

# **WORKING PAPER**

## **DISCLOSING THE 'BIG C': WHAT DOES CANCER SURVIVORSHIP SIGNAL TO EMPLOYERS?**

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# Disclosing the ‘Big C’: What Does Cancer Survivorship Signal to Employers?\*

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## Abstract

To study hiring discrimination against cancer survivors, we conduct a vignette experiment in which American and British recruiters evaluate fictitious job candidates. Candidates differed by periods of non-employment in their career, including non-employment due to suffering from cancer. We study the effect of cancer experiences on the recruiters’ hiring decisions, as well as its effect on underlying candidate perceptions, related to various potential forms of stigma identified in the literature. We find that employment opportunities are lower for candidates with a history of cancer, compared to candidates without such a gap. This penalty is particularly explained by perceptions that these candidates will have higher sick leave probabilities and create additional costs. However, relative to candidates with a comparable gap due to depression or personal reasons, former cancer patients are less stigmatised, with relatively favourable assessments of their emotional abilities, social abilities, motivation and positive impact on workplace culture.

**Keywords:** Hiring discrimination, cancer, depression, signalling.

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## **1. Introduction**

Due to recent improvements in cancer screening and treatments, the risk of passing away from cancer is decreasing year-on-year, resulting in growing numbers of people living with and surviving cancer (Paltrinieri et al., 2018; Soejima & Kamibeppu, 2016; Taskila-Åbrandt et al., 2004; van Muijen et al., 2013). Consequently, scholars have shown that most cancer survivors are able to return to the labour market (Mehnert, 2011; Mehnert et al., 2013; Stergiou-Kita et al., 2016). Labour market participation, however, still remains significantly lower after surviving cancer (Feuerstein et al., 2010; Mehnert & Koch, 2013) than before. In this respect, stigma and workplace discrimination have been identified as prominent challenges to re-employment after cancer (Molina & Feliu, 2013; Namingit et al., 2021; Paltrinieri et al., 2018; Stergiou-Kita et al., 2017). More specifically, in the hiring context, we speak of stigmatisation when employers regard job candidates as different from others based on their disclosed history of cancer, and consequently perceive them more negatively (Heatherton et al., 2003). This can involve the activation of cognitive (e.g. expectations based on stereotypes) and emotional processes (e.g. feelings of distaste) (Deros et al., 2016). Discrimination subsequently occurs— despite being illegal – when employers use an individual’s history of cancer as a selection criterion in their hiring decisions (EEOC, 2013).

Most empirical evidence on stigmatisation and discrimination towards former cancer survivors is based on survey research among survivors, with self-reported discrimination as an outcome. Overall, former patients seem to perceive discrimination as a substantial barrier to a successful return to work (Feuerstein et al., 2010; Molina & Feliu, 2013; Sharipova & Baert, 2019). In contrast, the very few studies that (also) investigate employers’ positions show that they do not perceive stigma to be a significant issue for cancer survivors

(Gagnano et al., 2018; Tamminga et al., 2019). This immediately indicates an important limitation of this literature dominated by qualitative research: respondents may be motivated, depending on their position, to prove or disprove discrimination (Baert, 2018a; Neumark, 2018). However, a recent correspondence experiment confirms the employees' experiences of discrimination by providing evidence that in the United States, cancer survivorship is a source of hiring discrimination. This study theorises that perceived organisational costs – which are imperfectly signaled by health-related periods of non-employment – could underlie such discrimination (Namingit et al., 2021).

Identifying discrimination, is one thing, however - tackling it is another. To effectively combat labour market discrimination against cancer survivors, policymakers require further insight into its driving factors. In other words, designing adequate interventions, which target the right employers in the right way, requires insights into (i) which employers discriminate against job candidates with a cancer history and (ii) why they do so. To this end, we conduct an innovative vignette experiment among recruiters from the United States and the United Kingdom, in which we empirically test not only organisational cost-related signals of cancer survivorship, but also other potential signals (stigma) which have been proposed in previous literature as theoretical explanations for self-reported discrimination, as well as their association with recruitment decisions. In addition, the experimental design allows us to investigate how levels of hiring discrimination against cancer survivors differ according to several candidate, job and recruiter characteristics.

## 2. Method

To gain insights into hiring stigma towards cancer survivors, we conducted a factorial survey experiment—an increasingly popular approach for uncovering the social and individual structures of human judgements (Acharya et al., 2018; Auspurg & Hinz, 2014; Fernandez-Lozano et al., 2020; Van Belle et al., 2018; Van Borm et al., 2021). More concretely, we used vignettes to measure recruiters' perceptions and (discriminatory) hiring decisions regarding job applicants who survived cancer and control candidates who did not.

In such an investigation of hiring discrimination, factorial survey experiments have participants judge short, fictitious descriptions of applicants ('vignettes'), whose characteristics ('factors') vary over a predefined number of categories ('levels') (Auspurg & Hinz, 2014). As explained in the seminal work of Auspurg and Hinz (2014), one of the main advantages of vignette experiments over non-experimental research is that the experimental manipulation of the vignette levels allows for a causal interpretation of the effect of each vignette factor on participants' evaluations. Furthermore, vignette experiments are more flexible, in terms of design, than correspondence field experiments, which are in turn often considered the gold standard in measuring hiring discrimination (for reviews of the levels of discrimination measured, see Baert, 2018a and Neumark, 2018; and for a recent meta-analysis, see Lippens et al., 2021). More specifically, correspondence field experiments excel at measuring the binary decision of inviting applicants for an interview (or not). In contrast, vignette experiments are a superior alternative for investigating (i) a wider array of decisions and, perhaps more importantly, (ii) the motivation behind these decisions (Van Borm et al., 2021).

Vignette experiments evidently have their own limitations. A main concern is the external validity of research results obtained by conducting experiments in a lab setting instead of in the field. Throughout Section 2 and Section 5, we discuss measures taken to address this risk: these included thorough pilot testing, obscuring our (true) subject of study for participants, and controlling for social desirability biases.

## **2.1. Experimental materials**

### **2.1.1. Candidates**

In our experiment, participating recruiters evaluated five vignettes which featured relevant information on fictitious applicants in a tabular format (Auspurg & Hinz, 2014). As shown in Table 1, the fictitious applicants randomly differed by six vignette factors: (i) gender, (ii) age, (iii) any striking period of non-employment (ranging from 0 months to 24 months), (iv) time at which this non-employment period occurred (ranging from 0 to 5 years ago), (v) stated reason for this non-employment (cancer diagnosis with full medical recovery at present; depression with full medical recovery at present; personal reasons; or no reason provided) and (vi) extracurricular activities (sports and physical activities, cultural activities, volunteer work, or none stated). These factors were chosen on the basis of our literature review (Section 1) and were approved by three HR professionals, three academics specialised in cancer survivorship and three reintegration specialists during explorative interviews. We thereby established that our hiring experiment uses appropriate factors in the context of cancer survivorship.

<Table 1 about here.>

Of these factors and levels, a disclosed history of cancer as one's stated reason for a non-employment period is the main characteristic (or 'treatment') of interest for our study. The other levels selected for the factor 'stated reason for non-employment period' served as control reasons. By also manipulating other vignette factors, we improved the ecological validity of the experiment (Van Belle et al., 2018). More concretely, following the example of actual recruitment decisions, participants had to combine different, realistic sources of applicant information and—metaphorically speaking—assembled the pieces of each applicant's individual unemployment puzzle (i.e. striking period, timing of occurrence and stated reason). Moreover, this simultaneous variation of vignette factors and control explanations for unemployment also obscured the true purpose of this study.<sup>1</sup> As a consequence of the experiment's complexity and reduced transparency, it was harder for participants to respond in a socially desirable manner (i.e. responding in a socially approved manner regardless of one's inner beliefs). After all, there was an unavoidable trade-off between applicant characteristics (Auspurg & Hinz, 2014; Sterkens et al., 2021).

The experimental manipulation of these factors allows us to identify the individual effect of each factor, including work interruption due to cancer, on a given outcome measure (probability of being hired and other candidate assessments) and to causally interpret our results. Indeed, all the information available to recruiters to make their judgements was controlled by us. This is very different compared to (for example) administrative data, on the basis of which it is impossible to be certain of measuring the effect of interest, since observed characteristics of job candidates (such as age and gender) may be correlated to unobserved characteristics which also affect hiring outcomes (such as

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<sup>1</sup> For example, wary participants could have believed the experiment investigated gender and family roles (applicant's gender, gap due to family reasons) or discrimination based on mental health (gap due to depression).

motivation and intelligence).

