The Measurement of Labor Market Expectations of Persons with Disabilities in Canada

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Abstract

Individuals with disabilities face multiple challenges to successfully integrate the labor market and find satisfactory jobs. In this paper, we assess an explanation for the relatively lower labor market outcomes of persons with disabilities by contrasting their subjective beliefs about various labor market outcomes (interview rates, job quits, job losses, job promotions) with those of persons without disabilities. We exploit new expectations survey data administered to both workers and job seekers in two Canadian provinces (Quebec and New Brunswick). We estimate the determinants of subjective beliefs about each labor market outcome taking into account measurement error due to respondents rounding their probabilistic beliefs in the survey. We find that persons with disabilities are significantly more pessimistic about the odds of getting an interview request after applying for a job, and believe being significantly more likely to leave or lose their jobs in the next 12 months when employed relative to persons without disabilities. Our robustness checks show rounding precise probabilistic answers between 6 to 94 to the nearest multiple of 5 does not significantly alter the results, which is good news for researchers using raw expectations data for inference.

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1 Introduction

In today's evolving workplace, diversity stands as a pivotal parameter. With changes in legislative frameworks, disability awareness is gaining prominence (Boehm and Dwertmann, 2015). Aging workforces, which are increasingly prone to disabling conditions, accentuate this importance (United Nations, 2006). The United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) was established in 2008, aiming to safeguard the rights of individuals with disabilities, including their right to work (Harpur, 2012). Its ratification by Canada in 2010 underscores its global significance. However, employment challenges persist for people with disabilities. The 2022 Canadian Labor Force Survey highlights that individuals reporting at least one disability have lower (65.1%) compared to the general population (80.1%). This disparity in employment can also be traced back to studies by Hum and Simpson (1996) and Wilkins (2003) which emphasize the role of disability type and severity in employment probabilities.

At the provincial level, Quebec has been proactive. The 2008 National Strategy for Labor Market Integration aimed at promoting the employment of individuals with disabilities. Notable among its initiatives were the Employment Integration Contracts (CITs), providing financial incentives for accommodating employees with disabilities. Yet, the employment gap remained significant, with a 20-percentage point difference in employment rates between individuals with and without disabilities in 2017, as per the Institut de la Statistique du Québec. Multiple factors can explain this employment gap. From the demand side, profit-seeking firms might perceive a productivity gap between disabled and non-disabled individuals or often think that accommodating the workplace is costly (Acemoglu and Angrist, 2001), leading to hiring biases (Bellemare et al., 2019). On the supply side, individual preferences, repeated failures and skills can also exacerbate their participation rate (Blundell and MaCurdy, 1999).

This paper lies in the supply-side literature that examines if the lack of workforce partici-

pation is due to lack of skills, lower job-seeking confidence, or individual preferences. We aim to quantify the underlying factors affecting subjective expectations about various labor market outcomes, such as interview rates, job quit, job loss, and job promotions. Our analysis focus on discerning any difference in beliefs between individuals with disabilities and their non-disabled counterparts. This focus stems from workers' perceptions of a labor market that, according to Bellemare et al. (2019), exhibits bias against them. Identifying these expectations is pivotal in crafting effective policies that further the integration and the retention of individuals with disabilities into the workforce. If a worker feels they stand little chance of securing a position, they might not pursue opportunities, regardless of available subsidies or tailored programs designed to accommodate their needs. Hence, gaining insights into individuals' assessment of their chances within the labor market becomes a crucial foundation for addressing these concerns.

An emerging trend in recent economic studies is the use of subjective expectations data. This complements the traditional "rational expectations" approach, which assumes individuals are fully informed about future probabilities (Manski, 2004). Incorporating this type of data can reveal nuanced insights, as demonstrated in a range of studies from McGarry (2004) to Bissonnette et al. (2017). However, this approach is not without challenges. The rounded responses common in survey data can introduce non-classical measurement errors, affecting the reliability of results (Kleinjans and Soest, 2014).

