Pre-analysis Plan
Workplace Hostility

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Background

Job quality goes beyond the wage obtained in the exchange for labor. Non-wage job amenities have long been understood as an important component of job quality shaping labor market outcomes and explaining wage disparities (Rosen, 1974, 1986; Wiswall and Zafar, 2018; Lamadon, Mogstad and Setzler, 2022). A growing literature started to quantify the role of non-wage job amenities (Mas and Pallais, 2017; Maestas et al., 2023; Dube, Naidu and Reich, 2022). For example, recent scholarship measured the value of commuting time (Le Barbanchon, Rathelot and Roulet, 2021), workplace safety (Anelli and Koenig, 2021), sexual harassment (Folke and Rickne, 2022), or meaningful work (Burbano, Padilla and Meier, 2020; Burbano et al., 2022). The combined value of all non-pecuniary amenities at firms can be inferred from employer switching behaviour (Sorkin, 2018). While switching behavior is fairly easy to observe and thus allows for ease of measurement, measuring the value of non-pecuniary amenities in the form of switching costs is unable to take into account the group that ex-ante selected out of the job.

In this study, we look at workplace hostility and measure its valuation ex-ante and ex-post. That is, we measure the sorting into different workplace environments before the start of a job as well as sorting out after working in a certain workplace environments. We focus on workplace hostility for three reasons. First, workplace hostility is the number two driver of job switching. It comes second just after dissatisfactory pay (Parker and Horowitz, 2022), making it a crucial non-wage job amenity.[1] Second, until recently, it was difficult to obtain

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[1] Pew Research Center conducted a survey of non-retired U.S. adults in 2021. Among the participant who quit within the last year, 35% of respondents indicated the major reason of their resignation was feeling disrespected at work. 37% of respondents said their primary reason was that pay was too low.

information on workplace environment. Workers would have to start their job to learn about the quality of the workplace environment, making ex-ante sorting not impossible but less likely. As more information on workplace environment becomes available through employer review platforms such as Indeed.com or Glassdoor, the role of workplace environment on sorting and labor market outcomes is expected to further increase and thus becomes a relevant empirical question. Thirdly, workplace hostility has been shown to have unequal effect on men and women, possibly contributing to the gender wage gap (Folke and Rickne, 2022; Adams-Prassl et al., 2022).

Workplace environment is not only a non-monetary job attribute, it is also crucial to a corporation's long-term success (Barney, 1986; Boyce et al., 2015; Guiso, Sapienza and Zingales, 2015; Martinez et al., 2015; Gartenberg, Prat and Serafeim, 2019). A healthy workplace environment is beneficial to both the employee and employer. Employees benefit from a better psychological well-being, higher engagement, and more motivation which ultimately is reflected in their performance (Ostroff, 1992; Judge et al., 2001; Srivastava et al., 2018; Guadalupe, Kinias and Schloderer, 2020; Castro, Englmaier and Guadalupe, 2022). Firms benefit from higher employee retention, productivity, profitability, as well as innovation (Edmans, 2011; Boyce et al., 2015; Guiso, Sapienza and Zingales, 2015; Graham et al., 2016, 2022). Alan, Corekcioglu and Sutter (2023) conducted an RCT aimed at improving relational atmosphere at the workplace and indeed found that employee retention improved, internal support for both personal and professional matter increases, and support networks became denser and less segregated.

The impact of a hostile workplace on worker sorting and worker performance is hard to measure, however. No good or standardized measure of workplace hostility exists. Furthermore, ex-ante sorting remains unobserved with observational data. Observational data that—perhaps—would bring us closer to useful insights, are fine-grained search data of jobseekers by job and firms. In this study, we overcome this data limitation with an experimental approach. We document how workplace hostility influences workers' job choices and performance. The study involves three steps. First, we build and empirically validate a definition of a hostile workplace, encompassing four distinct attributes: workplace climate, aggression, lack of inclusion, and sexual harassment. Second, we design and conducted a hypothetical job choice survey among job-seeking students and alumni at a large public university in Canada to measure ex-ante worker job preferences. Their stated preferences allows us to infer the value of each hostile workplace attribute and estimate heterogeneous effects across socio-economic

groups and work experience. To do so, we presented respondents with a series of pairs of hypothetical job scenarios. Each of the two jobs varies exogenously on the four hostility attributes and respondents are asked to choose their most preferred job among the two jobs. The third step of this study involves a laboratory experiment which allows to look at the impact of workplace hostility on other measures such as performance, gender segregation, and payoffs.

The tolerance for workplace hostility may depend on the extend an employee is exposed to, or conversely, can steer clear of it. Physical hostility such as sexual harassment may be less of a concern if the job is fully remote and physical interactions are not possible. Or respectful communication may become more important when the work is conducted virtually and visual cues such as facial expressions, tone of the voice, or gestures are not available to help interpret the information received. As such, the recent evolution of the workplace and conduct of work presents an opportunity to reshape the value of different categories of workplace hostility. We make a first effort at answering the following question: How does workplace hostility interact with other job amenities? To answer this question, we measure whether there exists a relationship between workplace hostility and the location of the workplace (in-person versus remote) and the organization of work (in teams versus by oneself).

Note that this pre-analysis plan concerns the impact of workplace hostility on worker's job choices. As such, what follows is a detailed description of the experimental procedures, estimation strategy, and outline of hypotheses of the second portion of this work: the choice experiment.