Given the possible combinations of vignette levels for the six factors we elaborated upon (i.e.  $2 \times 5 \times 4 \times 4 \times 5 \times 4$ ), 3200 unique vignettes could be created (the 'vignette universe'). Next, using the function 'bsample' in Stata, we drew a bootstrap sample (random sampling with replacement) of 200 vignettes from the data, stratified according to the main factor of interest, i.e. stated reason for the non-employment period.<sup>2</sup> By drawing 200 vignettes from the universe and randomly presenting participants with five vignettes from this subset, we suppressed correlations between a history of cancer and other applicant variables.

### **2.1.2. Vacancies**

To complete a fictitious hiring assignment, participants required a job vacancy for which these applicants, presented in the form of vignettes, would be evaluated. This practical necessity for a job vacancy (conveniently) created opportunities to explore the generalisability of our findings across multiple job contexts, while at the same time exploring job-side moderators of cancer survivors' probabilities of being invited for a job interview.

More concretely, in the experiment, each participant was randomly assigned one out of nine fictitious vacancies (Gutfleisch et al., 2021). Our selection of nine vacancies varied across three job characteristics: required level of education, required cognitive abilities and required physical abilities. By varying vacancies on these dimensions, we go beyond the setting in many recent vignette experiments, in which hiring decisions are made concerning

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<sup>2</sup> Illogical instances, such as vignettes simultaneously presenting the levels 'gap due to cancer diagnosis' and striking period of non-employment 'none', were excluded from our final selection.

one single job. We thereby increase the generalisability of our findings (Van Belle et al., 2018; Van Borm et al., 2021). Furthermore, this design also allowed us to explore whether the unequal treatment of cancer survivors could be more common in occupations with higher requirements in terms of cognitive or physical abilities. Indeed, both cognitive (de Boer et al., 2006; den Bakker et al., 2018; Duijts et al., 2014; Kamal et al., 2017; Mader et al., 2017; Sharipova & Baert, 2019) and physical (Bijker et al., 2018; Cocchiara et al., 2018; de Boer et al., 2006; Duijts et al., 2014; Kamal et al., 2017; Mader et al., 2017; Sharipova & Baert, 2019) impairments have been identified among cancer survivors. Employers might consequently perceive certain jobs as too cognitively or physically demanding for former patients, despite applicants claiming restored health.

Similar to Van Borm et al. (2021), we consulted data from O\*Net to systematically select occupations based on their O\*Net qualifications relating to the proposed job-sided characteristics.<sup>3</sup> More specifically, we identified occupational titles that fitted our proposed job matrix (summarised in Appendix Table 1) and thereby categorised occupations according to the three underlying job characteristics. Resulting from this procedure, participants were presented with a fictitious vacancy for one of the following job titles: (i) critical care nurse, (ii) dishwasher, (iii) physical medicine and rehabilitation physician, (iv) telecommunications equipment installers and repairers, (v) dental hygienist, (vi) cashiers, (vii) software application developer, (viii) executive secretaries and (ix) telemarketer. The vacancy descriptions accompanying each occupational title were also based on their O\*Net profile.

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<sup>3</sup>The O\*Net database contains data on the job characteristics of over 900 unique occupations and is maintained by the U.S. Department of Labor. Each occupation's classification for required cognitive abilities (over 21 elements) and physical abilities (over 9 elements) was calculated by averaging the factor scores of their direct O\*Net counterparts. Required level of education was, similarly, derived from the O\*Net education section per occupation.

## **2.2. Experimental procedure**

As is characteristic of Auspurg and Hinz's (2014) factorial survey methodology, the experimental materials (as discussed in Subsection 2.1) were interwoven with a survey set-up. Hence, participants randomly received a combination of one fictitious vacancy and five fictitious applicants embedded in a survey flow. That is, they were in turn (i) introduced to their overall role, (ii) informed about the particular fictitious vacancy they had to fill, (iii) provided with instructions on the recruitment procedure, (iv) asked to share their candidate evaluations and perceptions, and (v) given a post-experimental questionnaire. In what follows, we will elaborate on the exact modalities of these five steps.

Our vignette experiment was introduced to participants through an online survey programmed in Qualtrics. Before starting the experiment, two introductory computer screens of the experiment provided the participants with study information, i.e. general expectations (making fictitious hiring decisions), expected timing (approximately 15 minutes) and participant rights regarding data processing (GDPR).

### **2.2.1. Scenario**

When participants provided their explicit consent to study participation, they could read about the experimental context. More specifically, they were instructed to imagine themselves as head of HR of an organisation with an open vacancy. Subsequently, they were randomly assigned one of the fictitious jobs to be filled, and read through its O\*Net description (Subsection 2.1.2). Participants were then requested to share their job perceptions. They indicated their perceptions through (dis)agreement with three statements scored on 11-point Likert scales ranging from 0 (completely disagree) to 10

(completely agree). Each statement inquired about one of the job characteristics we manipulated, i.e. whether the job was perceived as requiring an applicant with ‘a high level of education’, ‘high cognitive capacities’ and ‘high physical capacities’. These answers provided us with the variables ‘perceived education requirements’, ‘perceived cognitive requirements’ and ‘perceived physical requirements’, to be used as the moderators in our analyses.

After getting acquainted with the vacancy for which they were hiring, participants were informed that the five job applicants, whose profiles were shown on the following screens, had been pre-screened by an HR assistant for their eligibility with respect to the required educational level and work experience (i.e. all job candidates met the objective requirements for the job). According to the scenario, the assistant had then summarised complementary candidate data. Indeed, while sorting and screening the candidates’ résumés and motivation letters, the assistant had noted down any periods of non-employment (gaps on the résumés) and the time when these periods of non-employment occurred. This information, consistent with the vignette design in Table 1, was then submitted to the participants in our experiment. We instructed them to evaluate all five profiles accurately and told them that they could jump between the different candidates and adjust their ratings as desired.

### **2.2.2. Candidate Evaluations**

At this point in the experiment, participants possessed all information required to evaluate the applicants for their vacancy. The participants were shown the tabulated summaries of the applicant characteristics, and were asked to indicate their intention to hire each job candidate by rating the statements ‘I will invite this candidate to a job interview for the

described position’ and ‘There is a great probability that I will actually hire this candidate for the described position’ on a 11-point Likert scale (with 0 quantifying ‘completely disagree’ and 10 ‘completely agree’). Following Van Belle et al. (2018) and Van Borm et al. (2021), we will refer to these two items as the ‘interview probability’ and the ‘hiring probability’, respectively.

Next, with a view to—causally—estimating the signalling function of cancer survivorship (Namingit et al., 2021; Spence, 1978) participants were also asked to share their applicant perceptions relating to 15 parameters. First, they rated 12 statements related to (potential) stigmatising signals invoking discrimination. These 12 statements were developed based on our thorough review of potential stigma put forward theoretically as an explanation for self-reported discrimination in the earlier literature. We combined these into signalling domains related to (i) perceived abilities (Bradley & Bednarek, 2002; Bijker et al., 2018; Kamal et al., 2017; Webb et al., 2019), (ii) perceived behavioural traits (Cocchiara et al., 2018; Gragnano et al., 2018; Islam et al., 2014; Tiedtke C. et al., 2010; Wang et al., 2018.) and (iii) perceived implications for the workplace of hiring the particular candidate (Chow et al., 2014; Feuerstein et al., 2010; Namingit et al., 2021; Stergiou-Kita et al., 2016, 2017; Tiedtke et al., 2017). More concretely, we asked whether participants thought the applicants possessed sufficient (i.1) cognitive abilities, (i.2) physical abilities, (i.3) emotional abilities, (i.4) social abilities; were sufficiently (ii.1) motivated, (ii.2) autonomous, (ii.3) flexible, (ii.4) stress tolerant; (iii.1) needed workplace accommodation, would (iii.2) have a higher probability of taking sick leave, (iii.3) would come with additional costs for the organisation and (iii.4) would have a positive impact on workplace culture. Second, the participants were asked to rate three statements related to (iv) prejudiced attitudes towards collaboration (Becker, 1957) with cancer survivors among (iv.1) employers, (iv.2) employees

and (iv.3) customers. We adopted the same three statements used in earlier vignettes (Sterkens et al., 2021; Van Borm et al., 2021), e.g. 'I think customers will enjoy collaborating with this candidate'. An overview of all statements used in the survey can be found in Appendix Table 2.

