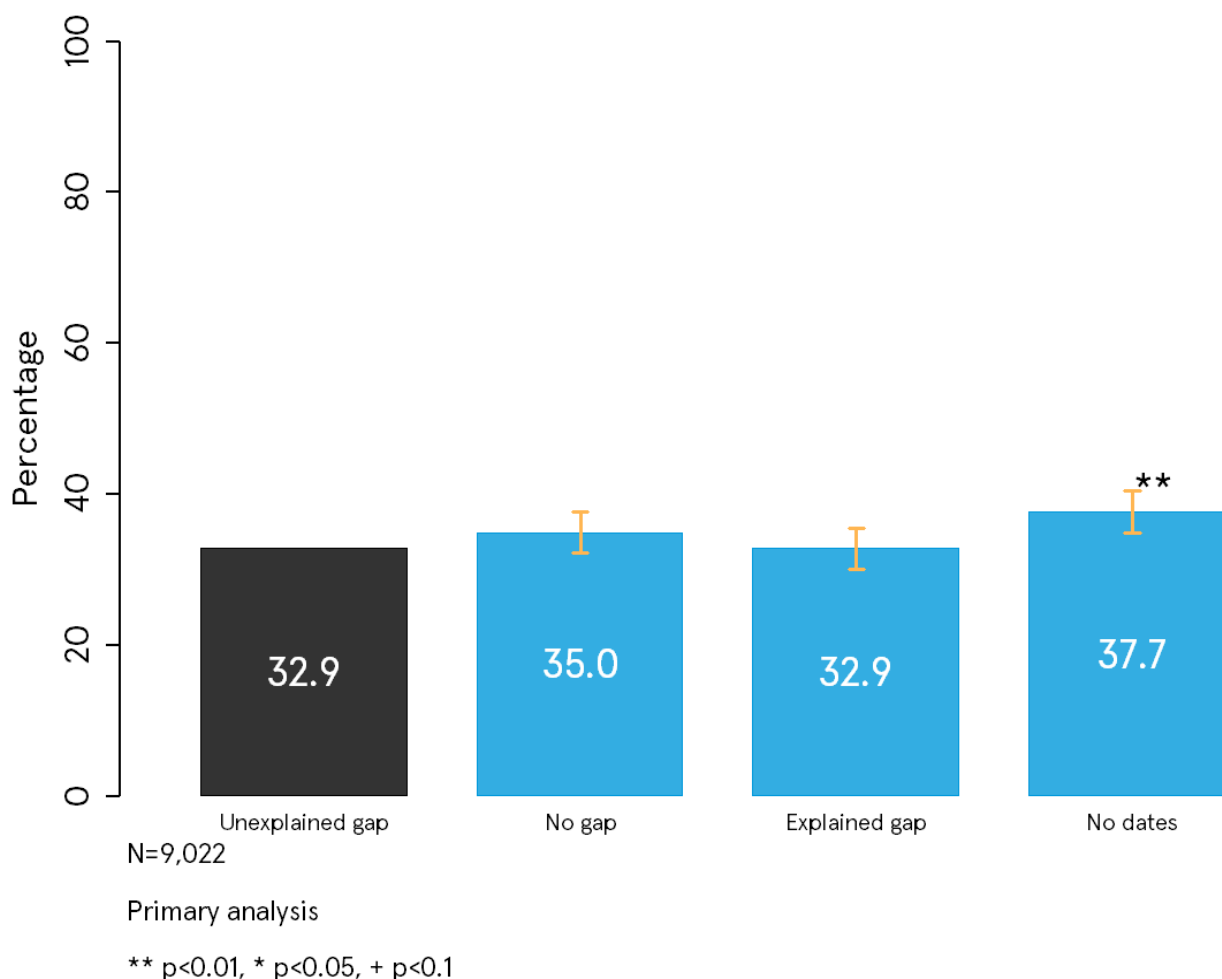
CVs with a current gap did not receive significantly different callback rates from CVs without a gap. The positive callback rate was 32.9% for applications in the unexplained gap condition. After controlling for county and working pattern, the positive callback rate was 2.0pp higher (35.0%) for applications in the no gap condition. However, this difference was not significant at the 10% level (the unadjusted p-value is 0.146).

There was no difference in positive callback rates between the unexplained gap and explained gap conditions. The gap was very small (0.1pp) and was not significant.

CVs where dates were replaced with the number of years of experience received a significantly higher positive callback rate compared to CVs with dates of work experience. The 'no dates' condition saw a 4.8pp (14.6%) increase in the positive callback rate compared to the unexplained gap condition. This increase was significant at the 1% level (the unadjusted p-value was 0.0006) and the adjusted p-value was 0.0002).

The 'no dates' condition also led to a very similar increase in the positive callback rate compared to the explained gap condition, which again was significant at the 1% level. We also observed that applications in the 'no dates' condition had a positive callback rate that was 2.8pp higher than applications in the no gap condition. However, this was not adjusted P-value was significant at the 10% level after adjusting for multiple comparisons (the unadjusted p-value was 0.051 and adjusted p-value was 0.102) (Appendix A2.1).

Figure 3. Estimated effects on positive callback rate overall



Secondary outcome measures: sub-group analysis

We found some evidence that the experimental conditions had differential effects across sub-groups (Table 3). The results from this secondary analysis should be interpreted with caution, since it was substantially underpowered due to the smaller sample sizes within sub-groups and having to correct for 96 comparisons in total.

The explained gap condition had different effects on callback rates for full-time than for part-time roles. The explained gap condition was estimated to have led to an 11.4pp increase in the positive callback rate compared to the control for part-time roles (Table 4). However, this estimated effect was not significant at the 10% level when correcting for a large number of comparisons (the adjusted p-value was not significant and the unadjusted p-value was 0.012) and only around 10% of the roles in the sample were advertised as part-time. For full-time roles, which represented 56% of the sample, the explained gap condition had a lower callback rate than the unexplained gap condition (the adjusted p-value was not significant and unadjusted p-value was 0.075).

The 'no dates' condition had a 5.6pp higher positive callback rate than the "unexplained gap" condition for full-time roles, significant at the 10% level after adjusting for multiple comparisons (p=0.056). The 'no dates' condition also outperformed the control condition (unexplained gap) for

part-time roles and roles that did not state a working pattern, but that effect was not significant after correcting for multiple comparisons. The strong performance of the 'no dates' condition in the full sample was not driven by any one role type: its positive callback rate was higher than the other three conditions for five out of eight roles (Appendix A2.3).

Table 3. Results of secondary analysis - working pattern

	Full-time	Part-time	Full-time and part-time	Not stated
Mean for unexplained-gap condition	0.328	0.307	0.526	0.274
Estimated effect of no-gap condition	-0.002 (0.018) [-0.7%]	0.056 (0.044) [18.2%]	0.031 (0.049) [5.8%]	0.052 (0.026) [19.1%]
Estimated effect of explained-gap condition	-0.032 (0.018) [-9.6%]	0.114 (0.045) [37.1%]	0.029 (0.050) [5.6%]	0.013 (0.026) [4.7%]
Estimated effect of no-dates condition	0.056 ⁺ (0.018) [17.2%]	0.034 (0.042) [11.0%]	-0.013 (0.049) [-2.6%]	0.057 (0.026) [20.9%]
County	YES	YES	YES	YES
Role type	YES	YES	YES	YES
Observations	5,061	923	733	2,305

Notes: Robust standard errors in round brackets; percentage increases on baseline in square brackets; ** p<0.01, * p<0.05, + p<0.1 (adjusted p-values)