Experimental Design

Sampling and Recruitment Our subject population is comprised of recent graduates or alumni at a large public university in Canada. We recruit survey respondents through the university's undergraduate programs, career services, and university advancement. Most personal correspondence will occur via email. To minimize selection on the outcome variable, our recruitment email discloses that the purpose of the study is to better understand participants' job preferences, and that this will help career offices to offer our students and alumni better guidance and job recommendations. We distribute our survey up to three times to potential participants.

Exclusions We will only consider participants who have completed the entire experiment. We will exclude duplicate responses, defined as responses with the same IP address. In this

case, we will keep the response that has been submitted first. We will test the robustness of our results to inattention due to speeding by excluding participants who completed the study in three minutes or less.

Incentives Our incentive structure contains monetary and non-monetary components. First, we pay participants a fixed completion fee of CAD 5. Additionally, we draw thirty respondents at random who will earn an additional cash prize of CAD 250. Moreover, two questions in the experiment are incentivized and provide the participants with a chance to earn an additional CAD 1 each. Specifically, in the main part of the experiment, participants are given a total of thirteen scenarios. Each of which contains a pair of jobs they have to chose from. That is, they have to indicate their preference for one or the other job (Job A versus Job B). For scenario twelve and thirteen, we ask each participant to guess the percentage of total respondents who choose Job A over Job B. If their guess is correct, they will earn an additional CAD 1. We present the full questionnaire in Appendix A for more information. Second, in our promotional materials, we try to activate pro-social incentives to motivate their participation. We ask them to *help* researchers and highlight that their participation is *meaningful for both research and their alma mater*. Third, we offer to send participants the results of the research once completed. The intention of including non-monetary compensation is to motivate participation for potential participants for whom the monetary-incentives are not attractive enough (such as high-paid individuals).

Procedures Participants are first provided with an overview of the study procedures, duration, and compensation. Since we expect that some of our participants have moved to the US, we also provide them at the beginning of the study with an option to be paid in CAD or USD. Once participants consent to participate in the study and selected their preferred currency for payment, they are asked to complete a short pre-questionnaire with socio-economic and career-related questions (see Part 1). We also ask them for their email which is used for payment-related tasks only (see Part 23). Next, we provide participants with an introduction to the decision-making task. We explain to them that we will provide them with a set of thirteen job offers and ask them to compare Job A and Job B. The jobs may differ on three overall dimensions: workplace culture, amount of team-work, and location of the workplace. The participant is asked to select their preferred job under the assumption that they would start the job within 30 days and don't have any conflicting work, school, or personal commitments. We also explain to the participant that while the jobs are fictional, the description of

the workplace culture has been obtained from real workplace reviews online (from Indeed and Glassdoor) and standardized for the purpose of this study. To ensure participants understand their tasks, they are asked to complete one understanding question before they begin with the series of job choices. Once they answered the understanding question correctly, they are forwarded to the first set of job offers. The last two of the thirteen sets of job offers are accompanied with one additional question. Once participants indicated their job preference, we ask them to guess the percentage of participants who selected Job A over Job B. That question appears on a separate page.

After participants have completed the main portion of the experiment, they are asked to complete a short follow-up survey. The survey asks participants about their past experience with hostile workplace cultures and their perceived risk of experiencing hostility at work in the next two years. The second-to-last question asks participants to predict the relationship between workplace hostility and creative output. These data are collected as exploratory data for Manuela Collis. The last question is a hiring-related question, data collected for Annabel Thornton and Alex Ballyk, doctoral students at University of Toronto. Note, that some field partners asked us to add one or two questions to the survey. We added those questions to the pre-questionnaire if the question is related to school or career. We added those questions to the follow-up questionnaire if the question is unrelated to school or career since this seemed the most intrusive way to add those questions to our survey. Appendix A.1 contains the collection of questions we collected data on for our field partners.

Restricting the Combinations of Hypothetical Jobs Each job consists of six categories (job satisfaction and growth, inclusion, aggression, sexual harassment, job location, amount of teamwork) where each category can take two values. These dimensionalities results in $2^6 = 64$ possible jobs and $(2^{12}/2) - 2^6 = 1,984$ possible scenarios (consisting each of two jobs which cannot be the same). We reduced this multidimensionality to seven jobs and 28 possible workplace culture scenarios. Our construction of possible jobs and scenarios was guided by how likely a bundle of workplace characteristics was to occur. For example, is seems very unlikely that a workplace has a record of sexual harassment but that otherwise the workplace is inclusive, respectful, supportive, and friendly. The jobs used for this experiment can be found under Figure 1.

Randomization The survey contains across and within subject randomization. We randomly assign whether the workplace location and amount of group-work varies for the participant.

That is, either, the job add will vary on three characteristics (workplace hostility, workplace location, amount of group-work) or it will only vary on one characteristics (workplace hostility). This design choice has been made to decrease the amount of noise we may obtain by always varying all characteristics since the main focus is on workplace hostility. The following factor vary within-participant. We have a total of 30 scenarios. The first eleven scenarios which the participants is presented with are randomly selected among 28 of those 30 scenarios. That is, the scenario and the order of those eleven scenarios are randomized at the individual level. Note that every participant sees the other two out of 28 scenarios. Those two scenarios are shown to every participant as scenario 12 and 13 out of the total 13 scenarios they are presented with. The order of these two scenarios is fixed. That is, every participants sees the same two scenarios as scenario 12 and scenario 13. Screenshots of scenario twelve and thirteen can be found in Figure 2 and Figure 3, respectively.