In addition, we constructed scales in which these 15 items are clustered in the (i) candidate's perceived abilities scale, (ii) candidate's perceived behavioural traits scale, (iii) perceived implications for the workplace scale and (iv) perceived taste for collaboration scale, obtained by averaging the underlying items. The internal consistency of these scales is (very) high, with Cronbach's alpha values of 0.883, 0.919, 0.800, 0.975, respectively.

### **2.2.3. Post-experimental questionnaire**

After evaluating the five different applicants, participants completed the experiment by filling in a post-experimental questionnaire. By including this final stage in the experimental procedure, we were able to collect additional participant-side data for moderation analyses and robustness checks.

First, similar to Sterkens et al. (2021)'s application in the study of workers who recovered from burnout, we surveyed participants' encounters with cancer (none, in participants' professional environment, in their personal environment, or as a (former) patient themselves), as a first dimension in which recruiters' assessments of cancer survivors might be heterogeneous. After all, participants' perceptions of familiarity (and similarity, more specifically) with stigmatised groups could enhance the hiring probabilities of otherwise disadvantaged applicants (Derous et al., 2016; Derous et al., 2019).

Second, we collected data on participant demographics, i.e. gender (male or female),

age (in years, continuous) and level of education (primary education, secondary education, tertiary education at the Bachelor level or tertiary education at the Master level). This enabled us to inspect heterogeneity in the assessment of cancer survivors by these dimensions.

Third, participants completed validated scales for two psychographic measures. More concretely, we assessed participants' risk-taking attitudes with the validated Domain-Specific Risk-Taking Scale (DOSPERS; Blais et al., 2006). Via this scale, participants rate the likelihood of performing actions containing a professional risk; for example, 'investing 10% of your annual income in a new organisation', on a scale from 1 'extremely unlikely' to 7 'extremely likely'. Item scores were added in one scale score, which we standardised. This score was used in our analyses as a last moderator for the recruiter side. If hiring cancer survivors is perceived as a more risky course of action, due to the stigmatisation of cancer, participants more prone to risk-taking might be more willing to hire applicants with a history of cancer.

In addition, we measured social-desirable response tendencies using the 13-item version of the Marlowe-Crowne Social Desirability Scale (MC-SDS) developed by Reynolds (1982). The scale consists of 13 items describing behaviour that is culturally approved or disapproved (e.g. 'There have been occasions when I took advantage of someone'), yielding a score for socially desirable answers between 0 and 1, and has been successfully validated across different contexts (Baert, 2018b; Beretvas et al., 2002; Sârbescu et al., 2012). This scale is used in our robustness analyses, in which we test whether our results were robust for excluding recruiters with a high tendency to answer in a socially desirable way.

Finally, we surveyed participants' hiring tenure (less than a year, one to five years or

more than five years) to investigate the sensitivity of our results for excluding less experienced recruiters.

### **2.3. Data collection**

First, a paper-pencil version of the survey was piloted among a sample of students in Applied Economics. Next, actual recruiters were recruited in January and February 2020 via the online panel platform Prolific. Online panel services are increasingly popular in the social sciences and, as indicated by Walter et al.'s (2019) meta-analysis, yield comparable results to traditionally-sourced data. Despite its higher recruitment costs, Prolific has been recognised by researchers (Peer et al., 2017; Palan & Schitter, 2018) as a viable—and often superior—alternative to Amazon Mechanical Turk (another frequently-consulted platform).

#### **2.3.1. Sampling**

To receive an invitation to participate in the study via Prolific, panel members had to meet two criteria. First, in view of sample homogeneity, we restricted participants based on country of residence. More specifically, participants were only eligible if they resided in the United States or the United Kingdom; we achieved an exactly equal proportion from each country. Second, we restricted access to panel members who had real-life experience in making hiring decisions. That is, to ensure that only participants with sufficient experience in hiring processes participated in the study, they were required to indicate at the beginning of the survey (i) whether they had experience in evaluating job applicants in the context of their current profession (yes or no) and (ii) how often they had been actively involved in evaluating job candidates for a vacancy in the last year (1 time, 2 times, 3 times, 4 times or 5 times or more). To be allowed to participate, the answers had to be 'yes' and at least 4

times, respectively. As mentioned in Subsection 2.2.1, to conduct analyses per subsample, we additionally surveyed years of professional experience.

### **2.3.2. Data Description**

A total of 404 participants (202 from the United States and 202 from the United Kingdom) completed the experiment and passed the attention check, thus resulting in 2,020 unique applicant evaluations for further analysis. Descriptive analyses of our sample composition (in Table 2) reveal that both genders were well-represented in our sample (female: 52.5%), that the majority of the participants had a Master's degree (72.5%) and that the average participant was 41.025 years old. As a representativeness check, we compared these demographics against panel data from the European Social Survey (ESS; see Table A-4 from Van Belle et al., 2020). Hence, we conclude that our HR panel is very representative in terms of age (ESS average: 40.9000). Regarding gender (ESS: 58.2% female) and level of education (ESS: 53.2%), men and university diploma holders are relatively overrepresented in our sample. Next, examining recruiters' experiences with cancer, we found that the vast majority of the sample had had an encounter with cancer in their lives (33.7% in their work environment, 63.1% in their personal environment, and 6.2% as a former patient).

In the far right column of Table 2 below, we present the results from independence tests (Chi-square in the case of categorical variables and Kruskal-Wallis for continuous variables). Their lack of statistical significance at the 5% level confirms that our randomisation of applicant profiles (experimental condition) across participating recruiters was successful.

<Table 2 about here.>

## **2.4. Statistical analyses**

The gathered data were analysed using ‘Stata/MP15’ statistical software. The candidate evaluation variable ‘interview probability’ is our benchmark (outcome) variable because it is the most proximal hiring outcome we investigated within the experimental context (Sterkens et al., 2021). The complete analyses with ‘hiring probability’ as an outcome are, nevertheless, available upon request. Given the approximately continuous nature of this variable as well as the candidate perception measures (all scales from 0 to 10; Section 2.2.2), we adopted linear models, corrected for clustering of the observations at the recruiter level (and, therefore, for heteroskedasticity), as a benchmark approach. However, ordered logistic models yield the same empirical conclusions (and are available on request). We discuss the further modalities of the statistical models used below.

## **3. Results**

### **3.1 Does disclosing cancer experience affect employment opportunities?**

To estimate the total effect of disclosing cancer on hiring outcomes, we regressed the candidate evaluation variables (interview and hiring probability) on (i) the ‘treatment’ of a period of non-employment due to cancer (versus one of the control situations, with no gap as a reference situation), (ii) the other candidate characteristics (shown in Table 1 and discussed in Subsection 2.1.1), (iii) the perceived job characteristics (discussed in Subsection 2.2.1) and (iv) the recruiter characteristics (shown in Table 2 and discussed in Subsection 2.2.3). These four clusters of explanatory variables are progressively added in the regression

models of which the full estimation results are given in Appendix Table 3. This table's most extensive model (4) is our benchmark model.

In line with recent experimental findings from a field setting (Namingit et al., 2021), we find evidence for a negative effect of disclosing cancer on interview probabilities in a lab setting. Indeed, compared to candidates without a gap in their work history, we infer that cancer patients have a lower probability of being invited for a job interview. The estimated coefficient for our benchmark model ( $\beta = -0.329$ ;  $p = 0.028$ ) indicates that the cancer survivors in our experiment were 3.3 percentage points less likely to receive an interview invitation than their counterparts with no break in employment.<sup>4</sup>

The negative causal effect suggested by our models hence confirms cancer patients' fears of hiring discrimination (Stergiou-Kita, Qie & Yau, 2017). However, notwithstanding the numerous cancer stigma identified theoretically in the literature (and tested below), we find that cancer survivors hold a relatively favourable position compared to other candidates with a gap in their working history. That is, the 'depression-effect' ( $\beta = -1.252$ ;  $p < 0.001$ ) is almost four times larger than the effect of disclosing a cancer experience. Similarly, not explaining the gap ( $\beta = -1.256$ ;  $p < 0.001$ ) or an explanation featuring 'personal reasons' ( $\beta = -1.125$ ;  $p < 0.001$ ) have stronger effects on the likeliness of an interview invitation. In the next subsection, we discuss the diverging forms of stigma that explain the 'middle position' held by cancer survivors.