Figure 4. Estimated effects on positive callback rate for full-time roles

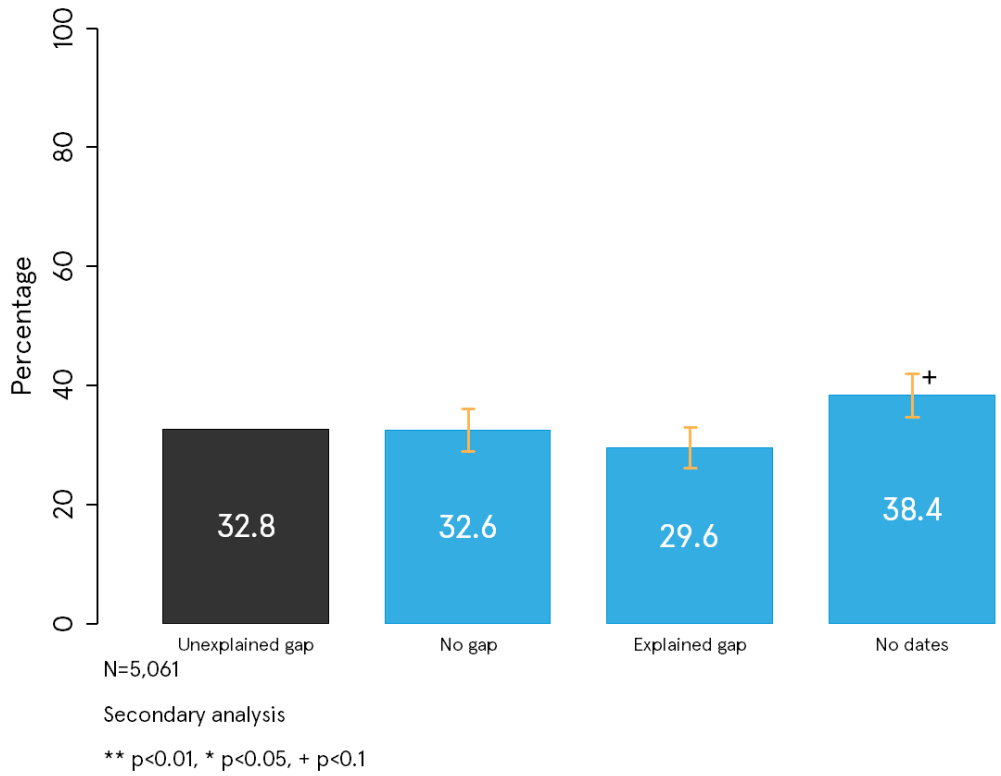
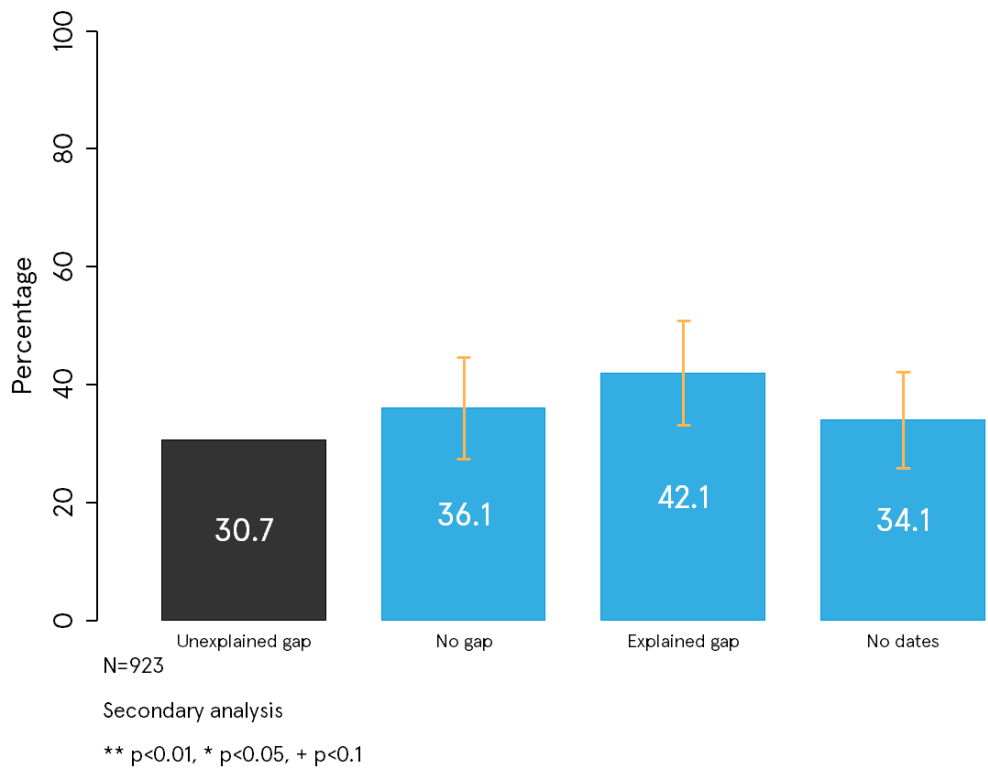


Figure 5. Estimated effects on positive callback rate for part-time



The heterogeneity in estimated experimental condition effects was greater for skill level groups than for the gender type of the role (i.e. female- or male-dominated) (Table 4). While there was an overall higher callback rate for applicants applying to female-dominated roles rather than male-dominated roles, the ‘no dates’ condition outperformed both unexplained and explained gap conditions for roles of both gender types (the adjusted p-values were not significant and unadjusted p-values were <0.01 for female-dominated and <0.05 for male-dominated).

For high skill roles, the estimated effect of the ‘no dates’ condition on the positive callback rate was 6.4pp compared to the control (“unexplained gap”) condition. This was significant at the 10% level after accounting for 96 comparisons (Figure 6). The ‘no dates’ condition outperformed the other conditions in the low skill roles, but this was not significant after correcting for multiple comparisons (the unadjusted p-value was <0.05 compared to the explained gap condition and <0.1 compared to the explained gap condition).

Additional results from the primary and exploratory analysis are reported in Appendix A2, including accounting for different combinations of covariates and outcome measures.

Table 4. Results of secondary analysis - gender type and skill level of role

	Gender type		Skill level	
	Female-dominated	Male-dominated	High	Low
Mean for unexplained-gap condition	0.356	0.302	0.294	0.364
Estimated effect of no-gap condition	0.022 (0.020) [6.2%]	0.019 (0.020) [6.3%]	0.027 (0.019) [9.1%]	0.019 (0.020) [5.3%]
Estimated effect of explained-gap condition	-0.001 (0.020) [-0.2%]	0.002 (0.019) [0.8%]	0.017 (0.019) [5.9%]	-0.013 (0.020) [-3.7%]
Estimated effect of no-dates condition	0.054 (0.020) [15.1%]	0.043 (0.020) [14.1%]	0.064 ⁺ (0.020) [21.6%]	0.035 (0.020) [9.7%]
County	YES	YES	YES	YES
Working pattern	YES	YES	YES	YES
Observations	4,511	4,511	4,511	4,511

Notes: Robust standard errors in round brackets; percentage increases on baseline in square brackets; ** p<0.01, * p<0.05, + p<0.1 (adjusted p-values)

Figure 6. Estimated effects on positive callback rate for high skill roles

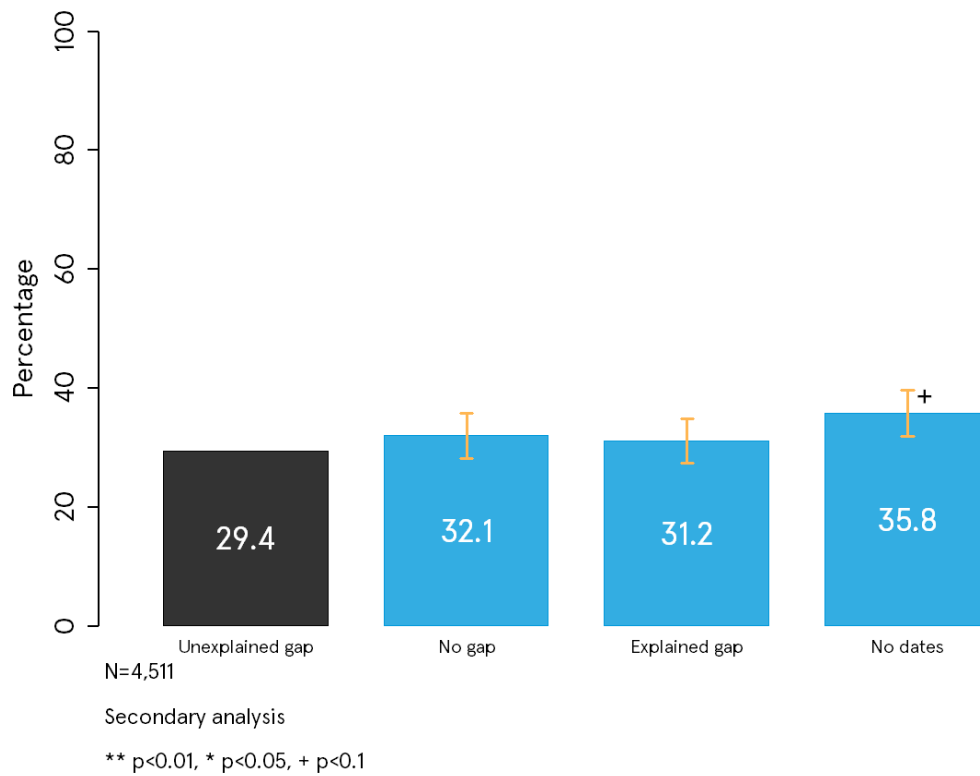
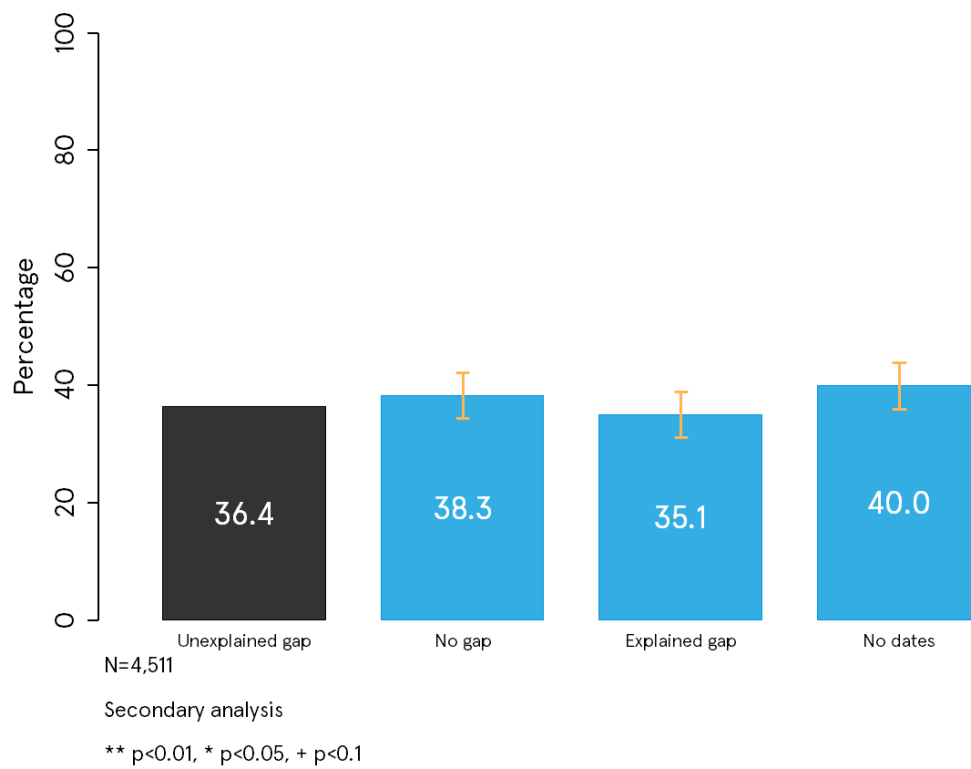


