Pre-analysis plan

Conjoint analysis on job choice in Sweden

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1. Overview

This pre-analysis plan describes data collection and empirical methods for a survey experiment on job choice. The target population is employed people on the Swedish labor market. The experiment will be fielded within the Citizen Panel (https://lore.gu.se/surveys/citizen) and has the purpose of quantifying relative preferences across job traits for men and women. We are particularly interested in the working environment as a job trait, and how men and women value a working environment free from sexual harassment. The overarching goal is to study the causes of gender segregation and gender wage gaps, and the project is funded by the Swedish Research Council for Health, Working Life and Welfare (www.forte.se/en).

2. Research questions

1. What are the relative preferences across job traits among employed people on the Swedish labor market?

2. Does sexual harassment in a workplace shape its pool of job applicants?

3. Theory about the data generating process

Job switches are an important aspects of labor market outcomes. Each year, roughly one in ten Swedish employees change employer (Andersson et al. 2014). The average U.S. employee is expected to work for more than ten different employers over their career (BLS 2019).

People's job switches can be viewed as a choice between two or more possible jobs, where each job is characterized by several traits (following e.g. Rosen 1974, 1986). Traits are pecuniary and non-pecuniary, including the wage, types of tasks, the flexibility of the schedule, the working environment, etc. Job seekers maximize the outcome of their job search by considering these various traits jointly, and under incomplete information.

Men and women may differ in their average preferences across job traits. Theory on occupational segregation has argued that these differences stem mainly from women's greater family responsibilities (e.g. Zellner 1975, Ploachek, 1985). Women maximize lifetime earnings by choosing careers with a higher starting wage, smaller human capital depreciation during longer-term absences, and smaller penalties from shorter work hours. More recent work has narrowed in on differences in time-space flexibility across positions that are available *within* an occupation (Goldin 2014). For the same occupation, some positions require physical presence

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in specific—and/or longer—hours while other positions are flexible in both the temporal and spatial allocation of the work time.

Empirical research on women's and men's valuation of time-space flexibility has provided mixed findings. A recent conjoint experiment among 250 U.S. university students found that women students valued a part-time option and job security higher than men (Wiswall and Zafar 2017). In contrast, a recent field experiment on applicants for Call Center jobs found no willingness to pay—among neither men nor women—for freedom to schedule one's own hours (Mas and Pallais 2017). The length of the work week was also unimportant, but workers, and women in particular, valued the option to work from home and freedom from unpredictable schedules set by the employer.

A situation where women have a relatively stronger preference for time-space flexibility, and for which they pay with lower average salaries, is often referred to as a "compensating differential". Women are "purchasing" certain positive job attributes (such as flexibility) by accepting lower wages, and men are given higher earnings to compensate for negative job attributes (such as inflexibility). Compensating differentials can apply to both positive and negative job traits. People who work in hazardous environments such as a construction sites or a chemical factory can get compensated for the health risks, and vice-versa for attractive features of the working environment.

Sexual harassment can be considered a workplace hazard due to its many negative effects on the target. A multitude of research shows large and persistent effects on mental and physical well-being (reviewed by, e.g., Fitzgerald and Cortina 2018). The negative impacts of sexual harassment have been shown to exceed those of other aggressive peer behaviors at work (ibid). Notably, health impacts occur also at lower frequencies of harassment, and with behaviors that might be considered less severe (following, e.g., Schneider et al. 1997).[3]

Women are more likely than men to become targets of sexual harassment. In international prevalence studies, roughly one in two women are sexually harassed at some point in their work life (Cortina and Fitzgerald 2018). This rate is three to four times as high as the victimization rate for men (Timmerman and Bajema 1998, McDonald 2012).

Women are primarily victimized in male-dominated workplaces, although the rate is also substantial in mixed workplaces. This pattern is part of the research focus of the study that the suggested conjoint experiment will form part. Figure 1 shows the correlation between women's and men's victimization rate for sexual harassment in the last 12 months and the share of men in their workplace. The data is five pooled cross-sections of the Swedish Work Environment Survey (1999—2007). The data shows that for both men and women, victimization is strongly increasing in the proportion of opposite-sex employees. Sexual harassment in a female-dominated workplace is directed at male victims, while sexual harassment in mixed, or male-dominated workplaces, is directed (mostly) at female victims. We incorporate this pattern in our survey experiment (further described below).