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<sup>4</sup> As mentioned above, the dependent variable ranges from 0 to 10. Therefore, it can be interpreted as candidates' percentage probability of being interviewed after multiplying the variable by 10.

## 3.2. What does cancer experience signal to employers?

### 3.2.1. Signals

To investigate the effect of disclosing cancer survivorship on candidate perceptions and their association with hiring probabilities, we estimated a multiple mediation framework (Hayes, 2017). This mediation model, more concretely, consists of 16 regression equations that are estimated jointly. In the first 15 equations, the candidate perception items (Section 2.2.2) are regressed on the candidate, job and recruiter characteristics. In the 16th equation the interview probabilities are regressed on the candidate perceptions as well as the candidate, job and recruiter variables. The results are presented in Table 3.

Examining the first 15 equations of this model, we find evidence that disclosing cancer survivorship elicits both desirable and undesirable candidate perceptions among recruiters. Compared to candidates without an employment gap, cancer survivors are perceived as having reduced physical abilities ( $\beta = -0.799$ ;  $p < 0.001$ ). In addition, they are perceived as requiring accommodation at work to function properly ( $\beta = 1.287$ ;  $p < 0.001$ ), having a higher probability of taking sick leave ( $\beta = 2.132$ ;  $p < 0.001$ ) and as creating additional costs for the organisation ( $\beta = 1.449$ ;  $p < 0.001$ ). However, in the eyes of employers, cancer survivors are not 'all gloom and doom'. Indeed, recruiters also perceive cancer survivors to have a positive impact on the workplace culture ( $\beta = 0.442$ ;  $p < 0.001$ ). In addition, cancer survivors do not differ significantly from employees without a gap in their employment history with respect to perceived cognitive abilities ( $\beta = 0.001$ ;  $p = 0.994$ ), emotional abilities ( $\beta = 0.149$ ;  $p = 0.327$ ), social abilities ( $\beta = -0.107$ ;  $p = 0.414$ ), motivation ( $\beta = 0.205$ ;  $p = 0.157$ ), autonomy ( $\beta = -0.125$ ;  $p = 0.354$ ), flexibility ( $\beta = -0.099$ ;  $p = 0.455$ ), stress tolerance ( $\beta = -0.097$ ;  $p =$

0.508) and taste for collaboration of the employer ( $\beta = 0.116$ ;  $p = 0.404$ ), other employees ( $\beta = 0.115$ ;  $p = 0.400$ ) and customers ( $\beta = 0.093$ ;  $p = 0.484$ ).

Consistent with our findings presented in Section 3.1, it appears that cancer survivors are in a relatively favourable position compared to the control conditions ('gap due to depression', 'gap due to family reasons' and 'unexplained gap') in terms of candidate perceptions. In particular, those with a gap due to a cancer experience are perceived more favourably than all three categories of control candidate in terms of cognitive abilities, emotional abilities, social abilities, motivation, autonomy, flexibility, stress tolerance, positive impact on workplace culture and taste for collaboration (of employer, employees and customers). In addition, the perceived need for accommodation is higher for candidates with a depression experience. Fewer candidate perceptions are in favour of some control candidates: need for accommodation and costs (better for those with an unexplained gap), physical abilities (better for those with a gap due to depression or unexplained gap) and probability of taking sick leave (better for those with a gap due to family reasons or unexplained gap).

<Table 3 about here.>

### **3.2.2. Association between signals and employment opportunities**

Having identified the mixed signalling function of disclosing cancer survivorship, we now investigate each signal's potential to explain the interview penalty inflicted upon former patients, estimated in Subsection 3.1. Indeed, the identified signals could have different weights in recruiters' interview probabilities. To this end, we now multiply the effects of disclosing cancer on perceptions (equations 1 to 15 from the mediation framework, Table

3) and the association between these perceptions and interview probabilities (the 16th equation of the framework, Table 3) through a bootstrapping procedure. These calculations yield mediation effects: that is, the shares of the total cancer effect on interview probability that could, indirectly, be explained by cancer's effect on how candidates are perceived.<sup>5</sup> The results of this procedure are presented in Panel A of Table 4.

<Table 4 about here.>

The calculations reveal that the perceptions related to workplace implications, in particular, explain statistically significant shares of the cancer effect on interview probability. The shares explained by need for accommodation (-28.6%), sick leave probability (54.9%), costs (54.2%) and positive impact on workplace culture (-14.0%) once more reflect the mixed signalling of cancer. More concretely, it appears that, while sick leave probability and costs are 'driving perceptions' of the cancer effect, the need for accommodation and impact on the workplace culture could be interpreted as 'protective perceptions' as reflected by the 'negative percentage points' they explain.

The positive mediation for workplace modifications is strange at first glance. It is consistent with the fact that these modifications are positively associated with the interview probability. Here the *ceteris paribus* assumption is very important: this is a positive association for candidates who are judged the same in terms of future absenteeism and costs. Without including these mediators in the model, there is no positive association

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<sup>5</sup> Caveat: the term mediation effects, which is frequently used in the literature, could be misleading. After all, causal effects of perceptions of candidates on interview probabilities cannot be demonstrated from the current design. Indeed, the perceptions surveyed could correlate with unobserved causal mechanisms (such as additional, unmeasured, candidate perceptions). Our design does, however, allow for causal interpretation for the effects of disclosing cancer on (i) interview probabilities (Section 3.1) and on (ii) perceptions of candidates (Subsection 3.2.1).

between perceived workplace modifications and the interview probability.

Other perceptions, such as physical abilities (11.7%), explain lesser and statistically insignificant proportions of the cancer effect. Because the remaining cancer effect on interview probability is statistically insignificant ( $\beta = -0.129$ ;  $p = 0.269$ ) after controlling for the indirect effects via perceptions, we speak of a full mediation.

The later panels of Table 4 provide the reader with analyses in which we employ an alternative econometric specification and more homogenous subsamples of our data. More concretely, in Panel B, we include the candidate perceptions as scales instead of items (Section 2.2.2). Consistent with the findings based on Panel A, we find that 61.0% of the total treatment effect is mediation by the perceived implications for the workplace scale. In Panel C and D, we replicate the model of Panel A for subsamples of recruiters with (i) low or average social desirability scores and (ii) hiring tenure greater than one year, respectively. This generates comparable findings, although the mediation effect of perceived impact on workplace culture is here only weakly significant.

### **3.3 When does disclosing cancer experience affect employment opportunities in particular?**

In the third and concluding stage of the analyses, we explore the potential heterogeneity in the cancer experience effect on interview probabilities by candidate, job and recruiter characteristics. Table 5's Panels (1), (2) and (3) show the results of adopting interactions between cancer survivorship and (other) candidate, job and recruiter variables, respectively. In the fourth panel we estimate all of the aforementioned interaction terms in a single model.

<Table 5 about here.>

Regarding moderators at the candidate level, we find that, compared to patients who have not yet returned to work, cancer survivors whose gap in working history occurred five years ago are less likely to be subjected to hiring discrimination ( $\beta = 0.540$ ;  $p = 0.033$ ). This interaction effect can be understood based on employers' concerns about a higher probability of taking sick leave (Subsection 3.2). That is, a five-year period of restored health, compared to an ongoing employment gap, could inspire more confidence in recruiters.

At the job level side, we do not get statistically significant moderation effects, thus suggesting the cancer penalty inflicted is similar regardless of educational, cognitive and physical job requirements.

Finally, our analyses indicate that, compared to their colleagues who had never encountered cancer, recruiters with cancer encounters in their professional lives were less likely to invite former patients for a job interview ( $\beta = -0.646$ ;  $p = 0.024$ ).<sup>6</sup> This is rather surprising, given that contact with stigmatised groups has been found to improve the hiring chances of said group in earlier research (e.g. Derous et al. 2016; Derous et al. 2019). Possibly, the negative nature of professional interactions with cancer survivors in the past shaped this relationship. Finally, instances of cancer in private life do not moderate the level of unequal treatment.