What is randomized for each job is the payment amount. The process is as follows. First, we use a benchmark annual salary for each participant. By default, the benchmark annual salary is equal to the median annual full-time salary for workers employed with the relevant major, aged between 25 and 64 with a bachelor's degree or higher. For alumni and students who indicated that they have already accepted a job, we are able to update the benchmark annual salary by either using the median annual full-time salary for workers employed with their relevant major in their relevant sector, aged between 25 and 64 with a bachelor's degree or higher *if* they participant provided us with the industry they work in. If the participant shares with us their current salary (or salary of their job which they have accepted but may not have started), their current salary will be used as their benchmark annual salary. Should the participant indicate that their annual salary is below CAD 10,000, we use the initial default salary. This design choice is based on the assumption that this individual may reference the wage of a student job or similar. Note that the median salary used as approximation is computed using employment income statistics by occupation, major field of study and highest level of education from Statistics Canada (2021 Census) for the population of full-time workers aged between 25-64 with a bachelor's degree or higher in each major. We compute the participant's benchmark annual salary after the participant completed the pre-questionnaire which contains industry and wage-related questions. The annual median salaries by majors are indicated in Appendix Table 2. To construct the job-specific wage, we follow Maestas et al. (2023). That is, we will use the benchmark annual salary and for each job randomly varied the wage to lie between 0.75 and 1.25 times the benchmark annual salary. We do this

for each of the total 26 jobs (13 scenarios of which each scenario consists of two jobs).

Restricting Randomization when one job was strictly better than other Our 28 scenarios contained 21 scenarios where one job was strictly better than the other with regard to work-place culture. This is for example the case when one job was "friendly" on all dimensions and the other job was "hostile" on all dimensions. In that case, we did not allow for the strictly better job to pay more.

Model and Specification

We use a standard model of hypothetical job choices used in the willingness-to-pay literature (Wiswall and Zafar, 2018; Maestas et al., 2023). Jobs are indexed by j, presented by choice pair t =A,B. Each job is characterized by a vector of K non-wage attributes $X_j' = [X_{j1}, ..., X_{jK}]$. w_{ijt} is the wage associated to job j in choice pair t. Let $U_{ijt} \in \mathbb{R}$ be individual i's utility from job j within the choice pair t:

$$U_{ijt} = u_i(X_{jt}') + \ln(w_{ijt}) + \varepsilon_{ijt}$$

$u_i(X) \in \mathbb{R}$ is the preferences of individual i over the vector of characteristics X, $\varepsilon_{ijt} \in \mathbb{R}$ is the additional job-specific preference component for job j reflecting all remaining attributes of the job which affect utility, if any. Let ε_i be the vector of these components for individual i, $\varepsilon_i = \varepsilon_{i1}, ..., \varepsilon_{iJ}$. We assume that ε_i is an i.i.d. Extreme Value Type I random variable, as is standard in the willingness-to-pay literature. After observing the attributes $X_1, ..., X_K$ and w for the two jobs and ε_i, individual i chooses the one job with the highest utility: i chooses job j if $U_{ij} > U_{ij'}$ over $j' \neq j$ within the choice pair t. Each individual i expresses their probability of taking a given job j as:

$$p_{ij} = \int 1\{U_{ij} > U_{ij'} \text{ for all } j' \neq j\} dH_i(\varepsilon_i)$$

where $H_i(\varepsilon_i)$ is individual i's belief about the distribution of $\varepsilon_{i1}..., \varepsilon_{iJ}$ elements.

Assumption for identification of preferences We assume that the binary choices observed reflect a linear indirect utility function. The $\varepsilon_{i1}..., \varepsilon_{iK}$ job-specific terms are i.i.d. and independent of the experimentally manipulated job attributes $X_1, ...X_K$. Our experimental design ensures that respondents are instructed that the jobs vary only in the listed characteristics

and are otherwise identical. Under this assumption,

$$p_{ij} = \mathbb{P}\left(U_{ijt} > U_{ij't}\right) = \frac{\exp\left[(X'_{ijt} - X'_{ij't}\beta_i) + \delta_i(w_{ijt} - w_{ij't})\right]}{1 + \exp\left[(X'_{ijt} - X'_{ij't}\beta_i) + \delta_i(w_{ijt} - w_{ij't})\right]}$$

The preferred specification is a mixed logit model, which allows for unobserved heterogeneity (i.e $\beta_i \neq \beta$ and $\delta_i \neq \delta$). Following Maestas et al. (2023), we aggregate individual responses into a dichotomous variable indicating preference for Job A.

Estimation of the willingness-to-pay to avoid hostile environments The willingness-to-pay for each non-wage attributes is derived by equalizing the utility of an individual who is indifferent between working in a hostile environment according to the hostility attribute k, and working in a non-hostile environment:

$$\delta_i \ln(w_i) = \beta_i^k + \delta_i \ln(w_i - WTP_i^k)$$

where β_i^k is the individual i's marginal utility of attribute k, and δ_i is the marginal utility of the log wage. Hence:

$$WTP_i^k = w_i \left[1 - \exp\left(\frac{-\beta_i^k}{\delta_i}\right)\right]$$

We will present our estimates in terms of $1 - \exp\left(\frac{-\beta_i^k}{\delta_i}\right)$, meaning that, if the job offers attribute k, the increase in utility corresponds to a $100\left(\exp\left(\frac{-\beta_i^k}{\delta_i}\right)\right)$-percent wage change.

Standard errors are calculated using the delta method and adjusted for clustering by respondent.

Full Valuation and Interactions Similar to Maestas et al. (2023), we will compute a WTP for each amenity and will present the full valuation of amenities by defining the willingness-to-pay for the "best" job relative to the "worst" job:

$$WTP_i^{FULL} = w_i \left[1 - \exp\left(\frac{-\sum_k \beta_i^k}{\delta_i}\right)\right]$$

where we will add up the coefficients for the most preferred value of each attribute.