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[3] Reviews of hundreds of empirical studies show consistent evidence of psychological, health and job-related outcomes (see e.g. reviews by Welsh 1999, McDonald, 2012, and Fitzgerald and Cortina 2018). Mental and physical health consequences of sexual harassment range from irritation and anxiety to anger, powerlessness, humiliation, increased risk of alcohol abuse and eating disorders, depression and post-traumatic stress disorder. Job-related factors consistently linked with sexual harassment include absenteeism, lower job satisfaction, commitment and productivity, damaged inter-personal work relationships, decreased perceptions of equal opportunity, and employment withdrawal.
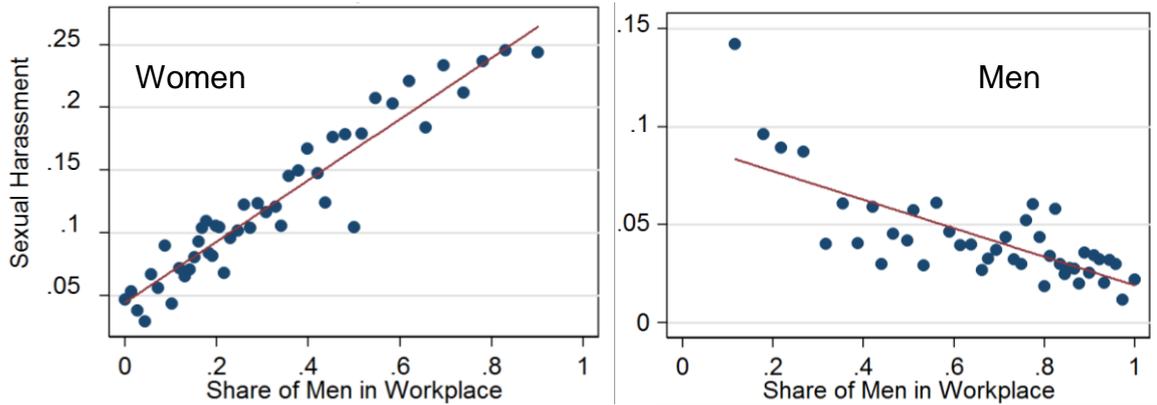
Figure 1. Proportion of women (left) and men (right) who have been sexually harassed in the last 12 months by a colleague or manager.

Sexual harassment can also be a work hazard to people who are bystanders and watch their colleagues being harassed. Witnesses and workgroups face negative consequences such as bystander stress (Schneider 1996) team conflict, and a loss of team cohesion (Raver and Gelfand 2005). Miner-Rubino and Cortiana (2004, 2007) found that employees of both sexes who observed sexual harassment of female colleagues reported lower well-being and higher organizational withdrawal. It is thus possible that both men and women would have a preference to avoid a working environment with sexual harassment, even if the expectation of own victimization is negligible.

When we study people who are already employed, we take as given the selection into occupations and industries that has happened earlier in respondents' lives. Suppose that working conditions across education and occupation types are generally known to young people when they make these life choices (think engineers vs. nurses or construction workers).[4] This lets young people sort into the broader categories of jobs that share characteristics of salary level, salary growth, amenities and working environments. Later in life, job changes happen mainly between workplaces and conditional on the occupation and job choices made earlier (as in the theory by e.g. Goldin 2014). When we study the second stage of the sorting, as in the current survey experiment, earlier selection decisions are likely to matter for the results. Women in male-dominated education types and jobs may be the least sensitive to sexual harassment—both as victims and bystanders—and vice versa for men in female-dominated education types and jobs.

Greater tolerance to sexual harassment among both victims and bystanders in more sex-segregated workplaces (and in male-dominated workplaces in particular) could explain the pattern in Figure 1. Workplace tolerance to harassment, shaped by bystanders at higher and lower levels of the organization, has been argued to be the first and foremost predictor of sexual harassment (reviewed by e.g. Willness et al. 2007). If men, in particular, do not require a wage

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[4] For example, recent research shows that the sex-segregation of college majors increases in the course of the education process, in particular by women switching from male-dominated majors into more female-dominated ones (Astorne-Figari et al. 2019).

compensation for a working environment with harassment of women, this could explain the co-existence of gender segregation and the gender wage gap, with tolerance to sexual harassment creating an "uncompensated differential" for women in male-dominated working environments (England et al. 1988).