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<sup>6</sup> The interactions with recruiter-side variables cannot be given a causal interpretation, as they might correlate with other, unobserved recruiter characteristics that may determine the level of unfavourable treatment of former cancer patients.

## 4. Conclusion

Studies on the reintegration of cancer survivors have suggested that discrimination and stigmatisation remain barriers to re-employment. In the first place, the current study contributes to this body of knowledge by empirically evaluating the (stigmatising) attributes associated with cancer survivorship ('signals') identified in previous literature, in relation to cancer survivors' hiring probabilities. In the second place, our study also contributes to this literature by exploring numerous potential candidate-, job- and recruiter-side moderators of hiring penalties against cancer survivors. More concretely, in a survey experiment, a total of 404 recruiters screened fictitious job candidates varying on several characteristics – including a history of cancer – and shared their individual candidate perceptions for one out of nine job vacancies.

We find that, compared to candidates who were continuously employed, cancer survivorship harms candidates' hiring probabilities. However, our findings also suggest that the disclosure of cancer survivorship is not 'all doom and gloom'. For one, the hiring penalties inflicted on candidates with a history of cancer were – approximately – three times smaller than the penalties inflicted on candidates who were formerly depressed or who did not explain gaps in their working history. Moreover, we find (causal) evidence that recruiters express relatively positive expectations associated with cancer survivorship – which contrasts starkly with the signalling effects from other interruptions in working history. Moreover, compared to workers without a gap in working history, recruiters expect a positive impact of employing cancer survivors on the workplace culture, and perceive them to be similar to workers without an employment gap in terms of cognitive, emotional and social abilities; motivation; autonomy; flexibility; stress tolerance; and perceived

collaboration. However, recruiters also expect cancer survivors to require additional workplace accommodations and organisational costs, and to be absent from work more often due to health complaints. Our analyses further indicate that the negative effect of cancer survivorship on hiring probabilities is primarily captured (about 61% of the penalty) by a perceived trade-off between implications for the workplace: namely, the required accommodations, the impact on workplace culture, and additional organisational costs or absenteeism-related concerns. From a theoretical perspective, these findings indicate, in line with the theoretical model proposed by Namingit et al. (2021), that organisational cost-related concerns rather than productivity expectations are the primary drivers of discrimination against cancer survivors. However, the perceived positive impact on the workplace which we identified adds more nuance to Namingit et al.'s (2021) theoretical predictions, by indicating that employers also expect certain organisational gains from employing cancer-survivors. Additionally, the cancer penalty we estimated appears to be generalisable across occupations, and we find that the penalty decreases when the cancer episode is situated further in the past and, conversely, increases when the recruiter reports prior professional interaction with cancer survivors.

Our findings also have practical significance and implications. First, given this evidence for hiring penalties against cancer survivors, we encourage policymakers to include health-related grounds for discrimination in their labour market audits – which have traditionally focused on ethnic or gender diversity. Second, our results highlight the complexity of cancer survivors' disclosure decisions upon re-entering the labour market. Indeed, on the one hand we find that disclosing a history of cancer is a source of stigmatisation, while on the other hand, it is clear from our study that unexplained periods of non-employment lead to even harsher labour market penalties. Moreover, since we find

that the hiring penalties against cancer survivors can be primarily explained by employers' cost- and health related concerns, disclosures by job candidates should be well-prepared by anticipating these perceptions. As a result, reintegration experts – such as job coaches – could play a significant role in the multidisciplinary teams that follow up on cancer survivors' trajectories.

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## **Appendix A: Additional Tables**

<Appendix Table 1 about here.>

<Appendix Table 2 about here.>

<Appendix Table 3 about here.>

**Table 1. Vignette Factors and Corresponding Levels Used in the Experimental Materials**

<b>Vignette factors</b>	<b>Vignette levels</b>
Gender	[Male] [Female]
Age	[30–34 years] [35–39 years] [40–44 years] [45–49 years] [50–54 years]
Striking period of non-employment	[None] [2–6 months] [7–12 months] [13–24 months]
Time of occurrence of the non-employment period	[Not applicable] [Non-employment period is still running, job candidate is unemployed] [Non-employment period ended 2 years ago] [Non-employment period ended 5 years ago]
Stated reason for the non-employment period	[Not applicable] [Gap due to cancer diagnosis (full medical recovery)] [Gap due to depression (full medical recovery)] [Gap due to family reasons] [Gap unexplained]
Extracurricular activities	[None] [Sports and physical activities] [Cultural activities] [Volunteer work]

Table 2. Description of the Experimental Recruiters by Experimental Condition

	Proportion (indicator variables) or mean (continuous variables)						Independence test [p-value]
	Full sample	Experimental condition					
		No gap	Gap due to cancer	Gap due to depression	Gap due to family reasons	Gap without explanation	
Female	52.5%	53.2%	54.1%	54.7%	50.5%	49.8%	0.528
Age	41.025	40.042	41.491	41.416	40.977	41.203	0.400
No tertiary education	15.6%	17.2%	15.9%	14.5%	13.7%	16.6%	0.488
Bachelor's level education	11.9%	11.0%	13.0%	12.7%	12.1%	10.6%	0.812
Master's level education	72.5%	71.8%	71.1%	72.8%	74.2%	72.8%	0.888
American	50.0%	49.5%	48.6%	52.3%	50.5%	49.0%	0.841
Cancer experience in own life	6.2%	6.6%	7.0%	5.8%	6.3%	5.2%	0.854
Cancer experience in personal environment	63.1%	63.2%	60.9%	62.8%	65.2%	63.6%	0.798
Cancer experience in work environment	33.7%	32.6%	30.9%	36.7%	36.4%	31.7%	0.258
Taste for risk (standardised score)	0.000	-0.021	0.047	-0.030	-0.019	0.024	0.682

Notes. To test the independence between the participant characteristic and the experimental condition, a Chi Square (indicator variable) or Kruskal-Wallis (continuous variable) test is conducted.