Figure 7. Estimated effects on positive callback rate for low skill roles



Discussion and conclusions

Discussion

This study explored whether the presentation of gaps in the CVs of job applicants affect the likelihood of success of applicants. To our knowledge, this project is the first to experimentally test whether a job applicant's chance of success is influenced by how they report dates of work experience on their CV.

Our key finding is that displaying experience on a CV in terms of the numbers of years spent in each previous role, rather than displaying the respective employment dates, significantly increased the positive callback rate for job applications. Surprisingly, we did not find a negative effect for a current period out of employment (a CV gap) on application success. We also found that providing an explanation for the CV gap, specifically to fulfil childcare responsibilities, did not make a difference to callback rates. However, we did find some differences in these effects between part-time and full-time roles, and between low and high skill jobs.

There are multiple possible explanations for the higher positive callback rates from presenting experience in years rather than dates. Using years of experience instead of dates may focus the recruiter's attention on the applicant's total experience rather than recency, eliminate the need for the employer to calculate the years of experience or capture attention due to the novelty of the format. Employers typically spend less than 10 seconds looking at each CV,²⁷ which means they are likely to make decisions using heuristics and biases. Reporting years rather than dates may help employers focus on how much experience applicants have and reduce the likelihood that they consider other less relevant aspects of the applicant. For instance, employers may make assumptions about the age of the applicants or when they were last in education, which could activate negative stereotypes.²⁸ As recruiters build a mental model of the applicant, it positions the applicant in terms of their experience. However, it is worth noting that the applications in this trial had nine years of work experience, which may still have indicated a certain age and career stage. Future research should explore whether eliminating employment dates from CVs has the same effect for a significantly higher or lower number of years of experience.

Around half of the working age population in the UK have numeracy skills at the expected level of attainment for age 9-11.²⁹ Even with higher numeracy skills, for many recruiters quickly reading a lot of CVs, the effort required to calculate length of experience represents enough of a barrier to reduce the likelihood of doing so. Presenting experience in years ensures the length of the experience is more likely to be understood by employers. Likewise, it is possible that the lack of dates prompted a greater response from employers in order to find out more information about the applicant. If this were the case, prompting further interest from employers and creating an opportunity for the applicant to interact with the employer more fully would likely have the positive effect of minimising the role of automatic heuristics and biases in assessing the applicant. Future research should explore later-stage application outcomes to determine whether this effect would translate into job offers.

It is also possible that eliminating employment dates made the gap itself less obvious. However, this does not appear to be the sole driving factor of the beneficial effect of stating experience in

²⁷ Ladders (2018). [Eye-Tracking Study](#)

²⁸ Baert, S. (2018). Hiring discrimination: an overview of (almost) all correspondence experiments since 2005. In *Audit studies: Behind the scenes with theory, method, and nuance* (pp. 63-77). Springer, Cham.

²⁹ National Numeracy (2017). [The Essentials of Numeracy: a new approach to making the UK numerate](#)

years, since there was no significant difference in the positive callback rate between the CVs with gaps (both unexplained and explained) and the CV without a gap, which we explore further below. Instead, the majority of the benefit of the 'no dates' framing appears to be incremental and shaped by numerous other factors such as the ones mentioned above. Our secondary analysis also suggests that this 'no dates' effect was strongest for high skill and full-time roles. Nonetheless, we suggest that these findings are relevant to other contexts where date-based information on CVs may be the source of discrimination, such as in addressing age bias or for those seeking employment after prison, and should be explored further in future research.

Our second main finding is that we did not find the hypothesized negative effect for having a CV gap on application success. However, the failure to find a significant effect does not demonstrate that there is no bias against CV gaps in the labour market. Interpretative caution is particularly needed given that this finding does not align with other studies in this area that have found negative effects for applicants with a current long-term gap in employment.³⁰ The lack of effect is particularly surprising since the employment gap in our study (2.5 years) is longer than the gaps in many previous studies.³¹ Although the length of work experience (nine years) of the trial applicant is longer than some previous studies that have found CV gap effects (that generally featured applicants with 1-5 years of work experience),³² it was comparable to others which have found similar effects with longer work experience histories (e.g. 9.5 years).³³

Nonetheless, those previous studies differed to this study in the job roles and skill levels included in the sample, which highlights the possible importance of such contextual factors. In addition, the applicant we presented in this study had a specific set of characteristics. For example, although we did not find a difference between male- or female-dominated job roles, the gender of our applicant may have been important. Previous studies have suggested that a CV gap might be more expected for women than men, and therefore penalised less.³⁴ For example, one study found that whilst men are penalised for periods of part-time work, women are not.³⁵ However, other studies only found a differential effect of CV gaps by gender in competitive labour markets.³⁶ In the current study, applications were sent to jobs in a different location from where the applicant's experience is based (Nottingham). Despite indicating on the CV that the applicant is relocating in two weeks, this may have reduced the positive callback rate for the 'currently employed' condition if it also implied a potential risk that the applicant might take longer to start or may not move to the new location since they are currently employed elsewhere. Had the 'currently employed' condition instead left their job very recently; we may have seen a significant difference

³⁰ Eriksson, S., & Rooth, D. O. (2014). Do employers use unemployment as a sorting criterion when hiring? Evidence from a field experiment. *American economic review*, 104(3), 1014-39.

³¹ Baert, S. (2018). Hiring discrimination: An overview of (almost) all correspondence experiments since 2005. In *Audit studies: Behind the scenes with theory, method, and nuance* (pp. 63-77). Springer, Cham

³² Eriksson, S., & Rooth, D. O. (2014). Do employers use unemployment as a sorting criterion when hiring? Evidence from a field experiment. *American economic review*, 104(3), 1014-39; Baert, S., & Verhaest, D. (2019). Unemployment or overeducation: which is a worse signal to employers? *De Economist*, 167(1), 1-21.

³³ Weisshaar, K. (2018). From Opt Out to Blocked Out: The Challenges for Labor Market Re-entry after Family-Related Employment Lapses. *American Sociological Review*, 83(1), 34-60.

³⁴ Eriksson, S., & Rooth, D. O. (2014). Do employers use unemployment as a sorting criterion when hiring? Evidence from a field experiment. *American economic review*, 104(3), 1014-39.

³⁵ Pedulla, D. S. (2016). Penalized or protected? Gender and the consequences of nonstandard and mismatched employment histories. *American sociological review*, 81(2), 262-289.

³⁶ Weisshaar, K. (2018). From Opt Out to Blocked Out: The Challenges for Labor Market Re-entry after Family-Related Employment Lapses. *American Sociological Review*, 83(1), 34-60; Kroft, K., Lange, F., & Notowidigdo, M. J. (2013). Duration dependence and labor market conditions: Evidence from a field experiment. *The Quarterly Journal of Economics*, 128(3), 1123-1167.

between the CVs with and without a gap emerge. The effect of gender and other contextual factors are worth exploring further.