Two final theoretical issues concern the roles of information and risk assessment in how sexual harassment might shape the job search process of men and women. Regarding information, the existence of sexual harassment in an organization will not be printed in the job ad or explained to an applicant in the hiring process. Compared to other hazards like long work hours or dangerous machinery, job seekers' information would come from the word of mouth rather than from the employer. In our experiment, we inform the respondent about the existence of sexual harassment in a potential work environment, something that may or may not be realistic, but that is possible to verify with additional survey questions. If information exists, sexual harassment is indeed likely to shape the pool of job applicants. If information does not exist—in particular among people in workplaces dominated by their own sex—this could also add to our understanding of why harassment can thrive in these environments, as shown in Figure 1.

Lastly, about the risk assessment, even if a relatively large proportion of job seekers have information about which workplaces sexual harassment occurs, their interpretation of this information could differ. Potential job seekers could interpret information about sexual harassment as being more or less predictive of own victimization. A stronger preference for avoiding sexual harassment should exist for people who interpret information about others' victimization as a greater risk of own victimization. Studying how information is interpreted, and by who, is thus an important aspect of understanding how this workplace hazard shapes the pool of job applicants for firms.

4. Survey and empirical design

This section describes the plan for the data collection, the survey questions, experiment design, variable operationalizations, and statistical analysis.

The Swedish Citizen Panel   Data will be collected in the Swedish Citizen Panel, an online survey managed by the department of Political Science at Gothenburg University. We will sample 5,667 respondents and expect approximately 3 400 responses. The participants are a convenience sample and receive no monetary or in-kind compensation, and will be restricted to those who are registered as employed in the survey's background variables. Since the sample is not entirely representative of the population we will use register data for the full Swedish population in 2015 (the last year we have data from) and create weights based on sex, age, education[5] (using Sun2000 classification) and occupation (measured by the 2digit SSYK 2012 code).

Survey Questions   The survey will have the following three components.

- Questions 1a and 1b: Sex-ratio of the respondent's workplace

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[5] We will use the following categories: 9 years or less, High school-less than 3 years, High school-3 years, Post high school education-not at university or college- less than 3 years , Post high school education-not at university or college- 3 years or more, University or college-less than 3 years, University or college-more than three years and Research degree

- Questions 2—4: Conjoint experiment with randomization based on (Q1a/b)

- Questions 3a, 3b, and 5: Additional survey questions for validation and mechanism testing.

Conjoint experiment design We follow Wiswall and Zafar (2017) and use a conjoint experiment to assimilate the multidimensional decision of choosing between jobs. This method has an advantage in measuring job preferences since it can randomize job attributes over a number of variables, some of which cannot be observed in standard datasets for labor market studies (but may be correlated with those that are). Sexual harassment is generally not a variable that exists in those datasets. Another advantage is that the experiment directly measures the employees' preferences, avoiding the conflation of employee and employer preferences when analyzing data on actual matches.

The experiment consists of three forced choices between two job offers. The offers differ in four traits: i) the monthly wage, ii) the degree of skill-developing tasks, iii) flexibility in the timing of work hours, and iv) the working environment. They are otherwise described as "identical in all other aspects". This statement is intended to hold constant all other traits that the respondent may have otherwise associated with the values of the four that are included. The order of the traits and the values for each trait are randomized in each job that is part of the three choices.

The choice of traits should match the actual decision-making structure of the data generating process; in this case the Swedish labor market. Our finite number of job scenarios, captured by the traits and their values, are chosen to capture important aspects of job search behavior that have variation across workplaces, and are general enough to apply to the labor market as a whole. Several traits that have been included in previous conjoint and field experiments are less fitting of this description and are not included, including part-time work, wage growth, and the length of the work week.[6]

The introduction to the experiment asks the respondent to "*Imagine that you are looking for a job and have two offers. You will see short descriptions of these two jobs and chose which one you would prefer. The jobs differ in four attributes: the monthly wage, the flexibility to schedule your own work hours, the tasks and the work environment. **Other than this, they are identical to each other**.*"

The second screen introduces first job choice, saying that *"You will make three choices between jobs. The table below shows your first choice. Remember that the jobs are identical in all other aspects than the ones shown in the table. **After seeing the table, you will be asked which one of the jobs you would prefer**."* Table 1 shows what the table with the two jobs looks like.

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[6] We do not include part-time work as a trait because part-time work is a legal right in Sweden and cannot be denied the employee. We also do not include wage growth, because this trait usually follows a narrow wage band set in a bargaining process between trade unions and employer organizations. Although there are deviations from this, and where the wage growth might be an important factor in job choice, we would argue that it is certainly less important than in some other countries. In the same way, work hours per week are not so variable in Sweden on top of the regulated part-time options. Regarding spatial flexibility, this applies mostly to white collar workers, while blue- and pink-collar workers largely lack those options (authors' own survey data). Including that trait is thus less realistic for large parts of the labor market. The same is true for managerial discretion over scheduling hours. Although this can happen in some blue-collar industries, it is usually not applicable to white collar jobs.