**Table 3. Multiple Mediation Analysis: Estimation Results for Full Sample**

	Candidate perceptions (mediators)							
	Cognitive abilities	Physical abilities	Emotional abilities	Social abilities	Motivation	Autonomy	Flexibility	Stress tolerance
CANDIDATE CHARACTERISTICS								
Male	-0.085 (0.086)	0.039 (0.090)	-0.163* (0.090)	-0.185** (0.089)	-0.117 (0.090)	-0.229** (0.093)	-0.158* (0.087)	-0.055 (0.093)
Age	-0.009 (0.006)	-0.045*** (0.006)	-0.011* (0.006)	-0.005 (0.006)	-0.007 (0.006)	-0.003 (0.006)	-0.008 (0.006)	-0.008 (0.006)
<b>Gap due to cancer</b>	<b>0.001 (0.130)</b>	<b>-0.799*** (0.148)</b>	<b>0.149 (0.152)</b>	<b>-0.107 (0.131)</b>	<b>0.205 (0.145)</b>	<b>-0.125 (0.135)</b>	<b>-0.099 (0.132)</b>	<b>-0.097 (0.147)</b>
Gap due to depression	-0.695*** <sup>a</sup> (0.149)	-0.444*** <sup>b</sup> (0.148)	-1.887*** <sup>a</sup> (0.171)	-1.161*** <sup>a</sup> (0.153)	-1.012*** <sup>a</sup> (0.163)	-1.073*** <sup>a</sup> (0.155)	-0.776*** <sup>a</sup> (0.151)	-2.496*** <sup>a</sup> (0.172)
Gap due to family reasons	-0.627*** <sup>a</sup> (0.131)	-0.555*** (0.128)	-1.069*** <sup>a</sup> (0.142)	-0.696*** <sup>a</sup> (0.128)	-0.929*** <sup>a</sup> (0.146)	-0.920*** <sup>a</sup> (0.139)	-0.835*** <sup>a</sup> (0.134)	-1.323*** <sup>a</sup> (0.145)
Unexplained gap	-0.673*** <sup>a</sup> (0.138)	-0.483*** <sup>b</sup> (0.137)	-0.790*** <sup>a</sup> (0.142)	-0.756*** <sup>a</sup> (0.138)	-1.095*** <sup>a</sup> (0.161)	-0.972*** <sup>a</sup> (0.145)	-0.772*** <sup>a</sup> (0.145)	-1.174*** <sup>a</sup> (0.155)
Sports	0.608*** (0.111)	1.639*** (0.139)	0.772*** (0.131)	0.958*** (0.119)	0.696*** (0.121)	0.683*** (0.118)	0.532*** (0.113)	0.722*** (0.125)
Culture	0.298** (0.132)	0.435*** (0.136)	0.284** (0.134)	0.623*** (0.133)	0.411*** (0.140)	0.257* (0.138)	0.184 (0.129)	0.244* (0.134)
Volunteering	0.584*** (0.120)	0.676*** (0.129)	0.732*** (0.129)	0.979*** (0.125)	0.800*** (0.132)	0.604*** (0.123)	0.599*** (0.120)	0.472*** (0.128)
JOB CHARACTERISTICS								
Perceived education requirements	0.038 (0.037)	-0.025 (0.035)	-0.007 (0.038)	-0.018 (0.035)	0.015 (0.036)	0.038 (0.037)	0.049 (0.036)	0.011 (0.038)
Perceived cognitive requirements	0.022 (0.048)	0.051 (0.046)	0.040 (0.049)	0.041 (0.044)	0.075 (0.047)	0.000 (0.048)	-0.010 (0.044)	0.040 (0.049)
Perceived physical requirements	0.006 (0.026)	-0.014 (0.026)	0.030 (0.026)	0.022 (0.026)	0.015 (0.026)	0.020 (0.027)	0.037 (0.027)	0.022 (0.026)
RECRUITER CHARACTERISTICS								
Female	-0.332** (0.153)	-0.091 (0.146)	-0.128 (0.152)	-0.221 (0.144)	-0.295** (0.149)	-0.258* (0.154)	-0.291* (0.148)	-0.101 (0.150)
Age	0.008 (0.007)	0.015** (0.007)	0.004 (0.007)	0.008 (0.007)	0.011 (0.007)	0.011 (0.007)	0.013* (0.007)	0.008 (0.007)
Highest education: Bachelor	-0.116 (0.300)	0.193 (0.291)	0.026 (0.303)	-0.042 (0.288)	0.011 (0.296)	-0.104 (0.313)	-0.008 (0.295)	0.196 (0.296)
Highest education: Master	0.097 (0.206)	0.174 (0.210)	-0.108 (0.222)	-0.148 (0.206)	-0.147 (0.199)	0.061 (0.203)	-0.166 (0.205)	-0.005 (0.216)
American	0.465*** (0.149)	0.400*** (0.144)	0.387*** (0.146)	0.392*** (0.145)	0.293** (0.149)	0.543*** (0.153)	0.539*** (0.150)	0.459*** (0.144)
Cancer in own life	-0.056 (0.293)	-0.098 (0.297)	-0.208 (0.278)	-0.174 (0.246)	-0.340 (0.275)	-0.095 (0.303)	-0.297 (0.298)	-0.064 (0.298)
Cancer in personal environment	0.293* (0.169)	0.333** (0.162)	0.384** (0.170)	0.165 (0.166)	0.061 (0.169)	0.253 (0.173)	0.101 (0.168)	0.292* (0.167)
Cancer in work environment	-0.033 (0.179)	-0.012 (0.168)	0.221 (0.174)	0.191 (0.166)	0.173 (0.172)	0.018 (0.186)	0.137 (0.171)	0.231 (0.177)
Taste for risk	0.075 (0.077)	0.044 (0.075)	0.049 (0.078)	-0.013 (0.078)	0.035 (0.074)	0.008 (0.081)	0.018 (0.078)	0.036 (0.080)
N (number of candidate evaluations)	2,020							

Notes. The presented statistics are coefficient estimates and their standard errors in parentheses for the mediation model outlined in Subsection 3.2. Standard errors are corrected for clustering of the observations at the recruiter level. For the interview outcome, the mediators are included as additional explanatory variables. The equations' intercepts are not presented. \*\*\* (\*\*)(\*) indicates significance at the 1% (5%) ((10%)) significance level. Superscript <sup>a</sup> (<sup>b</sup>) indicates that the candidate perception is more significantly (at the 5% level) (un)favourable for cancer survivors than for the relevant control identity (based on an F-test).

Table 3. Multiple Mediation Analysis: Estimation Results for Full Sample (continued)

	Candidate perceptions (mediators)							Interview probability
	Need for accommodation	Sick leave probability	Costs	Positive impact on workplace culture	Taste for collaboration of employer	Taste for collaboration of other employees	Taste for collaboration of customers	
CANDIDATE CHARACTERISTICS								
Male	0.153 (0.111)	0.160 (0.116)	0.246** (0.112)	-0.301*** (0.092)	-0.182** (0.090)	-0.164* (0.089)	-0.156* (0.088)	0.072 (0.073)
Age	0.014** (0.007)	0.017** (0.007)	0.018** (0.007)	-0.013** (0.006)	-0.017*** (0.006)	-0.014** (0.006)	-0.017*** (0.006)	0.000 (0.005)
<b>Gap due to cancer</b>	<b>1.287*** (0.177)</b>	<b>2.132*** (0.201)</b>	<b>1.449*** (0.194)</b>	<b>0.442*** (0.137)</b>	<b>0.116 (0.139)</b>	<b>0.115 (0.136)</b>	<b>0.093 (0.133)</b>	<b>-0.129 (0.117)</b>
Gap due to depression	1.709*** <sup>a</sup> (0.196)	2.299*** (0.203)	1.699*** (0.189)	-0.650*** <sup>a</sup> (0.167)	-0.887*** <sup>a</sup> (0.154)	-0.959*** <sup>a</sup> (0.159)	-0.918*** <sup>a</sup> (0.158)	-0.169 (0.128)
Gap due to family reasons	1.006*** (0.180)	1.401*** <sup>b</sup> (0.183)	1.234*** (0.177)	-0.556*** <sup>a</sup> (0.144)	-0.730*** <sup>a</sup> (0.135)	-0.724*** <sup>a</sup> (0.133)	-0.692*** <sup>a</sup> (0.133)	-0.338*** (0.120)
Unexplained gap	0.789*** <sup>b</sup> (0.174)	1.202*** <sup>b</sup> (0.180)	1.011*** <sup>b</sup> (0.169)	-0.677*** <sup>a</sup> (0.143)	-0.799*** <sup>a</sup> (0.141)	-0.766*** <sup>a</sup> (0.140)	-0.764*** <sup>a</sup> (0.138)	-0.484*** (0.130)
Sports	-0.488*** (0.152)	-0.633*** (0.148)	-0.515*** (0.140)	0.553*** (0.114)	0.665*** (0.116)	0.672*** (0.121)	0.717*** (0.124)	0.277** (0.119)
Culture	-0.028 (0.158)	-0.279* (0.164)	-0.267* (0.147)	0.429*** (0.129)	0.421*** (0.125)	0.390*** (0.127)	0.514*** (0.131)	0.160 (0.117)
Volunteering	0.007 (0.145)	-0.314** (0.151)	-0.285** (0.142)	0.757*** (0.120)	0.729*** (0.120)	0.670*** (0.120)	0.711*** (0.122)	0.263** (0.108)
JOB CHARACTERISTICS								
Perceived education requirements	0.042 (0.044)	0.016 (0.046)	0.035 (0.046)	0.007 (0.036)	0.002 (0.038)	-0.006 (0.038)	0.002 (0.038)	-0.031 (0.032)
Perceived cognitive requirements	0.069 (0.051)	0.056 (0.050)	0.031 (0.052)	0.095** (0.045)	0.059 (0.048)	0.068 (0.048)	0.062 (0.047)	0.047 (0.043)
Perceived physical requirements	0.068** (0.030)	-0.004 (0.028)	0.014 (0.030)	0.033 (0.025)	0.029 (0.026)	0.034 (0.027)	0.041 (0.027)	0.040* (0.024)
RECRUITER CHARACTERISTICS								
Female	0.577*** (0.178)	0.527*** (0.168)	0.782*** (0.179)	-0.160 (0.143)	-0.251* (0.151)	-0.205 (0.153)	-0.226 (0.149)	-0.132 (0.136)
Age	-0.021*** (0.008)	-0.018** (0.008)	-0.016** (0.008)	0.004 (0.007)	0.005 (0.007)	0.004 (0.007)	0.004 (0.007)	-0.003 (0.006)
Highest education: Bachelor	-0.143 (0.361)	0.002 (0.325)	0.141 (0.346)	-0.058 (0.285)	-0.104 (0.303)	-0.088 (0.306)	-0.074 (0.301)	0.037 (0.264)
Highest education: Master	-0.160 (0.266)	-0.337 (0.252)	0.072 (0.256)	-0.184 (0.210)	-0.163 (0.225)	-0.197 (0.223)	-0.196 (0.220)	-0.149 (0.184)
American	-0.597*** (0.174)	-0.127 (0.171)	-0.344* (0.177)	0.283** (0.142)	0.201 (0.154)	0.248 (0.154)	0.205 (0.152)	-0.592*** (0.136)
Cancer in own life	0.059 (0.323)	-0.200 (0.291)	0.013 (0.292)	-0.114 (0.219)	-0.265 (0.258)	-0.253 (0.257)	-0.262 (0.271)	-0.278 (0.333)
Cancer in personal environment	-0.223 (0.199)	-0.464** (0.189)	-0.272 (0.198)	0.056 (0.162)	0.057 (0.173)	0.066 (0.174)	0.081 (0.173)	0.137 (0.147)
Cancer in work environment	-0.105 (0.209)	-0.117 (0.197)	0.003 (0.200)	0.190 (0.164)	0.198 (0.173)	0.178 (0.175)	0.188 (0.175)	0.391** (0.168)
Taste for risk	0.057 (0.089)	0.078 (0.084)	0.101 (0.099)	0.078 (0.076)	0.085 (0.078)	0.060 (0.079)	0.088 (0.076)	0.143** (0.065)
N (number of candidate evaluations)	2,020							