In our study, we use data from an online survey covering Quebec and New Brunswick to assess subjective expectations about the labor market outcomes for individuals, distinguishing between those with and without disabilities. We also adjust for potential rounding errors present in the survey responses. Firstly, our results indicate that those with disabilities tend to have poorer expectations about their job prospects than their non-disabled counterparts. Specif-

ically, having a disability correlates with only a 5.7% reduction in the perceived probability of receiving a callback, with a greater expectations of job turnover. Secondly, the nature of the disability plays a crucial role: individuals with motor or visual disabilities are more pessimistic in their expectations of interview callbacks, while those with auditory or visual impairments foresee a greater chance of job loss. Finally, when we compare these findings with existing empirical studies, such as the one by Bellemare et al. (2019), which used anonymous CVs to assess the impact of disability status, the gap is large. Their research pointed to a 50% decline in callback rates for disabled individuals, hinting that while these people might be less optimistic than those without disabilities, the actual job market challenges they face are even more serious than they perceive.

The paper is structured as follows: Section 2 delves into our data, highlighting potential errors like rounding. Section 3 presents our model, correlating beliefs with individual characteristics while accounting for rounding. Section 4 details our findings, and Section 5 concludes, pointing towards future research directions.

2 Measurement

In this section, we highlight the existing measures of two of the most important prospects in the labor market: job loss and job finding. We also show how these questions are presented in our survey and how measurement errors can occur with the use of expectations data.

2.1 Expectations data and job prospects and insecurity

Measuring workers' perceptions of job prospects and insecurity proves important for research investigating the determinants of some economic outcomes, such as wage and employment. In

this study, we use the question format of eliciting probabilistic expectations questions, which became a common practice since the early 1990s.

Job finding and job loss. The use of expectations about job prospects and insecurity presupposes the availability of such data. One of the earliest collections is from Jeff Dominitz and Charles F. Manski, who designed the important Survey of Economics Expectations (SEE). Collected from 1994 to 2002, it was aimed at approximately 10,000 individuals and contained information on expectations regarding job loss and job finding. Important papers used the SEE: Dominitz and Manski (1997b) on economic insecurity through elicited subjective questions about health insurance, victimization by burglary, and job loss, Dominitz (1998) on the comparison between earnings expectations and realizations, Manski and Straub (2000) on expectations about two separate routes of job loss and voluntary quits, etc. The SEE asked questions about job finding to unemployed workers, and, conditional on having a job, expectations questions about job loss and job finding, in the event of job loss. The SEE also collected time-based information about individuals' expectations with the question on the duration they think it will take to find a job. Other surveys incorporated the same range of questions about job prospects: The Health and Retirement Survey (HRS), the Survey of Consumer Expectations (SCE), the British Household Panel (BHPS) and the German Socio-Economic Panel (GSOEP). The BHPS and the Copenhagen Life Panel (CLP) directly ask about unrelated questions of job-loss and job-leave.

Time horizon. The SEE question about job loss to employed workers was over a period of 12 months for individuals with a job, while, for unemployed workers, the question about their perceived probability of finding a job spans from two different time periods: 3 and 12 months. This approach has been adopted by the HRS, the BHPS and the SCE, only exception being the GSOEP, which asked about job loss over the next two years.

Our surveys. Our first survey was conducted within the Disability, Employment, and Pub-

lic Policies Initiative (DEPPI) in Canada, an initiative whose goal is to evaluate the effects of programs and measures aimed at supporting the integration and retention of people with disabilities in employment. This survey, intended at first to persons with disabilities, took approximately one and half hour per person and asks about current employment and job search experience, as well as about their economic situation and knowledge of the financial and fiscal measures. We also conducted a second survey, with the same questions, administered to individuals regardless of their disability status. A total of 1170 persons responded to the questionnaires, especially to probabilistic questions regarding their expectations about, among others, job prospect and insecurity, in this "percent chance" format:

- Q1: probability of being called for an interview, conditional on having sent CVs, in this way:

  Assume you are applying to 100 jobs, how many callbacks do you think you will receive for an interview?