Table 1. Example table for the conjoint experiment on job choice.

	Job A	Job B
Wage level	5% less than you make now	5% more than you make now
Skill-development on the job	Average	High
Flexibility to schedule your work hours	No flexibility	Flexible start and end time within 1 hour
Working environment	Women in the work unit have expressed that men are not suitable for the job	People in the work unit seem content with the working environment

The full list of values for each of the four traits are shown in Table 2 and Table 3. Table 2 shows the values for the three first traits, and Table 3 shows the values for the fourth trait, the working environment, where we use an added layer of randomization.

The wage level has four values from which we make a uniform draw. Wage levels are given in percentage terms compared to the respondent's current job, rather than as a specific monetary amount.[7] The four values are 5% less than the current salary; no change compared to the current salary; 5% more; and 10% more. These values were chosen to reflect the distribution of actual wage changes upon changing jobs in the Swedish labor market. Using the Swedish Salary Statistics (*Lönestrukturstatistiken*), we calculated the distribution of year-on-year changes in the monthly wage for people who switch jobs from one year to the other. In this calculation, we dropped outliers with the 1.5-IQR rule and used inflation adjusted wages to simulate Sweden's current, low-inflation environment. The average wage change was 3.2 percent, with a standard deviation of 11 percent; 31 percent of the switchers had a negative wage change; and close to 60 percent of the observations fall within our band of -5 to +10 percent (see Figure 2).
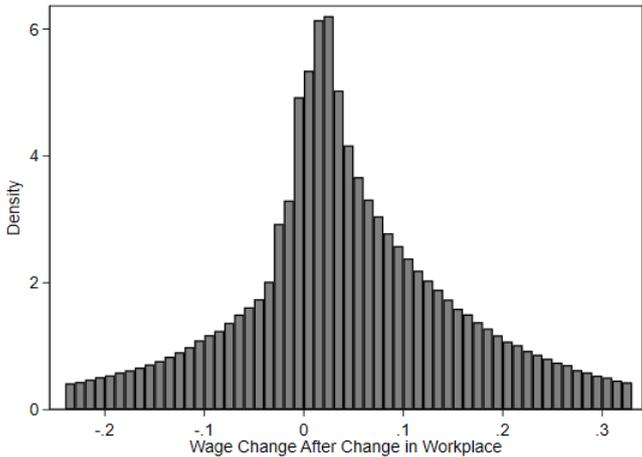

Figure 2. Distribution of wage changes in percentage points.

Notes: The figure shows the distribution of year-on-year wage changes for people who switched employers between consecutive years in the Swedish Salary Statistics, and in panel data for 1996-2015. A job change is approximated as having different employer ID codes for the main source of labor income in the two years. The

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[7] This has the drawback that respondents may not be fully able to interpret the information in monetary amounts. On the other hand, since respondents are already employed, we would need to randomize amounts based on their actual wage, which they might not want to divulge.

wage is the monthly wage in inflation adjusted Swedish Kronor. The distribution of changes has been truncated using the 1.5 IQR rule.

The two next attributes, the skill-development on the job, and the flexibility to schedule one's own work hours, each has three values listed in Table 2. Uniform draws are used across the values of each of these traits.

The fourth trait, the working environment, has four values, but where one of them—sexual harassment—is further sub-divided into different categories. The first value is a positive work environment where "people in the work unit seem content with the work environment". The second is a null-condition of "no particular information". The third and fourth are negative environments of either worker-manager conflicts or sexual harassment, where the former is included as a red herring to reduce the potential demand effect from a perceived focus on sexual harassment.

The four values are drawn with the following probabilities. The sexual harassment value is drawn with a probability of one third, and the other three values are each drawn with a probability of 22 percent. This increases the statistical power for comparing the treatment of interest, sexual harassment, to the other three traits and in various sub-samples (further explained below).

Table 2. Job attributes and values in the conjoint experiment.