Our third main finding is that explaining that the CV gap was due to childcare did not make a difference to the positive callback rate compared with leaving it unexplained. Importantly, this deviates from government guidance, which encourages returners to provide details about their gap for care.³⁷ We found evidence that the explanation may have been effective in part-time roles. This is important as it implies that returners may be steered towards part-time roles, which represent a fraction of the labour market compared with full-time roles (10% of the roles in our sample were advertised as part-time compared to 56% advertised as full-time). Labour Force Survey data from 2007-17 suggest that 78% of returners move into part-time roles when they re-join the workforce, but that 22% of returners would like to have more hours.³⁸ Conversely, it suggests that providing this explanation creates an advantage if returners are seeking a part-time role. This may be because returners fit the stereotype of someone who would work in a part-time role, given that returners are predominantly mothers, and given the existence of stereotypes associating part-time roles with mothers.³⁹ Employers may, therefore, assume that returners are more likely to accept and stay in the role for a longer time than other applicants. Indeed, BIT qualitative analysis finds that employers stereotype part-time workers as more often mothers and in some cases felt that they would accept lower pay in order to work part-time.⁴⁰ Thus, it is possible that providing an explanation for care could negatively impact salary negotiation later on in the application process. We cannot be certain of this finding because we tested many combinations of job type and experimental condition, which raises the chance of a false discovery. The differential effects of gap explanations for part-time and full-time roles merits further research.

There were some differences in responses for high skill and low skill jobs. While the 'no dates' CV was the best performing version for both, it achieved a much greater increase in the callback rate relative to control for high skill roles. CVs that explained their gap for childcare performed worse than control for low skill jobs, but better than control for high skill jobs. This finding is important since returners are more likely to have lower levels of qualifications.⁴¹ Given that previous studies on unemployment gaps have tended to only look at either low or high skill jobs,⁴² more research is needed to interrogate these possible differences further and account for them. In addition, we did not examine differences by contract type, but when employers advertise temporary or zero-hour contract roles, it is likely that they will respond differently to applicants than when advertising for permanent roles. We suggest that possible drivers worth further exploration include: variations in shift working patterns, the precariousness of roles, and the emphasis on diversity and inclusion in recruitment.

The UK government enacted social distancing measures related to COVID-19 in March 2020 causing major disruption to the labour market. In this study, the vast majority (92.9%) of applications were submitted before March and we controlled for the date applications were submitted. This means the results are not influenced by the lockdown period. It is unclear to what

³⁷ GEO (2019). [Toolkit for returners: helping you back to work](#)

³⁸ Paull, G. (2018). [Quantitative analysis of those returning to the labour market following a break to care for others.](#)

³⁹ Vinkenburg, C. J., Van Engen, M. L., Coffeng, J., & Dijkers, J. S. (2012). Bias in employment decisions about mothers and fathers: The (dis) advantages of sharing care responsibilities. *Journal of Social Issues*, 68(4), 725-741

⁴⁰ Nicks, L., Burd, H., & Barnes, J. (2019). [Returners qualitative analysis: Organisations' experiences with returners.](#)

⁴¹ Paull, G. (2018). [Quantitative analysis of those returning to the labour market following a break to care for others.](#)

⁴² Weisshaar, K. (2018). From Opt Out to Blocked Out: The Challenges for Labor Market Re-entry after Family-Related Employment Lapses. *American Sociological Review*, 83(1), 34-60.

extent these findings may be consistent in the current COVID-19 labour market, but they may become important if there are major increases in unemployment as a result.

We were not able to test for differences by race or ethnicity in this study as we used the same applicant name for all applications. Given some evidence from other countries, we suggest that the name chosen for this study, 'Sarah Smith', is likely to be perceived by employers as White. This is despite the prevalence of the name among people from ethnic minorities in the UK.⁴³ For instance, in an Australian trial, 'Sarah' was associated with 'Anglo-Saxon' ethnicity⁴⁴ and in the US 2000 census, 73% of those surveyed with the name 'Smith' identified as 'White'.⁴⁵ Hence, we suggest that our results may not be generalisable to applicants from ethnic minorities, who are often subject to labour market discrimination.⁴⁶ Future research should test whether the presentation of CV gaps has differential effects for different racial and ethnic groups.

⁴³ Wood, M., Hales, J., Purdon, S., Sejersen, T., & Hayllar, O. (2009). A test for racial discrimination in recruitment practice in British cities. *Department for Work and Pensions Research Report*, 607.

⁴⁴ Booth, A., Leigh, A., & Varganova, E. (2009). Does Racial and Ethnic Discrimination Vary Across Minority Groups?: Evidence from Three Experiments. Sidney, Australia: Institute for Cultural Diversity.

⁴⁵ <https://namecensus.com/data/white.html>

⁴⁶ Heath, A. F., & Di Stasio, V. (2019). Racial discrimination in Britain, 1969–2017: a meta-analysis of field experiments on racial discrimination in the British labour market. *The British Journal of Sociology*, 70(5), 1774-1798.

Conclusion

In this trial we tested how UK employers react to employment gaps in CVs and whether the presentation of the gap affects employer responses. We did not find a difference in callback rates for CVs with and without a gap, but this may be due to specific contextual factors of this trial. It made no difference whether the gap was explained for childcare or left unexplained, in contrast to the preferences HR professionals have expressed in qualitative research. Finally, displaying experience in terms of the number of years rather than dates led to an increase in the positive callback rate. As a result of this trial, the government is reviewing guidance that encourages returners to explain their gap and to suggest that returners consider using the 'no dates' CV format.

Overall these results suggest that we may be able to redesign the traditional format of CVs to help more people to find employment. We recommend that job platforms consider revising their website design to ensure that applicants are not required to list their work experience dates when applying, as is the case on sites like LinkedIn. Likewise, we suggest that platforms that provide CV templates do so with an '[insert number] years' experience format option.

We highly recommend that platforms implementing these changes monitor and evaluate whether these results hold across a broader range of applicants, particularly those with a much higher or lower number of years' experience. Subsequent research should also focus on later stages of the hiring process to understand if these results convert into hiring outcomes or affect pay outcomes. Where possible, future research should take an intersectional approach and consider the interacting effects between job roles, working patterns and applicant characteristics, such as ethnicity, gender, education levels, CV gap length, past experience or quality of application.

Appendices

Appendix 1: Further information on trial design

A1.1 Applicant characteristics

Table A1. Applicant and application characteristics

Component	Choice	Rationale
Length of gap	2.5 years	Most returners take 1-5 years out and are evenly spread across these ⁴⁷ , so 2.5 years represented the middle ground
Timing of the gap	Current	Re-entering the workforce from a break is likely to be when returners face the greatest barrier, and CV trial research on unemployment finds historic spells of unemployment ⁴⁸ do not suffer from discrimination where current ones do. The currently employed condition did not have a gap.
Gender	All women	The trial was not powered to observe gender differences, and we would have to send double the number of applications to explore this. 91% of potential returners are women. ⁴⁹ A similar trial in the US did not find overall gender differences in callback rates ⁵⁰
Caring responsibilities	Only children	Returners mostly take a break for childcare responsibilities (95%). ⁵¹

⁴⁷ Paull, G. (2018). [Quantitative analysis of those returning to the labour market following a break to care for others.](#)

⁴⁸ Eriksson, S., & Rooth, D. O. (2014). Do employers use unemployment as a sorting criterion when hiring? Evidence from a field experiment. *American economic review*, 104(3), 1014-39.

⁴⁹ Paull, G. (2018). [Quantitative analysis of those returning to the labour market following a break to care for others.](#)

⁵⁰ Weisshaar, K. (2018). From Opt Out to Blocked Out: The Challenges for Labor Market Re-entry after Family-Related Employment Lapses. *American Sociological Review*, 83(1), 34–60.

⁵¹ Paull, G. (2018). [Quantitative analysis of those returning to the labour market following a break to care for others.](#)

		Reduces additional variation due to different types of caring
Years of work experience	9 years	<p>There is no evidence for an average length of time in work before taking time out for care.</p> <p>The average age of women for their first child is 28.8⁵² and 50% of the population start full-time work by 19,⁵³ therefore, implying around 9-10 years of work experience before the first child.</p> <p>Age of starting work and age for first child likely move together if degree educated.</p>
Highest qualification	To match typical requirements of the role	<p>Application materials for each role aimed to be above average in quality to ensure a callback rate that resulted in a reasonable range across conditions, i.e. not all rejected or accepted, particularly given the applications were not adjusted to suit each vacancy.</p> <p>For example, if a role typically asked for a degree the applicant had a degree, but if it typically asked for GCSEs, the applicant did not have higher qualifications than that.</p>
Number of previous roles	2 roles	Kept constant across conditions.
Parenthood	All applicants signalled as parents	Ensured the results were not explained by parenthood signalling in the 'explained gap' condition.
Name	Sarah Smith	Selected from the most common baby names for girls in the UK from 1984 ⁵⁴ (only available in decade intervals before 1994), but also ~50% on

⁵² ONS (2017). [Births by parents' characteristics in England and Wales: 2016.](#)

⁵³ ONS (2019). [Milestones: journeying into adulthood](#)

⁵⁴ ONS (2014). [Top 100 baby names in England and Wales: historical data](#)

		<p>the 'Upper class - Common' scale by a user survey site for impressions of names.⁵⁵</p> <p>Surname selected was the most common surname in GB.⁵⁶</p> <p>Cross-referenced with LinkedIn profiles to ensure a high number with the same name in the UK (~5000).</p>
Work experience	Realistic and above average quality for the role	<p>12 real CVs downloaded from an online bank of real CVs and cross-referenced to generate typical work experience details.</p> <p>Job descriptions consulted to ensure meeting minimum requirements.</p> <p>Organisations based in Nottingham selected to be medium/large, operational during the relevant period and relevant to the role.</p>
Skills	At least minimum, if not desirable, to ensure above average quality for the role	<p>12 real CVs downloaded from an online bank of real CVs and cross-referenced to generate typical and desirable skills.</p> <p>Job descriptions consulted to ensure the materials will generally meet minimum requirements.</p>
Education	Typical highest qualification required (e.g. GCSE, A Level or degree)	<p>12 real CVs downloaded from an online bank of real CVs and cross-referenced to establish minimum educational qualification requirements.</p> <p>Job descriptions consulted to ensure the materials will generally meet minimum requirements</p> <p>Institutions selected based in.</p>

⁵⁵ [From Behind The Name](#)

⁵⁶ Hanks, P., Coates, R., & McClure, P. (Eds.). (2016). *The Oxford dictionary of family names in Britain and Ireland*. Oxford University Press.