- Q3: probability of losing one's job, conditional on having a job:

  Please indicate your estimate, in %, of the probability that you will leave your job, in the next 12 months?

To these questions, any number between 0 and 100 could be given, except for the probability of being offered a job, which is subsequent to the probability of being convoked to an interview. This question is elicited in such a way the upper bound is the answer given to the previous question.

Table 1 reports the structure (target, format) of the probabilistic questions related to job prospects expectations. Job finding questions, as in the SEE, are answered by all individuals, while probabilistic questions relative to working perspectives (probabilities of losing/quitting a

job, of being promoted, of finding) are answered by employed workers. The time span for all questions is 12 months, which is between the aforesaid short term 3 months, and long term 2 years. Like the BHPS and CLP, we asked directly about mutually exclusive events of losing and quitting a job. This distinction may be of importance if the goal with the workers sample is to capture the (in)security in their current job. An interesting way to look at it will be to ask if persons with disabilities are more/less likely to feel insecure about holding on their current job.

Table 1: Probabilistic questions related to expectations about job finding and job loss, in our surveys

Target	**Survey questions**
All individuals	Assume you are applying to 100 jobs, how many callbacks do you think you will receive for an interview?
All individuals	Assume you are convoked to (*response at Q1*) interviews, how many job offers do you think you will receive?
Employed workers	Please indicate your estimate, in %, of the probability that you will leave your job, in the next 12 months?
Employed workers	Please indicate your estimate, in %, of the probability that you will lose your job, in the next 12 months?
Employed workers	Please indicate your estimate, in %, of the probability that one of your coworkers will be promoted, in the next 12 months?
Employed workers	Please indicate your estimate, in %, of the probability that you will find a better job, in the next 12 months?
Employed workers	Please indicate your estimate, in %, of the probability that you will find a better job, in the next 12 months?

Note: The table shows questions related to expectations about job finding and job loss in our surveys, the targeted individuals (employed/unemployed) and the time period considered is 12 months.

2.2 Descriptive statistics

Table 2 provides descriptive statistics for elicited probabilities about job findings for all individuals, especially for unemployed job seekers, and job transitions and security for employed workers. Average elicited job loss probabilities is the lowest (respectively 18.30% and 12.71% for people with and those without disabilities), while the perceived probabilities of coworkers' promotion in the next 12 months, the highest (respectively 46.60% and 48.08%). Individuals seem less confident about their own promotion, as they report, on average, lower probabilities of being promoted than their peers. Among job seekers (both employed and unemployed workers), persons with disabilities report lower perceived probabilities of being called for an interview after applications (38.63% vs 44.27%). Insecurity is higher, on average, for individuals with disabilities, as they elicited, on average, higher perceived probabilities of losing their job (18.30% vs. 12.71%). On average, persons with disabilities report higher probabilities of finding a better job (30.91% vs. 27.60%), which may reveal unsatisfactory attitudes about their current job's conditions.

Table 2: Descriptive Statistics - dependent variables (elicited probabilities)

	Disabilities			***No disabilities***		
	Mean	Std.Dev.	N	Mean	Std.Dev.	N
All individuals						
Elicited interview probabilities	38.63	28.72	619	44.27	28.19	542
Elicited job finding probabilities	21.91	24.45	607	23.02	23.98	540
Employed workers						
Elicited job quitting probabilities	29.18	31.91	357	21.16	28.38	283
Elicited job loss probabilities	18.30	25.97	341	12.71	20.95	283
Elicited coworkers' promotion probabilities	46.60	37.65	362	48.08	37.02	283
Elicited own promotion probabilities	25.10	30.01	345	28.21	31.40	283
Elicited better job finding probabilities	30.91	28.70	356	27.60	29.97	283

Table 3 highlights the characteristics of all individuals: men represents 50% of our sample, the mean age being around 42 years old, those in a relationship representing around two-thirds of the population. Our sample consists of relatively well-educated workers, regardless of dis-

ability status, 41% of disabled individuals being at least college graduates (versus 47%), while around 36% have a vocational diploma or a certificate, for both groups. 58% of them were employed (disabled people being relatively more employed[1]), while 37% of disabled people reported having experienced a period of involuntary unemployment in the past 12 months (versus 31% for individuals without disabilities).