Original survey text in Swedish		English translation of the original survey	
Egenskap	Värden	Job trait	Values
Löneläget	- 5% mindre än du tjänar nu - Ungefär samma som du tjänar nu - 5% mer än du tjänar nu - 10% mer än du tjänar nu	Wage level	- 5% less than you make now - About the same as you make now - 5% more than you make now - 10% more than you make now
Arbets-Uppgifterna	- Inte så utvecklande - Utvecklande - Mycket utvecklande	Skill-development on the job	- Low - Average - High
Inflytande över arbetstiden	- Inget inflytande - 1h flex i början eller slutet av dagen - Helt fri schemaläggning	Flexibility to schedule your work hours	- No flexibility - Flexible start and end time within 1 hour - Completely flexible
Arbets-miljön	- Anställda verkar nöjda med miljön - Ingen särskild information - Vissa på enheten har haft konflikter med chefen - Sexuella trakasserier [RANDOMISERINGEN REDOVISAS I TABELL 3]	Working environment	- People in the work unit seem content with the working environment - No particular information - Some employees in the work unit have had conflicts with the manager - Sexual harassment [RANDOMIZATION AND VALUES IN TABLE 3]

Sub-randomization of the sexual harassment description Describing a working environment with the explicit expression of having "sexual harassment" risks to create omitted variables bias from the respondent's own interpretation of this term. We therefore follow Hulin et al. (1996) and describe specific workplace behaviors that constitute sexual harassment, rather than using those words. To approximate the naturally occurring variation in the phenomenon of sexual

harassment, we chose common behaviors, while also taking account of types of sexual harassment.

Sexual harassment is generally divided into four types, and we select one behavior from three of these: sexist hostility, sexual hostility, and unwanted sexual attention. We leave out the fourth type, sexual coercion, which is by far the most uncommon type in prevalence studies (Fitzgerald and Cortina 2018). The Sexual Experiences Questionnaire (SEQ) is the gold standard survey instrument to measure the prevalence of sexual harassment, and includes a list of behaviors under each category. We chose the highest prevalence item from each of the three categories from responses in a convenience sample of N=3,000 U.S. female citizens in the spring of 2019. The resulting three behaviors correspond, hence, to the most common behavior in each the three types.

Aversion, or lack of aversion, to a working environment of sexual harassment can help us understand the pattern of this workplace hazard across the labor market (recall Figure 1). We want to treat the respondents with a situation of harassment that corresponds to the naturally occurring gender composition of the victim and the perpetrator. Being explicit about who harasses who also reduces the risk of this gender composition becoming an omitted variable in the estimations.

Because the sex-composition of a person's workplace is strongly correlated with the sex-composition of their occupation and industrial sector; and most people look for new jobs within their own sector and/or occupation, we base the randomization of the pattern in Figure 1. We assume that a person in a male dominated workplace will mainly get job offers from similarly male-dominated workplaces—because they stay in the same occupation and/or industry— rather than shifting to a female-dominated setting; and vice-versa.

We use two versions of each sexual harassment behavior: harassment of men against women, and harassment of women against men, and assign them based on the sex-composition of the respondent's workplace (see Table 3). The sex-ratio of the workplace is captured by survey Question 1a, asked before the conjoint as "*Are most people in your workplace women or men?*", and with response categories of Most are women; Most are men; Roughly the same number of men and women; Don't know/Don't have any colleagues (the full survey in Swedish can be found at the end of this document). Respondents who chose the last option are forwarded to a second question 1b that reads "*If you think about a typical workplace where people with your occupation/education have colleagues, are most of these colleagues women or men*?" The response categories are the same, but excludes the "Don't know" option.

Table 3. Values for sexual harassment in the conjoint experiment.

Könssammansättning på arbetsplatsen enligt Q1	Värden för randomiseringen; typ av sexuella trakasserier		
	Sexist hostility	Sexual hostility	Unwanted sexual attention
Flest kvinnor	Vissa på enheten har uttryckt att män är olämpliga för den här typen av jobb	En kvinna på enheten skapar obehag genom att envist diskutera sitt sexliv med manliga kollegor.	En kvinna har tafsat på en man på enheten.

Flest män ELLER ungefär lika många kvinnor som män	Vissa på enheten har uttryckt att kvinnor är olämpliga för den här typen av jobb	En man på enheten skapar obehag genom att envist diskutera sitt sexliv med kvinnliga kollegor.	En man har tafsat på en kvinna på enheten

| | **Values that are randomized; type of sexual harassment** | | |
Sex-composition of the workplace according to Q1	Sexist hostility	Sexual hostility	Unwanted sexual attention
Mostly women	People in the work unit have expressed that men are not suitable for the job	A woman in the work unit makes male co-workers uncomfortable by stubbornly discussing his sex life.	A woman has groped a man in the work unit.
Mostly men OR Roughly the same number of men and women	People in the work unit have expressed that women are not suitable for the job	A man in the work unit makes female co-workers uncomfortable by stubbornly discussing her sex life.	A man has groped a woman in the work unit.