We will also relax the assumption of additive separability and estimate a logit model allowing for two-way interactions to test whether the presence of work-from-home or teamwork affects the willingness-to-pay to avoid hostile environment. To obtain standard errors for the

average willingness-to-pay estimates, we will bootstrap over 500 simulations, clustering by respondent.

Hypotheses Tested

Primary

H1 Hostile work environment as a meaningful workplace disamenity: Avoiding hostile work environments is associated with a positive wage increase.

H2 Differences in valuations for hostile work environments by gender, race, parental education, majors, and seniority: women, non-white respondents, and older workers have larger WTP to avoid hostile work environments. WTP differs by majors and parental educational background.

H3 Interactions between non-wage characteristics: the presence of teamwork (work-from-home) affects positively (negatively) the willingness-to-pay to avoid hostile work environments.

Secondary

H4 Differences in WTP are predictive of job choices: individuals who have selected into jobs with specific amenities value those amenities more.

H5 Differences in WTP across hostility attributes.

H6 Differences in WTP across hostility attributes and sociodemographic groups.

H7 Differences in WTP across past exposure and perceived risk of hostility.

Outcomes Our primary outcome variable is respondents' willingness-to-pay for non-wage amenities in particular the WTP to avoid hostile attributes of the workplace. For each choice pair t, we will look at a binary variable $Y = 1$ if the respondent chooses job A over job B, $= 0$ otherwise. For scenario 12 and 13, we ask participants to predict the percentage of respondents in this study who will choose Job A over Job B, and will use a continuous variable between 0 and 100. Additionally, we ask three open questions to participants to document their experience of hostility during their studies and at work, and their perceived risk of experiencing hostility in the future. For experience of hostility during their studies and at work, we will use dichotomous variables with 5 values ("Never", "Rarely", "Sometimes", "Often", "Always"). For perceived risk, we will ask the percent chance that they will experience hostility in the next two years and will use a continuous variable between 0 and 100.

Robustness and Additional Data Quality Checks For the specifications used to examine Hypothesis 1, 4 and 5, we will test robustness to using a probit specification. We will also compare results between a mixed and standard logit regressions. We will also test the robustness of the results by reweighting these regressions using observable characteristics to match the population of students from administrative data. Further, we will examine the subsample of respondents who passed the understanding question. We will estimate a model with two-way interactions between non-wage characteristics to relax the assumption of additive separability. We will restrict the sample to choice pairs with the common baseline job to explore sensitivity to the values of background (i.e., non-varying) job attributes.

Finally, we will perform a series of standard data quality checks to ensure that the randomization was successful and that the experimental design was not compromised. For example, we will perform a balance test by regressing respondent characteristics on indicators for the main randomized treatments (e.g., wage rates, amenity levels). We will also use JPAL's replication service before publication and pending IRB approval for the replication service to access the data.

Registration Timeline

IRB clearance was obtained from the University of Toronto (RIS Human Protocol Number 42878).

Table 1 – Timeline

Tasks	Start Date	Duration
Piloting phase	June 15th, 2022	2 weeks
Staggered delivery of survey experiment	July 5th, 2023	3 months
Analysis of survey responses and write-up.	October 6, 2023	6 months

Update October 7, 2023: Note, that we closed all but one survey on Ocober 7, 2023. We kept open one survey due to a delay in its administration. That last sample has been contacted on October 6 and will receive a reminder email on October 11, 2023. We will close the survey one week after the reminder went out, on October 18, 2023

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Table 2 – Median Annual Salaries by Industries and Major

	Median Annual Full-Time Salary (in CAD)
Economics and Business	65,000
Banking and Finance	107,000
Computer and Technology	76,000
Consulting	80,000
Education	69,500
Energy	63,200
Financial Audit and Accounting	52,800
Pharmaceutical	73,000
Retail	65,000
Real Estate	65,000
Reported salary $\leq$ 10,000	65,000
Psychology	41,600
Arts, Culture, Recreation, Sport	34,000
Business, Finance, Administration	52,800
Education, Law, Social Work, Government Services	59,200
Healthcare	54,400
Retail, Sales or Services	30,600
Reported salary $\leq$ 10,000	41,600
Computer Science	124,000
Administration or Policy	80,000
Arts, Culture, Recreation, Sport	91,000
Architecture	97,000
Business, Banking, Finance or related	80,000
Computer and Technology	94,000
Education, Law, Social Work, Government Services	91,000
Energy	91,000
Health Care and Services	79,500
Pharmaceutical	91,000
Retail, Sales or Services	91,000
Real Estate	119,000
Reported salary $\leq$ 10,000	91,000
Sociology	79,000
Administration, Policy, or Non-Profits	75,000
Arts, Culture, Recreation, Sport	79,000
Business, Banking, Finance or related	75,000
Education, Law, Social Work, Government Services	79,000
Health Care	86,000
Retail, Sales or Services	79,000
Real Estate	118,000
Reported salary $\leq$ 10,000	79,000

Notes: This table presents the median annual full-time equivalent salaries for each industries $\times$ major combinations. Salaries are computed using employment income statistics by occupation, major field of study and highest level of education from Statistics Canada (2021 Census) for the population of full-time workers aged between 25-64 with a bachelor's degree or higher in each major.