Table 3: Descriptive Statistics – Individual characteristics

	Disabilities			***No Disabilities***		
	Mean	Std.Dev.	N	Mean	Std.Dev.	N
Age	42.40	11.95	628	41.22	12.07	542
Gender(=Male)	0.50	0.50	628	0.50	0.50	542
Not single	0.57	0.50	627	0.62	0.49	542
Education attainment						
Lower education	0.06	0.24	628	0.04	0.21	542
High school	0.14	0.35	628	0.13	0.34	542
Certificate/vocational	0.37	0.48	628	0.36	0.48	542
College	0.31	0.46	628	0.34	0.47	542
Graduate school	0.10	0.30	628	0.13	0.34	542
Employment						
Employed	0.62	0.49	628	0.52	0.50	542
Involuntary unemployment	0.37	0.48	628	0.31	0.46	542
Experience	19.55	11.74	625	18.85	11.85	542
Disabilities types						
Visual	0.11	0.31	628	.	.	.
Motor	0.20	0.40	628	.	.	.
Hearing	0.09	0.29	628	.	.	.
Episodic	0.22	0.42	628	.	.	.

We choose the following disability classification: motor, hearing, vision (seeing), episodic and others. 54% of respondents declare having at least one, with motor disabilities and episodic disabilities (respectively at 20% and 22%) being the most preponderant. While arbitrary choices are inevitable in creating classifications, ours follows closely Statistics Canada which, in its 2017 Canadian Survey on Disability, listed 10 distinct categories of disabilities, namely: seeing (vision), hearing, flexibility, mobility, dexterity, pain, learning, developmental, mental/psychological

[1]Given our sample of highly educated individuals and of more individuals with disabilities than without, this statistic is consistent with Statistics *Canada's Canadian Survey on Disability*, which found that the employment gap between people with and those without disabilities is negligible, among highly educated individuals

and memory. The most prevalent types are those related to pain, flexibility, mobility, and mental health, followed by seeing, hearing, dexterity, learning, and memory. However, for more simplicity, we decided to group flexibility, mobility and dexterity in the same category that is motor disability. Our sample thus represents most of the types of disabilities reported in the Canadian Survey on Disability (7/10 types included).

For this paper, we decided to focus only on physical and episodic disabilities for various reasons. First, despite taking up most of the space in medias' debates, the mental health type of disabilities are relatively less prevalent in the population of persons with disabilities in Canada. Second, the other challenge in asking probabilistic questions to individual with mental health or psychological type of disabilities would be to accurately collect subjective expectactions data that reflects the actual probabilities of these individuals. Studies investigating this puzzle are not abundant, but the elicitation of subjective probabilities for individuals with low literacy (see Delavande et al. (2010) for a review), which could be a similar issue, has received more attention in surveys of subjective expectations. However, this practical topic is beyond the scope of this paper.

Also, the type of disabilities by age group varies widely. Figure 1 shows that individuals under the age of 44 are more likely to report an episodic disability. We notice relatively more individuals of advanced age (+45 years) who report suffering from either motor or episodic disabilities. In addition, two of the most common disabilities such hearing and visual are relatively stable with age, except the motor disabilities which are relatively more preponderant with those aged 55 or more. This could suggest a tendency to develop motor (mobility, flexibility and dexterity) difficulties with age, possibly due to long-term illnesses/health conditions such as degenerative diseases.