5. Analysis

We estimate average marginal component effect(s) (AMCE) from the conjoint experiment (Hainmueller et al. 2014). The AMCE estimates the degree to which a given value of a trait increases or decreases respondents' favorability toward a packaged conjoint profile relative to a baseline, and averaging across all respondents and all other profile features. In other words, we estimate relative preferences for values of traits compared to other values of traits, and holding all other trait values constant.

In an OLS regression, the AMCE is equivalent to the average marginal effect of each trait value for a model where each trait is converted into a matrix of indicator variables with one value left out as a reference category. Our outcome variable is the job choice, and dummies for all values of all traits, with exception of the reference categories, are included in the regression equation. When comparing the preferences across subgroups we will also follow the suggestion of Leeper et al. (2019) and report the marginal means to make sure that any differences in estimated ACME's across subgroups are not driven by differences in preferences for the reference category.

Overall preferences across job traits We will estimate relative preferences across the four job traits and for men and women separately. In addition to the preferences for time-flexibility, our main interest is in the relative preferences for a work environment free from sexual harassment. For these estimations we will group together the three specific behaviors of sexual harassment into one dummy variable, which will be compared to the other two values, and using "no information" as the reference category. Estimations will be both mean-comparisons within traits and regressions that estimate this difference in means while including all the other traits as controls (i.e. the AMCE).

We can approximate a "willingness to pay" for flexibility, skill-development, or avoiding sexual harassment by comparing the coefficient sizes to the coefficients for wage levels. For example, the average monetary value for avoiding a work environment with harassment can be calculated as follows. First, take the size of the dummy variable on sexual harassment relative

to the reference category (no particular information). Then, take the coefficients on the three dummies for salary changes by -5, +5 and +10 percentage points and divide them by -5, 5, and 10, respectively. Finally, take the average of these three ratios and compare it to the sexual harassment coefficient. In addition, the willingness to pay for a working environment free from harassment in terms of non-pecuniary job traits can be calculated by simply comparing coefficients to each other, without any unit adjustment.

Bystander and victim status for sexual harassment   Subsample analysis will be carried out to estimate the average relative preferences for a work environment with sexual harassment among men and women. Importantly, the design of the experiment makes men and women possible victims and possible perpetrators depending on the sex-composition of the workplace. As discussed above, we operationalize the working environment of sexual harassment to reflect the sex-composition of the victim and perpetrator to the naturally occurring combination in the respondents' potential new workplaces.

We subdivide the data into likely victims and bystanders as follows. Women in women-dominated workplaces are mostly bystanders of harassment of men; while women in mixed and male-dominated environments are bystanders or victims of men's harassment of women. Correspondingly, men are bystanders of men's harassment of women in mixed or male-dominated environments, but are themselves victims of harassment from women in women-dominated workplaces. This creates four samples for the conjoint analysis, by sex and victim-bystander status.

While we expect respondents with a greater risk of victimization to have a stronger relative preference against sexual harassment, the predictions for bystanders are mixed. Previous literature on bystander stress and other negative impacts would suggest that both men and women have a preference for avoiding working environment where others are harassed. On the other hand, the literature on tolerance of sexual harassment has focused on bystanders' passivity as a main reason for harassment to occur. In particular, tolerance can be expected to be high when people from the opposite sex are being harassed, and in more sex-segregated work environments. If men (or women) do not demand a wage-compensation for working in environment where people from the opposite sex are being harassed, this could help us understand the co-existence of sex segregation and gender wage gaps.

We can validate the sample split by another survey question that asks how the respondent interprets the experiment item as a risk to their own risk of victimization. Question 4 ask the respondent to "*Imagine that you have received a job offer from a workplace where you heard that there had been sexual harassment. If you accepted the offer, what do you think the risk would be that you became the target of such harassment?*" with the response options of Low risk; Pretty low risk; Neither a high nor a low risk; Pretty high risk; and High risk.

The validation question is also interesting in itself by quantifying people's risk assessment for sexual harassment, conditional on information. A low perceived likelihood of victimization, even in settings where the risk is objectively high (recall Figure 1), could help us understand a result where sexual harassment is unimportant for job choice. This will be investigated by heterogeneity analysis across sex-ratios of the respondent's actual occupation, which is a background variable of the survey, and as well as the sex-ratio of their workplace.