Notes. The presented statistics are coefficient estimates and their standard errors in parentheses for the mediation model outlined in Subsection 3.2. Standard errors are corrected for clustering of the observations at the recruiter level. For the interview outcome, the mediators are included as additional explanatory variables. \*\*\* (\*\*) (\*) indicates significance at the 1% (5%) (10%) level.

**Table 4. Multiple Mediation Analysis: Decomposition of the Cancer (Versus No Gap) Effect for Various Specifications and Subsamples**

Candidate perceptions (mediators)	% of total cancer effect on interview probability explained by mediator [p-value]			
	A. Full sample, benchmark model	B. Full sample, mediators at scale level	C. Sample with low or average socially desirability score, benchmark model	D. Sample with hiring tenure greater than one year, benchmark model
Candidate's perceived abilities (scale)		22.5% [0.126]		
Cognitive abilities	-0.1% [0.994]		2.2% [0.745]	-2.2% [0.852]
Physical abilities	11.7% [0.175]		8.7% [0.274]	10.7% [0.392]
Emotional abilities	-5.4% [0.389]		-0.4% [0.954]	-7.7% [0.346]
Social abilities	0.8% [0.716]		0.4% [0.881]	0.7% [0.837]
Candidate's perceived behavioural traits (scale)		1.3% [0.843]		
Motivation	-7.9% [0.176]		-5.8% [0.268]	-11.2% [0.199]
Autonomy	0.0% [0.992]		0.4% [0.926]	0.1% [0.964]
Flexibility	-1.5% [0.638]		-0.3% [0.918]	-1.6% [0.664]
Stress tolerance	1.2% [0.712]		0.7% [0.817]	0.9% [0.776]
Perceived implications for the workplace (scale)		<b>61.0%</b> [0.000]		
Need for accommodation	<b>-28.6%</b> [0.008]		<b>-19.1%</b> [0.034]	<b>-33.0%</b> [0.005]
Sick leave probability	<b>54.9%</b> [0.002]		<b>44.2%</b> [0.016]	<b>68.3%</b> [0.003]
Costs	<b>54.2%</b> [0.001]		<b>44.5%</b> [0.002]	<b>64.5%</b> [0.000]
Positive impact on workplace culture	<b>-14.0%</b> [0.016]		-13.2% [0.069]	-18.6% [0.070]
Perceived taste for collaboration (scale)		-6.2% [0.415]		
Taste for collaboration of employer	-2.5% [0.579]		-2.5% [0.628]	-5.8% [0.386]
Taste for collaboration of other employees	-1.5% [0.674]		-1.2% [0.749]	-2.9% [0.659]
Taste for collaboration of customers	-0.8% [0.786]		-0.9% [0.778]	-1.4% [0.784]
N (number of candidate evaluations)	2,020	2,020	1,615	1,930

Notes. P-values are corrected for clustering of observations at recruiter level. Percentages related to p-values below 5% are in bold. Observations are categorised as 'low or average social desirability score' if participants scored socially desirable answering tendencies below the sample mean increased by one standard deviation.

**Table 5. Moderation Analysis: Estimation Results for Full Sample**

	(1)	(2)	(3)	(4)
<b>CANDIDATE CHARACTERISTICS</b>				
Male	-0.084 (0.109)	-0.070 (0.099)	-0.078 (0.100)	-0.088 (0.109)
Age	-0.012 (0.008)	-0.012* (0.007)	-0.012* (0.007)	-0.011 (0.008)
Gap due to cancer (GDTC)	-1.264*** (0.171)	-1.256*** (0.166)	-1.256*** (0.165)	-1.268*** (0.171)
Gap due to depression	-0.320 (0.974)	-0.083 (0.436)	0.034 (0.565)	0.338 (1.124)
Gap due to family reasons	-1.262*** (0.167)	-1.251*** (0.166)	-1.258*** (0.165)	-1.269*** (0.167)
Unexplained gap	-1.134*** (0.164)	-1.128*** (0.160)	-1.133*** (0.160)	-1.145*** (0.164)
Sports	0.963*** (0.177)	0.927*** (0.139)	0.922*** (0.140)	0.969*** (0.178)
Culture	0.525*** (0.182)	0.505*** (0.155)	0.505*** (0.155)	0.530*** (0.184)
Volunteering	0.879*** (0.171)	0.864*** (0.143)	0.865*** (0.144)	0.888*** (0.171)
<b>JOB CHARACTERISTICS</b>				
Perceived education requirements	-0.029 (0.040)	-0.037 (0.040)	-0.029 (0.040)	-0.037 (0.040)
Perceived cognitive requirements	0.088* (0.052)	0.094* (0.054)	0.088* (0.052)	0.095* (0.054)
Perceived physical requirements	0.058** (0.028)	0.067** (0.030)	0.057** (0.029)	0.067** (0.030)
<b>RECRUITER CHARACTERISTICS</b>				
Female	-0.403** (0.170)	-0.396** (0.170)	-0.358** (0.179)	-0.352** (0.179)
Age	0.004 (0.008)	0.004 (0.008)	0.005 (0.008)	0.005 (0.008)
Highest education: Bachelor	-0.007 (0.326)	-0.005 (0.327)	-0.037 (0.342)	-0.038 (0.342)
Highest education: Master	-0.183 (0.229)	-0.179 (0.228)	-0.220 (0.240)	-0.221 (0.240)
American	-0.317* (0.170)	-0.322* (0.170)	-0.292 (0.181)	-0.297 (0.182)
Cancer in own life	0.490** (0.199)	0.486** (0.200)	0.601*** (0.205)	0.602*** (0.205)
Cancer in personal environment	0.345* (0.196)	0.355* (0.197)	0.323 (0.200)	0.319 (0.200)
Cancer in work environment	-0.365 (0.332)	-0.385 (0.331)	-0.521 (0.356)	-0.516 (0.356)
Taste for risk	0.172* (0.089)	0.173* (0.088)	0.152 (0.096)	0.150 (0.096)
<b>INTERACTIONS WITH CANDIDATE CHARACTERISTICS</b>				
<b>GDTC × Male</b>	0.152 (0.280)			0.074 (0.268)
<b>GDTC × Age</b>	-0.004 (0.020)			-0.007 (0.020)
<b>GDTC × Gap duration (months)</b>	0.000 (0.019)			-0.002 (0.019)
<b>GDTC × Gap two years ago</b>	0.199 (0.383)			0.256 (0.375)
<b>GDTC × Gap five years ago</b>	0.524** (0.249)			0.540** (0.253)
<b>GDTC × Sports</b>	-0.219 (0.364)			-0.248 (0.370)
<b>GDTC × Culture</b>	-0.095 (0.433)			-0.105 (0.425)
<b>GDTC × Volunteering</b>	-0.205 (0.340)			-0.188 (0.344)
<b>INTERACTIONS WITH JOB CHARACTERISTICS</b>				
<b>GDTC × Perceived education requirements</b>		0.049 (0.068)		0.035 (0.067)
<b>GDTC × Perceived cognitive requirements</b>		-0.041 (0.083)		-0.028 (0.084)
<b>GDTC × Perceived physical requirements</b>		-0.045 (0.040)		-0.046 (0.040)
<b>INTERACTIONS WITH RECRUITER CHARACTERISTICS</b>				
<b>GDTC × Female</b>			-0.243 (0.241)	-0.268 (0.242)
<b>GDTC × Age</b>			-0.006 (0.010)	-0.005 (0.011)
<b>GDTC × Highest education: Bachelor</b>			0.250 (0.488)	0.325 (0.481)
<b>GDTC × Highest education: Master</b>			0.203 (0.377)	0.259 (0.378)
<b>GDTC × American</b>			-0.140 (0.238)	-0.078 (0.237)
<b>GDTC × Cancer in own life</b>			0.623 (0.466)	0.695 (0.456)
<b>GDTC × Cancer in personal environment</b>			0.099 (0.303)	0.132 (0.292)
<b>GDTC × Cancer in work environment</b>			-0.629** (0.292)	-0.646** (0.284)
<b>GDTC × Taste for risk</b>			0.142 (0.135)	0.128 (0.134)
N (number of candidate evaluations)	2,020	2,020	2,020	2,020