Table 3 – Job Scenarios

	Values	
	(1)	(2)
Aggression	"The workplace fosters a culture of friendly interactions. Instances of aggression are rare."	"The environment is very much cutthroat. Bullying does happen and intimidation is frequent and seen as tool to make you work harder."
Inclusion	"The team is incredibly inclusive and supportive. They actively embrace diversity and create an environment where everyone's voice is heard and respected."	"I often feel excluded and undervalued by my colleagues. It's challenging to be heard in an environment that lacks appreciation for diverse perspectives."
Sexual Harassment	"The company maintains a zero-tolerance policy towards sexual harassment, ensuring a safe workplace for all employees."	"Instances of sexual harassment are an open secret, creating an uncomfortable and unsafe work environment. People who make inappropriate comments or act inappropriately are not reprimanded by management."
Workplace climate survey	"The workplace climate survey reflects high employee engagement. It signifies a work environment that fosters growth and satisfaction."	"The workplace climate survey reflects low employee engagement. The results reveal widespread dissatisfaction and a lack of opportunities for growth."
Work Location	"You will complete all your tasks in-person at the office."	"You will complete 50% of your tasks in-person and 50% of your tasks remotely."
Team-Work	"You complete projects by yourself."	"You sometimes complete projects by yourself and sometimes in teams".

Notes: This table presents the two versions of each hostility attributes and other non-wage attributes (work location and team-work).

A Survey Questionnaire

Welcome!

Overview This is a short survey from the University of Toronto's Department of Psychology in collaboration with a team of researchers at the University of Toronto. The purpose of this survey is to better understand your job preferences. This will help our career offices to offer our students and alumni better guidance and job recommendations. Furthermore, data will be collected and analyzed for research purposes. Your participation today will take a maximum of 10 minutes. In the first part of this survey, you will answer a brief questionnaire. The second part of this survey will provide you with specific job descriptions and ask you for your opinion on these jobs. We do recommend taking this survey on a tablet, laptop, desktop computer, or similar. Some of the questions may be hard to read on screen of the size of a mobile phone.

Voluntary Participation, Privacy, and Point of Contact Your participation is completely voluntary. You can agree to take part and later change your mind. Your decision will not be held against you. The data you provide in this study will be stored in encrypted form and used for research purposes. De-identified data may be shared with other researchers or participants in the future. The principal investigator of this study is Clémentine Van Effenterre from the University of Toronto. If you have questions, concerns, or complaints regarding this study, you can contact Clémentine Van Effenterre at `c.vaneffenterre@utoronto.ca`. Note, that this is a research study and for data integrity reasons, you are allowed to only participate once.

Compensation This survey takes a maximum of 10 minutes to complete. You will receive a total of $5 in payment for completing the study in the form of a Tango gift card (valid at 1,000+ stores such as Amazon, Uber, Starbucks, Sephora, PlayStation, Cineplex). Payment will be transferred within five workdays of completion. Additionally, you will be able to enter a lottery upon completion of this study. We will randomly draw 30 winners who will win CAD 250.

Research Results We are happy to share our results with you should you be interested. You may print a copy of this information sheet for your own records. If you would like to volun-

tarily participate in this survey, confirm that you are 18 years or older, and have completed 14 or more credits please press "Next page" to continue.

In what currency do you want to receive your payment?

- CAD
- USD

First, we ask you to answer a set of questions about yourself and your job preferences broadly speaking. (Note that these individual-level data will not be shared with the Career Services. The Career Services will only receive aggregate results from the team of researchers.)

1. What year of your program are you in?

    - Finished 1st year
    - Finished 2nd year
    - Finished 3rd year
    - Finished 4th year
    - Finished 5th year

2. What is your intended or current major?

    - Architecture
    - Art
    - Biology
    - Biomedical Sciences
    - Business
    - Commerce
    - Communications
    - Computer Sciences
    - Criminal Justice
    - Culinary Arts
    - Economics
    - Education
    - Engineering
    - English
    - Environmental Science
    - Geography
    - History
    - Information Technology
    - Legal Studies

- Literature
- Music
- Nursing
- Pharmaceutical
- Physics
- Political Science
- Psychology
- Religious Studies
- Social Sciences
- Other, Not Listed

3. What is your graduating GPA in the form of a numerical grade? (Please provide your best guess in case you can't remember)

   Text Box

4. What is your year of birth?

   Text Box

5. What is your gender identity?

   - Man
   - Non-binary
   - Trans man
   - Trans woman
   - Woman
   - I prefer to write myself [Text Box]

6. What best describes your ethnicity or race? (Please select all that apply)

   - Asian (South; e.g. East Indian, Pakistani, Sri Lankan)Asian (South; e.g. East Indian, Pakistani, Sri Lankan)
   - Asian (Southeast; e.g. Vietnamese, Cambodian, Laotian, Thai)
   - Asian (West; e.g. Iranian, Afghan)
   - Arab
   - Black
   - Chinese
   - Filipino
   - Indigenous / First Nations
   - Japanese
   - Korean
   - Latin American
   - White

- Not stated. Please specify: [Text Box]

7. While at the University of Toronto, were you qualifying for domestic tuition?

   - Yes
   - No

8. Did you graduate this summer? Or in other words, are you a graduate of class 2023?

   - Yes
   - No

9. Does your first parent (e.g. father or mother) have a college degree or higher?

   - Yes
   - No
   - I don't know the educational background of my first parent.

10. Does your second parent (e.g. father or mother) have a college degree or higher?

    - Yes
    - No
    - I don't know the educational background of my first parent.

11. Do you have children?

    - No
    - Yes, I have one child.
    - Yes, I have two children.
    - Yes, I have three or more children.

12. You are a recent graduate. Have you already accepted a job offer to start after your graduation? Select all that apply.