Information about sexual harassment in potential new jobs   An important premise of our experiment is that people have some awareness of the working environments in potential

workplaces where they might find a new job. We ask a survey question to test what fraction of the employed labor force that has this awareness. Question 3a asks the respondent to "*Consider the working environment in your industry, to what extent do you think that there is sexual harassment in that environment?**" and with the response categories of Not at all (1), (2), (3), To a farily high extent (4), (5), (6), To a very high extent (7).

The question explicitly defines sexual harassment as "**Sexual harassment is defined as unwanted advances or offensive remarks around things that would commonly be associated*

with sex, and other behaviors that are based on your gender and which have violated your integrity or been degrading. This could include, for example, condescending and ridiculing statements about women or men in general or in your occupation."

For people who acknowledge the existence of some non-zero sexual harassment in their industry, a second question assesses how specific their information is. Question 3b is formulated as follows. *If you think about specific workplaces in your industry, do you know about any cases of sexual harassment in these workplaces?".* The options are No, no cases, Yes, a few cases, Yes, many cases, Do not know/Do not want to answer" We are interested in describing the extent of self-stated awareness, and also test for a potential gender difference. Because women are more likely to be victims of sexual harassment, they may be more aware of this work environment problem in their industry. Women might also be more aware than men if information flow through sex-segregated networks of friends or acquaintances, and with women's networks more attuned to this workplace hazard due to their greater victimization. A lack of information about sexual harassment of the opposite sex, in particular for people in occupations or workplaces dominated by one's own gender, could help us understand the existence of un-compensated wage differentials for this workplace hazard.

In sum, the external validity of the conjoint experiment requires support for the assumption that (at least some) people have an awareness that sexual harassment exists in (at least some) workplaces where they could potentially find employment. We also expect women to be more informed about this workplace hazard than men; and that information may be more prevalent in the victim than bystander group(s). If people generally lack this information, however, this could help us understand the mechanism for a (potential) null-finding in the experiment.

Validation of preferences across job traits The forced, 0 or 1, choice between jobs in the conjoint experiment can result in large variation in relative preferences across job traits despite an actual indifference among job seekers. The setup of the experiment forces the respondent to react on small differences in relative preferences, when they might actually be mostly indifferent between the jobs. To verify the existence, or lack of, variation in relative preferences, we elicit respondents' own gradation of the importance of each of the four traits:

"*Imagine that you are looking for a new job. How important is it to you to…[have a working environment free from sexual harassment?], […decide on your own work schedule?], […have tasks that develop your skills?], [… have a high salary]*." Response categories for each of these four traits are Entirely unimportant; Somewhat unimportant; Neither important nor unimportant; Somewhat important; Very important.

Notably, this question can be used to check the validity of any sub-sample result from the conjoint and/or give an independent description of the pattern of preferences, for example the

relative preference for a working environment free from sexual harassment by respondent's sex, victim or bystander status, and victimization risk.

A second and important role of the self-stated preferences will be to assess the potential selection of people into more or less gender-segregated occupations and workplaces. In the experiment, we treat respondents with the most common type of offender-victim combination in terms of sex, as indicated by nationally representative survey data for the gender-composition of the workplace. The way the survey experiment is structured, preferences against the harassment of members of one's own sex is only measured for women in male-dominated or mixed environments, and men in women-dominated environments. It is, however, possible that preferences against sexual harassment is still important for labor market sorting in the aggregate, despite a lack of salient preferences in these high-victimization groups. If women who have a strong preference against sexual harassment select out of male-dominated environments (and vice-versa for men), we will not capture this in the conjoint experiment. We can nevertheless assess the existence of this pattern by describing the self-reported preference structure across the gender-compositions of respondents' occupations and workplaces. If women who care the most about avoiding sexual harassment are sorted into woman-dominated occupations and workplaces, future studies should focus more on the selection process for education types and first occupations, rather than job switches for employed people.

6. Final comments

The gender segregation and gender wage gaps on the labor market grow over men and women's working lives. One possible reason for this development is that job switches are influenced by non-monetary job amenities such as flexible schedules or sexual harassment. In the case of the first, women may join women-dominated workplaces that offer more flexible jobs at some wage penalty.

In the case of sexual harassment, the incidence is such that women have a higher victimization rate in mixed and male-dominated workplaces, while men run a greater risk in female-dominated occupations and workplaces. If women and men with a high likelihood of victimization are i) aware of these risks, and ii) willing to take a pay-cut to avoid these scenarios, this could help explain growing gender-segregation and gender wage gaps over the work life. At the same time, (a non-negligible proportion of) male (or female) bystanders may not be willing to pay to avoid the harassment of co-workers from the opposite sex, reducing the employer's incentive to eradicate the workplace problem or offer women a compensating differential.