		Nottingham and operational during the relevant period.
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A1.2 Role categories

Table A2. Role requirements and rationale

Component	Requirement	Rationale
Location	United Kingdom (except Nottingham)	<p>Spans the labour market across the UK.</p> <p>Ensures there are enough vacancies available to apply to each day.</p> <p>Faster to search 'United Kingdom' and randomly select within that than to collate searches across specific locations.</p> <p>Excluding Nottingham ensured that CV and cover letter materials could use institutions based there.</p> <p>Nottingham was chosen as it is large enough to find organisations and institutions across all role types without excluding too large a portion of the labour market.</p>
Roles	<p>Low skill:</p> <p>Administrative assistant</p> <p>Support worker</p> <p>Warehouse operative</p> <p>Call centre worker</p> <p>High skill:</p> <p>Software engineer</p> <p>HR manager</p> <p>Production manager</p> <p>Finance manager</p>	<p>Narrow enough to write a generic CV, but broad enough to generate a reasonable flow of jobs.</p> <p>Spans a range of male- and female-dominated jobs according to ONS employment data.⁵⁷</p>

⁵⁷ ONS (2018). [Employment by occupation](#)

		<p>Mix of high and low skill, according to ONS SOC codes,⁵⁸ improving upon previous research that only included roles requiring a degree.⁵⁹</p> <p>Maps roughly to the industries that returners tend to work in (both before and after their gap): administrative, caring, sales, elementary and management⁶⁰</p>
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A1.3 Pilot

The main trial was preceded by a short pilot, in which we sent 408 applications. The aims and corresponding findings of the pilot were as follows:

1. Ensure the procedure works and adjust as necessary:
 - For some roles, many jobs had common minimum requirements which were not met by our applications. Where feasible, we made minor changes to the CVs prior to the trial to accommodate these requirements.
 - Around 5% of roles required specific dates for employment. We elected to omit these roles from the trial altogether to ensure consistency with applications in the ‘no dates’ arm.
 - We changed two roles (Sales Manager to Software Engineer and Driver to Call Centre Worker) and added more roles to ensure we had enough jobs to apply to.
2. Indication as to the quality of the application materials:
 - Callback rates were not lower than 10% for any of the arms or role variants.
3. Indicative (likely underpowered) findings for whether there is a different response to each trial arm:
 - We did not find statistically significant differences between any of the trial arms during the pilot.

A1.4 Ethical Considerations

The trial posed numerous ethical concerns which we considered in-depth internally and with GEO. We show how we mitigated for these in Table A3 below.

⁵⁸ ONS (2020). [The current Standard Occupational Classification for the UK](#)

⁵⁹ Weisshaar, K. (2018). From opt out to blocked out: The challenges for labor market re-entry after family-related employment lapses. *American Sociological Review*, 83(1), 34-60.

⁶⁰ Paull, G. (2018). [Quantitative analysis of those returning to the labour market following a break to care for others.](#)

Table A3. Summary of ethical concern and mitigation strategies

Concern	Mitigation
Burden on employers	<p>Each organisation only received one application RAs responsible for sending applications ensured that positive responses were politely declined within one working day using a pre-written script (below), as had been practised in a similar government-funded CV trial.⁶¹</p> <p>All organisations involved will remain anonymous in any published findings to protect their identity</p>
Deception of employers	Impossible to mitigate, but necessary for the trial to answer the research questions.
Impact on other applicants - competition	RAs responsible for sending applications ensured that positive responses were politely declined within one working day using a pre-written script, as has been practised in a similar government-funded CV trial. ⁶²

Polite decline email script:

“Dear [Name],

Thank you very much for considering me for the position of [Job Title]. However, due to a change in personal circumstances I would like to withdraw my application.

I sincerely appreciate your taking the time to review my application.

Again, thank you for your interest.

Best regards,

Sarah Smith”

Text version

“Hello,

Thank you for considering me for this role. However, I would like to withdraw my application.

⁶¹ Wood, M., Hales, J., Purdon, S., Sejersen, T., & Hayllar, O. (2009). A test for racial discrimination in recruitment practice in British cities. *Department for Work and Pensions Research Report*, 607.

⁶² Wood, M., Hales, J., Purdon, S., Sejersen, T., & Hayllar, O. (2009). A test for racial discrimination in recruitment practice in British cities. *Department for Work and Pensions Research Report*, 607.

Best regards,

Sarah Smith”

A1.5 Implementation challenges

For 249 applications in the control and explained-gap conditions, the end date of previous experience was not edited to move forward a month as the trial progressed into a new month. This meant recruiters saw a gap of 2.5 years + one month instead of 2.5 years. Accordingly, we performed an additional robustness check that controls for applications having the wrong length of gap.

The variable for role location (collected automatically by a Chrome extension) contained 2,671 categories of varying specificity for 9,022 applications. To reduce the number of categories for analysis, we matched stated locations to counties (containing 91 categories) and used this as a covariate for the main analysis. We also used a variable for region (containing 13 categories) instead as an additional robustness check.

To define the county variable, we used counties for England and Northern Ireland, council areas for Scotland and principal areas for Wales. To define the region variable, we used the nine regions of England and took each of Scotland, Wales and Northern Ireland as their own region. We also defined an “other” category for each variable which contained applications whose county / region was not clear.

These implementation challenges do not seriously undermine the trial.

Figure A1: Examples of the CVs used in the trial across each condition.⁶³

Unexplained gap

Sarah Smith

Contact details: [REDACTED]

Passionate HR professional with a proven track record leading teams to deliver significant transformation. Strong interpersonal, communication and strategic skills. Thrives on new challenges and driven to continuously learn and develop. Adaptable to a range of sectors.

Work Experience

[REDACTED] – Senior HR Business Partner
September 2013 to September 2017.
Nottingham (Relocating within 2 weeks)

- Led an HRBP team and collaborated with functional experts (Talent Acquisition, Reward) to implement HR strategy & operations for the Consumer Services Group
- Coached and influenced executive management to agree workforce strategies
- Increased business productivity through improved HR capability, e.g. successfully implemented a new recruitment process that reduced time-to-fill by 50%
- Reduced absence rates (7% to 4%) through a robust absence management policy
- Project managed major organisational change to support a high-performing culture

[REDACTED] – HR Advisor
September 2008 to August 2013.
Nottingham

- Responsible for HR operations across a range of functions, including performance management, employee engagement, leadership development and culture
- Designed and implemented a new management and leadership training programme – this reduced staff turnover among both managers and their reports
- Complex case management in redundancy, grievance and disciplinary

Skills

- Organisational and cultural change, including restructuring and redundancy
- Operational HR delivery, business and performance improvement
- Coaching leaders to support a high performing and inclusive culture
- Experience using Microsoft Office, Workday, SAP, Oracle

Education and Qualifications

- CIPD Chartered Member (MCIPD)
- CIPD Level 7 Advanced Diploma in HR Management at [REDACTED]
- BA (Hons) in Business Management and Human Resources (2:1) at [REDACTED] University
- Three A Levels A-B including English and Maths at [REDACTED] School
- 8 GCSEs A-C including Maths and English Language at [REDACTED] School

Voluntary

Parent-Teacher Association at [REDACTED] Primary School
September 2018 to Present

- Volunteer for the PTA at my daughter's primary school including organising fundraising events

Currently employed (no gap)

Sarah Smith

Contact details: [REDACTED]

Passionate HR professional with a proven track record leading teams to deliver significant transformation. Strong interpersonal, communication and strategic skills. Thrives on new challenges and driven to continuously learn and develop. Adaptable to a range of sectors.