    - Yes
    - No, but I am actively searching.
    - No. I will continue my studies this year and pursue an advanced degree.
    - No. My reason is not listed. Please Specify: [Text Box]

13. What is the job title of your new job? [If yes to Question 12]

    Text Box

14. What is your employment status once you have started your new job?

    - Full time

- Part time

15. What is your annual earned income (in CAD) at your new job? Please answer without commas or special characters (i.e. 10000 and not 10,000) If you are not currently employed, please write the annual earned income of your previous Job.[If seniority=Alumni]

    Text Box

16. Since you landed your first job after graduation, would you say that your earnings have: [If seniority=Alumni]

    - Declined or stayed the same
    - increased by 0-2%
    - increased by 2-5%
    - increased by 5-10%
    - increased by more than 10%

17. How many hours do you work in a normal week? Please answer in only numeral format and without commas, letters or special characters. Please round to the next full hour. Example: "6" and not "5 h 45 minutes"

    Text Box

18. What industry do you currently work in?

    See industry list in Table 2.

19. What is your job location?

    - Fully on-site
    - Partially on-site and partially remote
    - Fully remote

20. How much of your work involves working in a team (versus working by yourself?)

    - All of my work is in teams
    - Most of my work is in teams
    - Some of my work is in teams
    - None of my work is in teams

21. If you could choose industries to work in, what would be your order of preference? To indicate your order of preference, please drag the industries into the correct order, where Rank 1 indicates your most favorite industry and Rank 5 indicates your least favorite industry.

See industry list in Table 2.

Payment information Note that these individual-level data will not be shared with the Career Services. The Career Services will only receive aggregate results from the team of researchers.

22. What is your student ID number?

    Text Box

23. What is your email address? Note that if you don't provide your email address, we will be unable to compensate you for your participation.

    Text Box

24. (optional) Tick this box in case you would like to receive the research paper that is based on your survey answers.

    - Yes, please retain my email address and send me your research paper.

Job Choices In this portion of the study, we want to learn more about your job preferences. Specifically, you will be presented with thirteen scenarios. Each scenario offers you two different jobs. In each scenario, you will be asked to indicate which of the two jobs you prefer over the other. For the remainder of this study, please imagine you don?t have any work, school, or personal commitments right now and you could select this job and start it within the next 30 days. That is, think of this scenario as if you have no constraints and would be ready to start that job.

Note that each job offer is characterized by:

- Work culture, as described by previous employees
- Location
- Amount of teamwork
- Wage

These jobs are identical in all other aspects. Those other aspects include for example the working hours, commute, vacation days, and benefits package.

How do we define Work Culture? You will be shown excerpts of reviews about a work culture. Here is an example: "The workplace fosters a culture of friendly interactions. Instances of aggression are rare." These reviews shown to you resemble real reviews from current or past employees of real companies and have been standardized for the purpose of this study.

Below, we ask you some understanding questions. Since this is part of a research study, we want to make sure you understand what we ask you to do. You are able to continue with this survey once you answered all questions correctly.

25. **Understanding Questions:** In each scenario, what are you asked to do?

    - Close my eyes and randomly select one of the three job offers.
    - Carefully evaluate the two job offers and indicate which job I am most likely to accept and which job I am least likely to accept.

That's correct! You are now halfway through the survey - thank you for your participation!

Once you click "Next page," you will be presented with your first set of jobs.

Scenario X out of 13 Imagine you are offered the two jobs shown below. You learn about the work location, the amount of team work, and the pay from the offer letter. You also learn about the work culture from trusted and verified online sources (imagine for example online reviews from current and past employees which have been verified by numerous employees or persons close to you). The reviews shown to you below resemble real reviews and have been standardized for the purpose of this study.

26. Except for the characteristics below, please assume the jobs are the same in all other ways, including on characteristics not listed in the table. Please review the jobs and indicate below whether you prefer Job A or Job B.

    - Accept Job A
    - Accept Job B

27. Please provide your best guess to the following question: What percentage of respondents in this study will choose Job A over Job B? Note that you will receive $1 in additional pay if you guess correctly.

28. Please review the jobs and indicate below whether you prefer Job A or Job B. Recall that in this scenario, you don't have any work, school, or personal commitments and that you would start the job within the next 30 days.

    Percentage of respondents choosing A over B [Slider between 0 and 100]

    Congratulations, you have completed all thirteen scenarios!

    All that is left is the answering of four short multiple-choice questions. Please click "Next page."

29. What is the percent chance that you will experience... in the workplace in the next two years of your career? Note that this includes your current job and any future jobs you may accept and start within the next two years. [Slider between 0 and 100]

    - Lack of Satisfaction and Professional Growth
    - Lack of inclusion
    - Aggression
    - Sexual Harassment

30. How commonly do you experience satisfaction and professional growth, inclusion, aggression, or sexual harassment during a group/team project during your classes? Never, Rarely, Sometimes, Often, Always

    - Satisfaction and Professional Growth
    - Inclusion
    - Aggression
    - Sexual Harassment

31. How commonly do you experience satisfaction and professional growth, inclusion, aggression, or sexual harassment at a workplace? Never, Rarely, Sometimes, Often, Always

    - Satisfaction and Professional Growth
    - Inclusion
    - Aggression
    - Sexual Harassment

A.1 Field Partner Questions

Manuela Collis

32. Do you think a hostile workplace increases or decreases the level of creativity in a team?

- increases by a lot
- increases somewhat
- decreases somewhat
- decreases
- decreases by a lot
- I don't know / I can't tell

Annabel Thornton and Alex Ballyk

33. When deciding whether to apply to a particular job, with what frequency do you consider (Never, Rarely (less than 10% of the time, Occasionally (about 30% of the time), Sometimes (about 50% of the time), Frequently (about 70% of the time), Usually (about 90% of the time), Every time)

    - the number of other people that may be applying to that job?
    - how your qualifications may compare to those of others who may be applying to that job?
    - the time associated with completing an application process (for instance: writing a new cover letter, updating your CV, etc.)?