Our experiment simulates the likely distribution of possible job switches for men and women in terms of likely scenarios for victimization and bystander status of sexual harassment. Compared to e.g. Wiswall and Zafar (2017) we study preferences for job attributes from a convenience sample[8] of the Swedish employed population, rather than college students in a prestigious university. We estimate the willingness to trade off working conditions (sexual harassment, flexibility etc.) in job switches for people who are out of school. Such job switches are an important aspect of labor market dynamics. They are, however, largely conditional on

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[8] We will address the fact that it is a convenience sample by adding population weights from register data on the full adult Swedish Population.

prior choices across education and occupation types that are important in interpreting the external validity of the analysis. If preferences for non-pecuniary amenities and work environments happen at an earlier age, we should perhaps not expect additional sorting to happen later in the work life. On the other hand, it is likely that people have incomplete information about the working environments they will face, and the amenities they will demand in the future, so that sorting also exists at this later stage.

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Appendix: Full survey in Swedish

1a. Är de flesta på din arbetsplats kvinnor eller män?

- Flest kvinnor

- Flest män

- Ungefär lika många kvinnor som män

- Vet ej/har inga arbetskamrater

1b. Om du tänker på en typisk arbetsplats där personer med ditt yrke/utbildning har arbetskamrater, är de flesta av dessa arbetskamrater kvinnor eller män?

- Flest kvinnor

- Flest män

- Ungefär lika många kvinnor som män

2—4. [Conjoint-experimentet med tre val av jobb i enlighet med exempel i tabell nedan.]

Föreställ dig att du söker jobb och har fått två erbjudanden. Du kommer att få se kortfattade beskrivningar av dessa två jobb och därefter ange vilket av dem som du skulle föredra. Jobben skiljer sig åt när det gäller fyra egenskaper: Månadslönen, inflytande över arbetstiderna, arbetsuppgifternas karaktär och arbetsmiljön. **I övrigt är de helt identiska med varandra.**

Du kommer att få göra tre stycken val av jobb. Tabellen nedan visar ditt första val. Kom ihåg att jobben är identiska i alla andra avseenden än dem som redovisas i tabellen. **Efter tabellen får du ange vilket av jobben som du skulle föredra.**

Egenskaper	Jobb A	Jobb B
Arbetsuppgifterna	Inte så utvecklande	Mycket utvecklande
Inflytande över arbetstiden	1h flex i början eller slutet av dagen	Helt fri schemaläggning
Arbetsmiljön	En kvinna på enheten skapar obehag genom att envist diskutera sitt sexliv med manliga kollegor	Anställda verkar nöjda med miljön
Löneläget	Ungefär samma som du tjänar nu	10% mer än du tjänar nu

3a. Om du tänker på arbetsmiljön i din bransch, i vilken utsträckning tror du att det förekommer sexuella trakasserier?*

Med sexuella trakasserier avses ovälkomna närmanden eller kränkande anspelningar kring sådant som allmänt förknippas med sex. Därutöver avses också handlingar som grundas på personens kön och som kränker personens integritet eller är nedvärderande. Det kan t.ex. vara nedsättande och förlöjligande omdömen om kvinnor eller män i allmänhet eller inom yrket.

- Inte alls (1)

- (2)

- (3)

- I ganska hög utsträckning (4)

- (5)

- (6)

- I mycket hög utsträckning (7)

3b Om du tänker på några specifika arbetsplatser i din bransch. Känner du till några fall av sexuella trakasserier på dessa arbetsplatser?

- Nej, inga fall

- Ja, något enstaka fall

- Ja, ett flertal fall

- Vet ej/Vill ej svara

4. Föreställ dig att du fått ett jobberbjudande på en arbetsplats där du hört att det förekommit sexuella trakasserier. Om du skulle ta jobbet, vad tror du då att risken skulle vara att du själv utsattes för sådana trakasserier?

- Låg risk

- Ganska låg risk

- Varken hög eller låg risk

- Ganska hög risk

- Hög risk

5. Föreställ dig att du söker jobb. Hur viktigt är det för dig att...

Ha en arbetsmiljö som är fri från sexuella trakasserier…

Ha utvecklande arbetsuppgifter…

Själv kunna bestämma över dina arbetstider…

Ha en hög lön…

- Helt oviktigt

- Ganska oviktigt

- Varken viktigt eller oviktigt

- Ganska viktigt

- Väldigt viktigt