Work Experience

[REDACTED] – Senior HR Business Partner
April 2016 to Present.
Nottingham (Relocating within 2 weeks)

- Leading an HRBP team and collaborating with functional experts (Talent Acquisition, Reward) to implement HR strategy & operations for the Consumer Services Group
- Coaching and influencing executive management to agree workforce strategies
- Increasing business productivity through improved HR capability, e.g. successfully implemented a new recruitment process that reduced time-to-fill by 50%
- Reducing absence rates (7% to 4%) through a robust absence management policy
- Project managing major organisational change to support a high-performing culture

[REDACTED] – HR Advisor
March 2011 to March 2016.
Nottingham

- Responsible for HR operations across a range of functions, including performance management, employee engagement, leadership development and culture
- Designed and implemented a new management and leadership training programme – this reduced staff turnover among both managers and their reports
- Complex case management in redundancy, grievance and disciplinary

Skills

- Organisational and cultural change, including restructuring and redundancy
- Operational HR delivery, business and performance improvement
- Coaching leaders to support a high performing and inclusive culture
- Experience using Microsoft Office, Workday, SAP, Oracle

Education and Qualifications

- CIPD Chartered Member (MCIPD)
- CIPD Level 7 Advanced Diploma in HR Management at [REDACTED]
- BA (Hons) in Business Management and Human Resources (2:1) at [REDACTED] University
- Three A Levels A-B including English and Maths at [REDACTED] School
- 8 GCSEs A-C including Maths and English Language at [REDACTED] School

Voluntary

Parent-Teacher Association at [REDACTED] Primary School
September 2018 to Present

- Volunteer for the PTA at my daughter's primary school including organising fundraising events

Explained gap

Sarah Smith

Contact details: [REDACTED]

Passionate HR professional with a proven track record leading teams to deliver significant transformation. Strong interpersonal, communication and strategic skills. Thrives on new challenges and driven to continuously learn and develop. Adaptable to a range of sectors.

Work Experience

[REDACTED] – Senior HR Business Partner
September 2013 to September 2017. Left to become a full-time mother and look after my children
Nottingham (Relocating within 2 weeks)

- Led an HRBP team and collaborated with functional experts (Talent Acquisition, Reward) to implement HR strategy & operations for the Consumer Services Group
- Coached and influenced executive management to agree workforce strategies
- Increased business productivity through improved HR capability, e.g. successfully implemented a new recruitment process that reduced time-to-fill by 50%
- Reduced absence rates (7% to 4%) through a robust absence management policy
- Project managed major organisational change to support a high-performing culture

[REDACTED] – HR Advisor
September 2008 to August 2013.
Nottingham

- Responsible for HR operations across a range of functions, including performance management, employee engagement, leadership development and culture
- Designed and implemented a new management and leadership training programme – this reduced staff turnover among both managers and their reports
- Complex case management in redundancy, grievance and disciplinary

Skills

- Organisational and cultural change, including restructuring and redundancy
- Operational HR delivery, business and performance improvement
- Coaching leaders to support a high performing and inclusive culture
- Experience using Microsoft Office, Workday, SAP, Oracle

Education and Qualifications

- CIPD Chartered Member (MCIPD)
- CIPD Level 7 Advanced Diploma in HR Management at [REDACTED]
- BA (Hons) in Business Management and Human Resources (2:1) at [REDACTED] University
- Three A Levels A-B including English and Maths at [REDACTED] School
- 8 GCSEs A-C including Maths and English Language at [REDACTED] School

Voluntary

Parent-Teacher Association at [REDACTED] Primary School
September 2018 to Present

- Volunteer for the PTA at my daughter's primary school including organising fundraising events

No dates

Sarah Smith

Contact details: [REDACTED]

Passionate HR professional with a proven track record leading teams to deliver significant transformation. Strong interpersonal, communication and strategic skills. Thrives on new challenges and driven to continuously learn and develop. Adaptable to a range of sectors.

Work Experience

[REDACTED] – Senior HR Business Partner
4 years
Nottingham (Relocating within 2 weeks)

- Lead an HRBP team and collaborate with functional experts (Talent Acquisition, Reward) to implement HR strategy & operations for the Consumer Services Group
- Coach and influence executive management to agree workforce strategies
- Increase business productivity through improved HR capability, e.g. successfully implemented a new recruitment process that reduced time-to-fill by 50%
- Reduce absence rates (7% to 4%) through a robust absence management policy
- Project manage major organisational change to support a high-performing culture

[REDACTED] – HR Advisor
5 years
Nottingham

- Responsible for HR operations across a range of functions, including performance management, employee engagement, leadership development and culture
- Designed and implemented a new management and leadership training programme – this reduced staff turnover among both managers and their reports
- Complex case management in redundancy, grievance and disciplinary

Skills

- Organisational and cultural change, including restructuring and redundancy
- Operational HR delivery, business and performance improvement
- Coaching leaders to support a high performing and inclusive culture
- Experience using Microsoft Office, Workday, SAP, Oracle

Education and Qualifications

- CIPD Chartered Member (MCIPD)
- CIPD Level 7 Advanced Diploma in HR Management at [REDACTED]
- BA (Hons) in Business Management and Human Resources (2:1) at [REDACTED] University
- Three A Levels A-B including English and Maths at [REDACTED] School
- 8 GCSEs A-C including Maths and English Language at [REDACTED] School

Voluntary

Parent-Teacher Association at [REDACTED] Primary School
September 2018 to Present

- Volunteer for the PTA at my daughter's primary school including organising fundraising events

⁶³ Note that the conditional sentences are highlighted here, but were not highlighted in the CVs that were in the trial.

A1.6 Balance Checks

We performed balance checks on the role's working pattern using Pearson's chi-squared tests in Table A4, and on the date of submission using t-tests in Table A5. We did not perform balance checks on the county in which the role is located because this variable has 91 categories (so we would almost definitely have seen significant results from Pearson's chi-squared tests, which place a lot of weight on large proportionate differences in less popular categories). We did not examine role type here because it was almost perfectly balanced.

Table A4. Summary statistics and balance checks for working pattern

Control	Full-time	Part-time	Other (full-time and part-time)	Not stated	p-value from chi-squared test vs. control
Control: Unexplained gap	0.555	0.105	0.087	0.252	
Condition 1: No gap (currently employed)	0.558	0.099	0.080	0.262	0.693
Condition 2: Explained gap (for childcare)	0.574	0.097	0.077	0.252	0.386
Condition 3: No dates (experience given in years)	0.556	0.108	0.081	0.255	0.910

Notes: ** p<0.01, * p<0.05, + p<0.1

Table A5. Summary statistics and balance checks for submission date

Condition	Average submission date (days since 9 October 2019)	p-value from two-sample t-test vs. control
Control: Unexplained gap	78.4	
Condition 1: No gap (currently employed)	78.8	0.772
Condition 2: Explained gap (for childcare)	75.2	0.015
Condition 3: No dates (experience given in years)	76.9	0.270

Notes: ** p<0.01, * p<0.05, + p<0.1

As shown in Table A4, we observed balance on the working pattern of roles for each experimental condition relative to the control, as defined by a p-value of above 0.10; we also observed balance between any pair of experimental conditions (results are not shown above).

As shown in Table A5, applications assigned to the explained-gap condition were submitted roughly 3.3 days earlier than applications in the control group on average. This difference is significant at the 5% level. We also observe a difference of 3.7 days between the no-gap and explained-gap conditions (significant at the 1% level). Such imbalances are unlikely to have made a big difference to positive callback rates. Nevertheless, we controlled for the submission date - specifically, for the day and for the month of submission - as additional robustness checks.

A1.7 Salary imputation

We used multiple imputation when controlling for the salary listed for the role as a robustness check for the primary analysis.

To impute salary, we performed multivariate imputation by chained equations (MICE) using predictive mean matching. We created 25 imputed datasets using five iterations per imputation. Our predictors were an indicator for positive callback, county, working pattern, role type and experimental condition. For each imputed dataset, we estimated the following specification:

$$Y_i = \alpha + \sum_{j=1}^3 \beta_j T_{ij} + \Gamma X_i + \gamma salary_i + \delta missing.salary_i + \epsilon_i$$

$salary_i$ is the role's salary (imputed where it was previously missing) and $missing.salary_i$ is an indicator for the role not having a salary listed (to account for salaries being missing not at random (MNAR)). X_i is a vector of covariates for county and working pattern (i.e. the covariates used in the main specification of the primary analysis). The estimated coefficients were then pooled using Rubin's rules.

Our pooled estimate of δ from this specification was -0.0774. Performing a delta-adjustment sensitivity analysis revealed that our key finding that the estimated effect of the no-dates condition was significant at the 1% level compared to the control was insensitive to values of δ above -0.33. In other words, the finding was insensitive to the presence of a listed salary decreasing our positive callback rate by up to 33pp.

Appendix 2: Further results

A2.1 Primary analysis

Column 1 of Table A6 provides the results of the main regression specified in the Analytical Strategy section, using the unexplained-gap condition (i.e. the control) as the reference category. Table A6 shows the unadjusted p-values that arose when comparing each pair of conditions, using the same covariates as this main regression.