Department of Economics

34. Since you landed your first job after graduation, would you say that your earnings have:

    - Declined or stayed the same
    - increased by $0-2\%$
    - increased by $2-5\%$
    - increased by $5-10\%$
    - increased by more than 10%

Department of Psychology

35. How helpful were the following for you in choosing you next steps after graduation: Not at all helpful, Slightly helpful, Moderately helpful, Very helpful, Extremely helpful, Did not access

- Psychology Department Mentorship Program
- Psychology Department Careers & Graduate Studies webpage
- Psychology Department faculty
- Psychology Department staff (the Undergraduate Administrator, etc.)
- Psychology Department graduate students, teaching assistants
- Psychology Department research opportunities (volunteer positions, PSY299, PSY399, PSY405, etc.)

Department of Sociology

36. How much do you agree with the following:

    - My current job is directly related to my studies in Sociology at U of T. Strongly agree/somewhat agree/neither agree nor disagree/somewhat disagree/strongly disagree
    - In the workplace:
        - I apply information, concepts and ideas from Sociology courses at U of T. Strongly agree/somewhat agree/neither agree nor disagree/somewhat disagree/strongly disagree
        - I apply skills for understanding texts and data from Sociology courses at U of T. Strongly agree/somewhat agree/neither agree nor disagree/somewhat disagree/strongly disagree
        - I apply skills in communication from Sociology courses at U of T. Strongly agree/somewhat agree/neither agree nor disagree/somewhat disagree/strongly disagree

A.2 Composition of Hostile Workplace Culture Attributes used in the Study

FIGURE 1. Seven Jobs used for the Choice Experiment

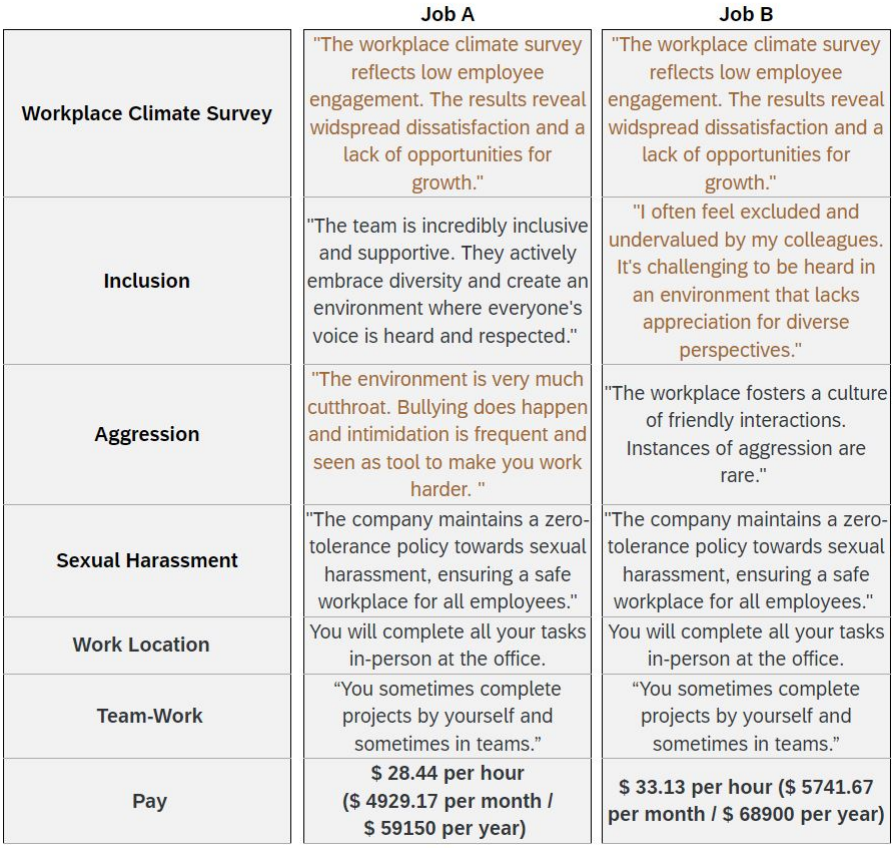
Industry	Job 1	Job 2	Job 3
Workplace Climate Survey	"The workplace climate survey reflects high employee engagement. It signifies a work environment that fosters growth and satisfaction."	"The workplace climate survey reflects low employee engagement. The results reveal widspread dissatisfaction and a lack of opportunities for growth."	"The workplace climate survey reflects low employee engagement. The results reveal widspread dissatisfaction and a lack of opportunities for growth."
Inclusion	"The team is incredibly inclusive and supportive. They actively embrace diversity and create an environment where everyone's voice is heard and respected."	"I often feel excluded and undervalued by my colleagues. It's challenging to be heard in an environment that lacks appreciation for diverse perspectives."	"I often feel excluded and undervalued by my colleagues. It's challenging to be heard in an environment that lacks appreciation for diverse perspectives."
Aggression	"The workplace fosters a culture of friendly interactions. Instances of aggression are rare."	"The workplace fosters a culture of friendly interactions. Instances of aggression are rare."	"The environment is very much cutthroat. Bullying does happen and intimidation is frequent and seen as tool to make you work harder. "
Sexual Harassment	"The company maintains a zero-tolerance policy towards sexual harassment, ensuring a safe workplace for all employees."	"The company maintains a zero-tolerance policy towards sexual harassment, ensuring a safe workplace for all employees."	"The company maintains a zero-tolerance policy towards sexual harassment, ensuring a safe workplace for all employees."
Work Location			
Team – Work			
Pay	$ XX.XX per hour *($YY per month / $ZZ per year)*	$ XX.XX per hour *($YY per month / $ZZ per year)*	$ XX.XX per hour *($YY per month / $ZZ per year)*