Notes. The presented statistics are coefficient estimates and their standard errors in parentheses for the moderation model outlined in Subsection 3.3. Standard errors are corrected for clustering of the observations at the recruiter level. The equations' intercepts are not presented. \*\*\* (\*\*\*) ((\*)) indicates significance at the 1% (5%) ((10%)) level.

**Appendix Table 1. Fictitious Vacancies and Job Characteristics Used in the Experimental Materials**

<b>Vacancy</b>	<b>Average perceived req. level of education (0-10)</b>	<b>Average perceived req. cognitive abilities (0-10)</b>	<b>Average perceived req. physical abilities (0-10)</b>
Critical care nurse	8.381	8.929	6.833
Dishwasher	1.152	3.239	6.435
Physical medicine and rehabilitation physician	9.000	8.841	6.932
Telecommunications equipment installers and repairers	4.128	6.106	1.745
Dental hygienist	7.478	8.109	5.935
Cashiers	3.200	6.289	6.022
Software application developer	9.093	9.000	2.302
Executive secretaries	6.370	8.044	3.130
Telemarketer	4.128	6.106	1.745

Notes. Abbreviation used: req. (required). Vacancies were selected and categorised based on data provided by O\*Net, as described in Section 2.1.2. The recruiters' individual perception scores were employed in the analyses.

**Appendix Table 2. Statements Used in the Experimental Materials**

<b>Candidate perceptions and evaluations</b>	<b>Statement</b>
<b>PERCEIVED CANDIDATE'S ABILITIES</b>	
Perceived cognitive abilities	'I think this candidate possesses sufficient cognitive abilities to perform this job well.'
Perceived physical abilities	'I think this candidate possesses sufficient physical abilities to perform this job well.'
Perceived emotional abilities	'I think this candidate possesses sufficient emotional strength to perform this job well.'
Perceived social abilities	'I think this candidate possesses sufficient social abilities to perform this job well.'
<b>PERCEIVED CANDIDATE'S BEHAVIOURAL TRAITS</b>	
Perceived motivation	'I think this candidate is sufficiently motivated to perform this job well.'
Perceived autonomy	'I think this candidate is sufficiently autonomous to perform this job well.'
Perceived flexibility	'I think this candidate is sufficiently flexible to perform this job well.'
Perceived stress tolerance	'I think this candidate is sufficiently stress tolerant to perform this job well.'
<b>PERCEIVED IMPLICATIONS FOR THE WORKPLACE</b>	
Perceived need for accommodation	'I think this candidate requires additional workplace accommodations to perform this job well.'
Perceived sick leave probability	'I think this candidate has a high probability of taking a sick leave in the near future.'
Perceived costs	'I think this candidate amounts to high costs for the company.'
Perceived positive impact on workplace culture	'I think this candidate contributes to a positive and more inclusive workplace culture.'
<b>PERCEIVED ATTITUDES TOWARDS COLLABORATION</b>	
Perceived taste for collaboration of employer	'I think I will enjoy collaborating with this candidate.'
Perceived taste for collaboration of other employees	'I think other employees will enjoy collaborating with this candidate.'
Perceived taste for collaboration of customers	'I think customers will enjoy collaborating with this candidate.'
<b>EVALUATION</b>	
Interview probability	'I will invite the candidate for a job interview for the described position.'
Hiring probability	'There is a high probability that I will actually hire the candidate for the described position.'

Note: In this table, we present the potential cancer survivorship signals, the evaluation outcome and their corresponding statements as they were included in the online survey experiment. The participants evaluated each statement on a 11-point Likert scale ranging from 0 (i.e. 'completely disagree') to 10 (i.e. 'completely agree').

**Appendix Table 3. Total Effect: Regression Analysis for Various Specifications**

	(1)	(2)	(3)	(4)
<b>CANDIDATE CHARACTERISTICS</b>				
Male		-0.069 (0.104)	-0.071 (0.102)	-0.066 (0.099)
Age		-0.015** (0.007)	-0.013* (0.007)	-0.012* (0.007)
<b>Gap due to cancer</b>	<b>-0.299** (0.147)</b>	<b>-0.301** (0.152)</b>	<b>-0.316** (0.154)</b>	<b>-0.329** (0.149)</b>
Gap due to depression	-1.121*** (0.171)	-1.245*** (0.173)	-1.233*** (0.171)	-1.252*** (0.166)
Gap due to family reasons	-0.999*** (0.160)	-1.105*** (0.164)	-1.115*** (0.161)	-1.124*** (0.160)
Unexplained gap	-1.058*** (0.165)	-1.254*** (0.171)	-1.253*** (0.171)	-1.256*** (0.165)
Sports		0.915*** (0.141)	0.924*** (0.140)	0.923*** (0.139)
Culture		0.524*** (0.161)	0.517*** (0.160)	0.504*** (0.155)
Volunteering		0.847*** (0.149)	0.860*** (0.147)	0.859*** (0.143)
<b>JOB CHARACTERISTICS</b>				
Perceived education requirements			-0.048 (0.042)	-0.027 (0.040)
Perceived cognitive requirements			0.115** (0.054)	0.087* (0.052)
Perceived physical requirements			0.062** (0.029)	0.057** (0.028)
<b>RECRUITER CHARACTERISTICS</b>				
Female				-0.401** (0.170)
Age				0.004 (0.008)
Highest education: Bachelor				-0.014 (0.327)
Highest education: Master				-0.185 (0.229)
American				-0.322* (0.170)
Cancer in work environment				0.488** (0.199)
Cancer in personal environment				0.349* (0.197)
Cancer in own life				-0.384 (0.330)
Taste for risk				0.175** (0.088)
F-test for equality of 'Gap due to cancer' and 'Gap due to depression' (p-value)	0.000	0.000	0.000	0.000
F-test for equality of 'Gap due to cancer' and 'Gap due to family reasons' (p-value)	0.000	0.000	0.000	0.000
F-test for equality of 'Gap due to cancer' and 'Unexplained gap' (p-value)	0.000	0.000	0.000	0.000
N (number of candidate evaluations)	2,020			

Notes. The presented statistics are linear regression estimates and their standard errors in parentheses. Standard errors are corrected for clustering of the observations at the recruiter level. The equations' intercepts are not presented. \*\*\* (\*\*) (\*) indicates significance at the 1% (5%) (10%) level.