As shown by the robustness checks in columns 2-7, altering the set of covariates did not change any of our key conclusions from the primary analysis. Specifically, estimated effects of the no-dates condition relative to the control vary from 4.2pp to 4.9pp. Controlling for applications having incorrect end dates of previous experience in their CVs made the estimated effect of the no-dates condition relative to the control significant at the 5% level, rather than the 1% level. One explanation is that the applications with incorrect end dates tended to be later applications, which generally received a lower positive callback rate.

Nevertheless, this would not be the case if we were only conducting three comparisons (i.e. just comparing the control to each experimental condition) instead of six comparisons (i.e. comparing every pair of conditions).

Table A6: Results of primary analysis

	Main specification (with county and working pattern as covariates)	Exclude all covariates	Add quadratic term for day of submission as covariates	Add month of submission as covariate for date of submission	Add indicator for incorrect end date as covariate	Use region as covariate for location instead of county	Add salary and indicator for missing salary as covariates
Mean for unexplained-gap condition	0.329	0.329	0.329	0.329	0.329	0.329	0.329
Estimated effect of no-gap condition	0.020 (0.014)	0.018 (0.014)	0.020 (0.014)	0.020 (0.014)	0.014 (0.014)	0.020 (0.014)	0.019 (0.014)
Estimated effect of explained-gap condition	-0.001 (0.014)	-0.001 (0.014)	-0.003 (0.014)	-0.003 (0.014)	-0.000 (0.014)	-0.001 (0.014)	-0.001 (0.014)
Estimated effect of no-dates condition	0.048** (0.014)	0.048** (0.014)	0.047** (0.014)	0.048** (0.014)	0.042* (0.014)	0.049** (0.014)	0.047** (0.014)

County	YES	NO	YES	YES	YES	NO	YES
Working pattern	YES	NO	YES	YES	YES	YES	YES
Day of submission (quadratic form)	NO	NO	YES	NO	NO	NO	NO
Month of submission	NO	NO	NO	YES	NO	NO	NO
Indicator for incorrect end date on CV	NO	NO	NO	NO	YES	NO	NO
Region	NO	NO	NO	NO	NO	YES	NO
Salary	NO	NO	NO	NO	NO	NO	YES
Observations	9,022	9,022	9,022	9,022	9,022	9,022	9,022

Table A7: Unadjusted p-values from main specification when comparing each pair of conditions

	Unexplained gap	No gap	Explained gap	No dates
Unexplained gap				
No gap	0.146			
Explained gap	0.959	0.132		
No dates	0.001	0.051	0.001	

We also used the 1.5 IQR rule to classify especially large or small estimated effects (as pp and % changes) for each experimental condition. Using this definition, the estimated effects of the no-gap and explained-gap conditions for administrative assistant roles were outliers in % terms. However, it should be highlighted that the sample sizes used to calculate each estimated effect were relatively small, so large differences between estimated effects may well have been spurious.

A2.2 Robustness Checks - changing outcome variable

Table A8. Results from changing the outcome variable in the primary analysis

	(1)	(2)
	Classify “other further stage” responses as non-positive responses	Use “other further stage” responses as outcome
Mean for unexplained-gap condition	0.162	0.167
Estimated effect of no-gap condition	0.016 (0.011)	0.004 (0.011)
Estimated effect of explained-gap condition	0.009 (0.011)	-0.010 (0.011)
Estimated effect of no-dates condition	0.017 (0.011)	0.031* (0.012)
County	YES	YES
Working pattern	YES	YES
Observations	9,022	9,022

Notes: Robust standard errors in parentheses; ** p<0.01, * p<0.05, + p<0.1 (adjusted p-values)

Table A8 shows the results of regressions that used the same covariates as the main regression in the primary analysis (column 1 in Table A6) but a different outcome. We applied a correction for six comparisons for each outcome to ensure consistency with the primary analysis.

Column 1 in Table A8 redefines a positive callback as receiving an invitation to interview or offer only. Since only 5 applications received an offer, the outcome is essentially an indicator for being invited to interview. Under this new definition, none of the experimental conditions had a significant effect on the positive callback rate. Both the no-gap and no-dates conditions had positive callback rates around 1.7pp higher than the 16.2% rate observed in the control. However, as seen in column 2, the no-dates condition led to an estimated 3.1pp increase in the probability that an application received an “other further stage” response (on a similar baseline of 16.7%). This was significant at the 5% level. Conversely, the estimated effect of the no-gap condition on this outcome was non-significant.

Figure A2. Estimated effects on positive callback rate - when a positive callback is defined as an invitation to interview or offer

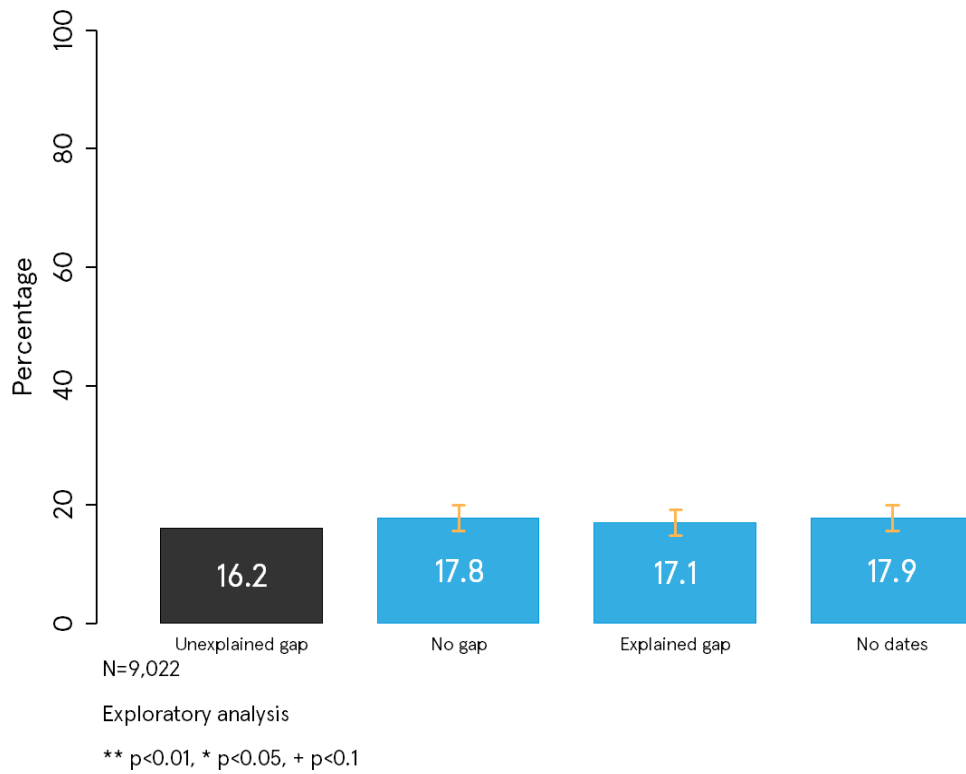
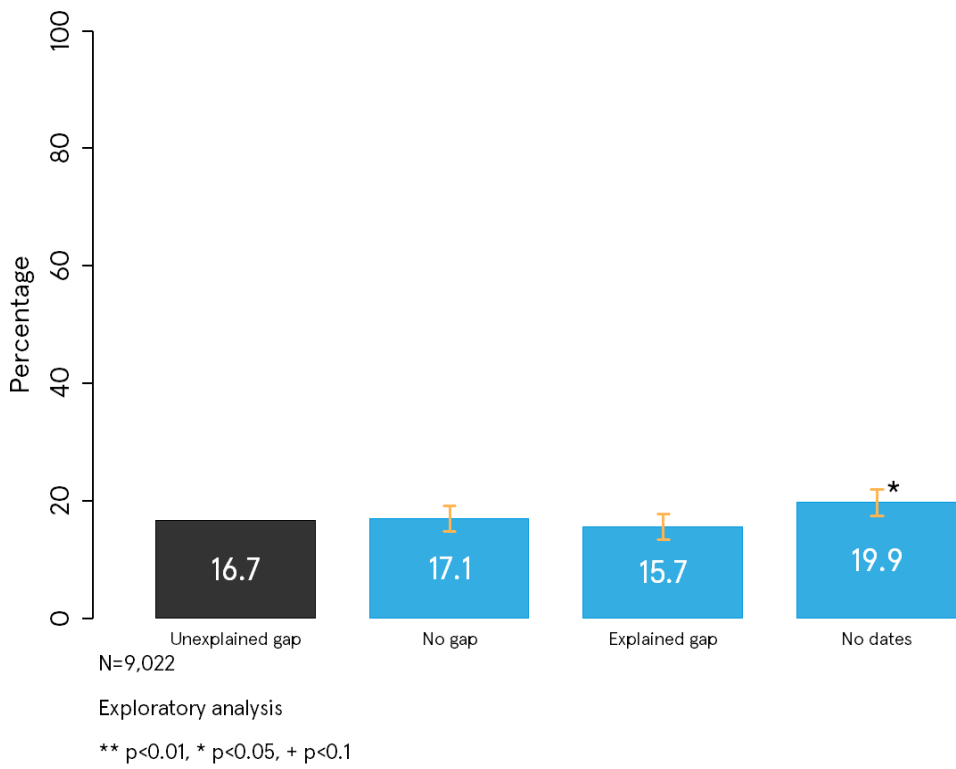