Job 4	Job 5	Job 6	Job 7
"The workplace climate survey reflects low employee engagement. The results reveal widspread dissatisfaction and a lack of opportunities for growth."	"The workplace climate survey reflects high employee engagement. It signifies a work environment that fosters growth and satisfaction."	"The workplace climate survey reflects high employee engagement. It signifies a work environment that fosters growth and satisfaction."	"The workplace climate survey reflects high employee engagement. It signifies a work environment that fosters growth and satisfaction."
"I often feel excluded and undervalued by my colleagues. It's challenging to be heard in an environment that lacks appreciation for diverse perspectives."	"I often feel excluded and undervalued by my colleagues. It's challenging to be heard in an environment that lacks appreciation for diverse perspectives."	"I often feel excluded and undervalued by my colleagues. It's challenging to be heard in an environment that lacks appreciation for diverse perspectives."	"The team is incredibly inclusive and supportive. They actively embrace diversity and create an environment where everyone's voice is heard and respected."
"The environment is very much cutthroat. Bullying does happen and intimidation is frequent and seen as tool to make you work harder. "	"The workplace fosters a culture of friendly interactions. Instances of aggression are rare."	"The workplace fosters a culture of friendly interactions. Instances of aggression are rare."	"The workplace fosters a culture of friendly interactions. Instances of aggression are rare."
"Instances of sexual harassment are an open secret, creating an uncomfortable and unsafe work environment. People who make inappropriate comments or act inappropriately are not reprimanded by management."	"Instances of sexual harassment are an open secret, creating an uncomfortable and unsafe work environment. People who make inappropriate comments or act inappropriately are not reprimanded by management."	"The company maintains a zero-tolerance policy towards sexual harassment, ensuring a safe workplace for all employees."	"Instances of sexual harassment are an open secret, creating an uncomfortable and unsafe work environment. People who make inappropriate comments or act inappropriately are not reprimanded by management."
$ XX.XX per hour *($YY per month / $ZZ per year)*	$ XX.XX per hour *($YY per month / $ZZ per year)*	$ XX.XX per hour *($YY per month / $ZZ per year)*	$ XX.XX per hour *($YY per month / $ZZ per year)*

FIGURE 2. Scenario 12

	Job A	Job B
Workplace Climate Survey	"The workplace climate survey reflects high employee engagement. It signifies a work environment that fosters growth and satisfaction."	"The workplace climate survey reflects high employee engagement. It signifies a work environment that fosters growth and satisfaction."
Inclusion	"The team is incredibly inclusive and supportive. They actively embrace diversity and create an environment where everyone's voice is heard and respected."	"The team is incredibly inclusive and supportive. They actively embrace diversity and create an environment where everyone's voice is heard and respected."
Aggression	"The environment is very much cutthroat. Bullying does happen and intimidation is frequent and seen as tool to make you work harder. "	"The workplace fosters a culture of friendly interactions. Instances of aggression are rare."
Sexual Harassment	"The company maintains a zero-tolerance policy towards sexual harassment, ensuring a safe workplace for all employees."	"The company maintains a zero-tolerance policy towards sexual harassment, ensuring a safe workplace for all employees."
Work Location	You will complete all your tasks in-person at the office.	You will complete all your tasks in-person at the office.
Team-Work	"You sometimes complete projects by yourself and sometimes in teams."	"You sometimes complete projects by yourself and sometimes in teams."
Pay	**$ 38.44 per hour ($ 6662.5 per month / $ 79950 per year)**	**$ 28.13 per hour ($ 4875 per month / $ 58500 per year)**

FIGURE 3. Scenario 13



	Job A	Job B
Workplace Climate Survey	"The workplace climate survey reflects low employee engagement. The results reveal widspread dissatisfaction and a lack of opportunities for growth."	"The workplace climate survey reflects low employee engagement. The results reveal widspread dissatisfaction and a lack of opportunities for growth."
Inclusion	"The team is incredibly inclusive and supportive. They actively embrace diversity and create an environment where everyone's voice is heard and respected."	"I often feel excluded and undervalued by my colleagues. It's challenging to be heard in an environment that lacks appreciation for diverse perspectives."
Aggression	"The environment is very much cutthroat. Bullying does happen and intimidation is frequent and seen as tool to make you work harder. "	"The workplace fosters a culture of friendly interactions. Instances of aggression are rare."
Sexual Harassment	"The company maintains a zero-tolerance policy towards sexual harassment, ensuring a safe workplace for all employees."	"The company maintains a zero-tolerance policy towards sexual harassment, ensuring a safe workplace for all employees."
Work Location	You will complete all your tasks in-person at the office.	You will complete all your tasks in-person at the office.
Team-Work	"You sometimes complete projects by yourself and sometimes in teams."	"You sometimes complete projects by yourself and sometimes in teams."
Pay	**$ 28.44 per hour ($ 4929.17 per month / $ 59150 per year)**	**$ 33.13 per hour ($ 5741.67 per month / $ 68900 per year)**