Figure A3. Estimated effects on probability of receiving “other further stage” response



A2.3 Secondary Analysis

Table A9. Results of secondary analysis - role type

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	HR manager	Finance manager	Administrative assistant	Call centre worker	Production manager	Software engineer	Support worker	Warehouse operative
Mean for unexplained-gap condition	0.216	0.248	0.142	0.443	0.262	0.450	0.624	0.248
Estimated effect of no-gap condition	0.015 (0.036) [7.1%]	0.060 (0.037) [24.0%]	0.062 (0.032) [43.6%] ^o	-0.013 (0.044) [-3.0%]	-0.021 (0.038) [-7.9%]	0.036 (0.044) [8.0%]	0.012 (0.021) [1.9%]	-0.007 (0.038) [-2.8%]
Estimated effect of explained-gap condition	-0.006 (0.035) [-2.6%]	0.073 ^o (0.038) [29.5%] ^o	0.032 (0.032) [22.6%] ^o	-0.009 (0.044) [-2.0%]	-0.012 (0.037) [-4.7%]	-0.008 (0.043) [-1.9%]	-0.043 (0.042) [-6.9%]	-0.055 (0.036) [-22.3%] ^o
Estimated effect of no-dates condition	0.086 (0.038) [49.2%]	0.073 (0.039) [29.3%]	0.039 (0.031) [27.6%]	0.049 (0.044) [10.9%]	0.001 (0.038) [0.5%]	0.064 (0.043) [14.2%]	0.006 (0.042) [0.9%]	0.007 (0.037) [3.0%]
County	YES	YES	YES	YES	YES	YES	YES	YES
Working pattern	YES	YES	YES	YES	YES	YES	YES	YES
Observations	1,128	1,128	1,128	1,128	1,128	1,127	1,127	1,128

Notes: Robust standard errors in round brackets; percentage increases on baseline in square brackets; ** $p < 0.01$, * $p < 0.05$, + $p < 0.1$ (adjusted p -values); ^o denotes an estimated effect (in either pp or %) which is more than 1.5 times the interquartile range below the lower quartile or above the upper quartile of estimated effects for the same experimental condition.

A2.4 Exploratory Analysis

We also examined the impact of the experimental conditions on the probability of receiving a negative outcome (i.e. a rejection). Further, we examined the probability of receiving a rejection or no response. Receiving no response was classified as a neutral outcome, but it ultimately implied the same hiring outcome for an applicant as a rejection. This exploratory analysis was not pre-specified, but to be consistent we corrected for six multiple comparisons in each regression. We controlled for county and working pattern as in the main specification of the primary analysis.

Table A10: Results of exploratory analysis

	(1)	(2)
	Probability of receiving rejection	Probability of receiving rejection or no response
Mean for unexplained-gap condition	0.139	0.573
Estimated effect of no-gap condition	0.011 (0.010)	-0.012 (0.015)
Estimated effect of explained-gap condition	0.003 (0.010)	0.010 (0.014)
Estimated effect of no-dates condition	-0.014 (0.010)	-0.056** (0.015)
County	YES	YES
Working pattern	YES	YES
Observations	9,022	9,022

Notes: Robust standard errors in round brackets; ** p<0.01, * p<0.05, + p<0.1 (adjusted p-values)

None of the experimental conditions had a significant estimated effect on the probability of receiving a rejection relative to the control. However, the no-dates condition had an estimated effect of -5.6pp (on a baseline of 57.3%) on the probability of receiving a rejection or no response at all, which was significant at the 1% level. Such a result is not surprising given that our outcome here was almost the complement of our primary outcome. The estimated impact of the no-dates condition on the probability of receiving a rejection or no response was also significant at the 1% level compared to any other condition.

Figure A4: Estimated effects on probability of receiving rejection

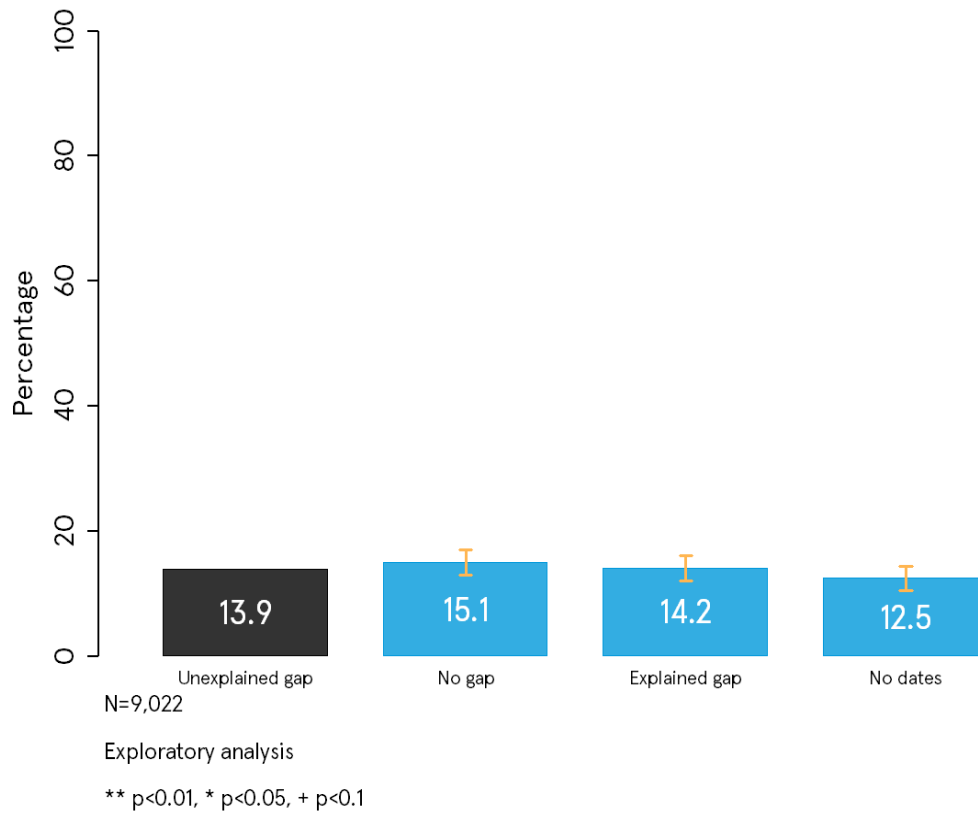
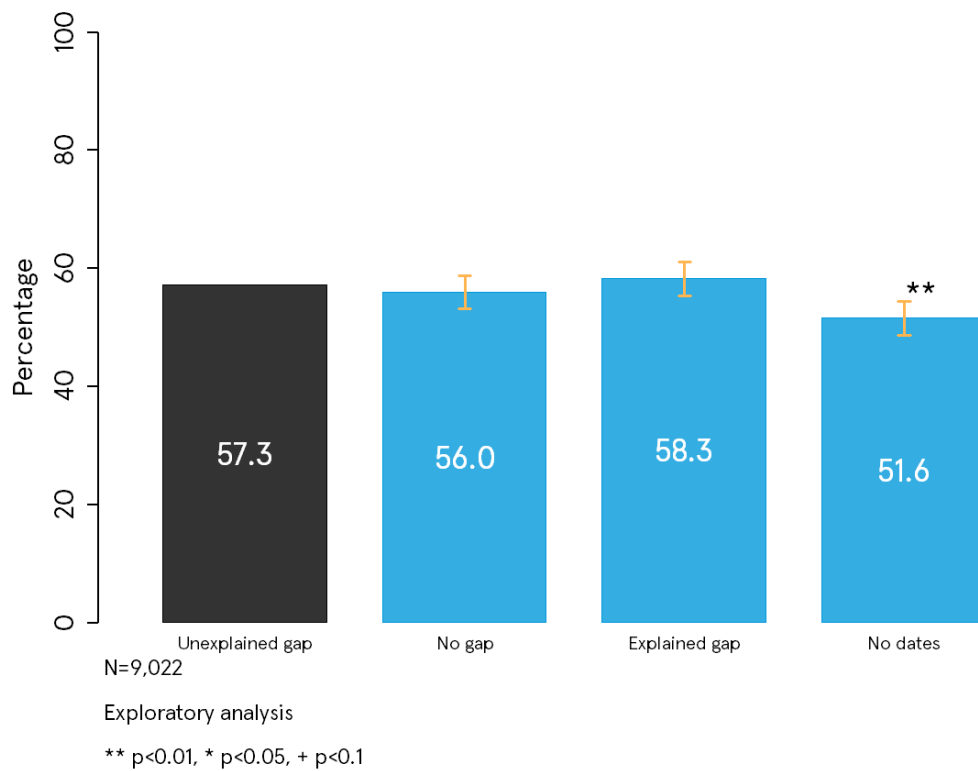


Figure A5. Estimated effects on probability of receiving rejection or no response





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