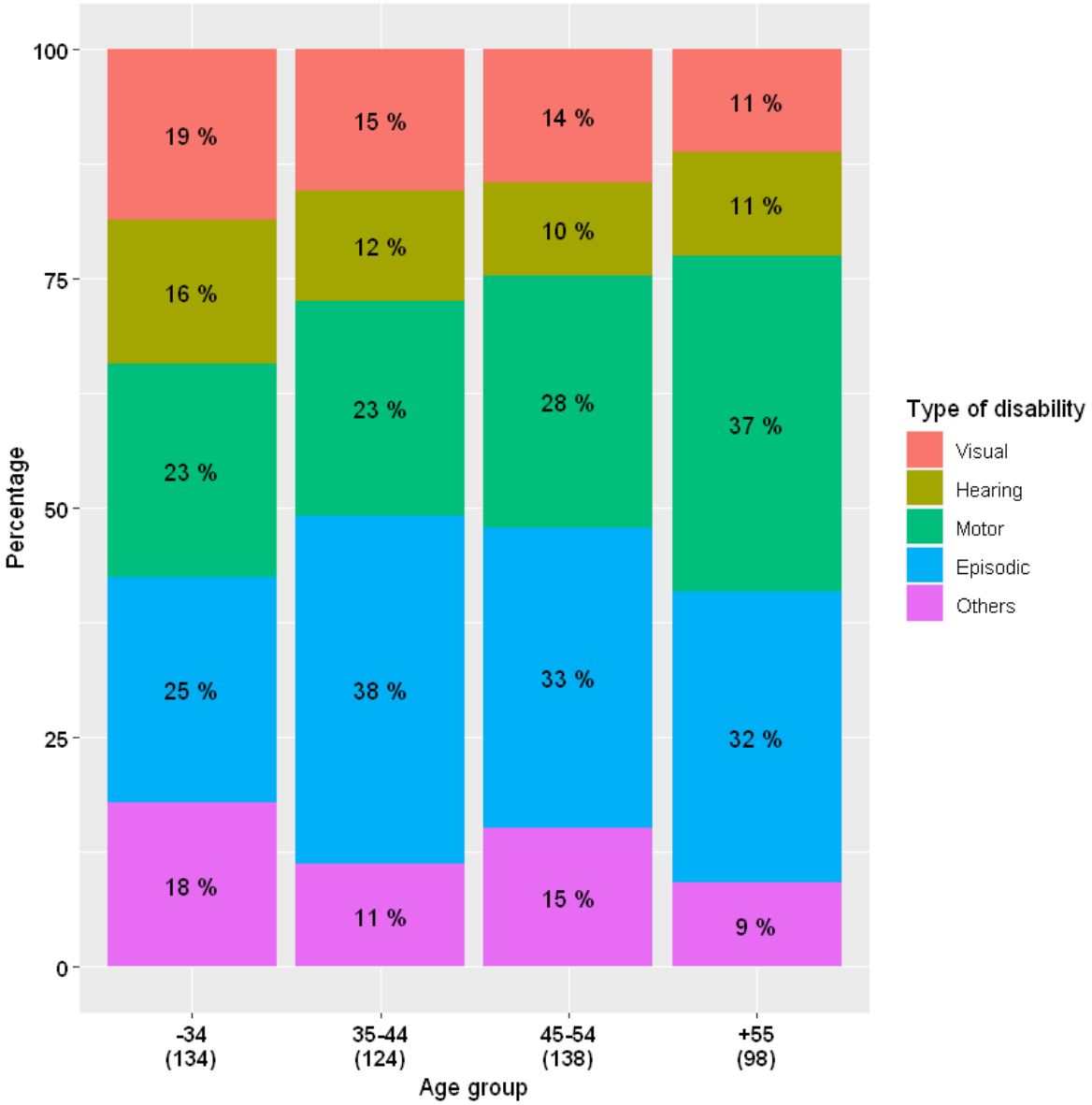

Figure 1: Types of disabilities and age groups

2.3 Measurement errors

Expectations data are subject to rounding practice, which is a measurement error potentially likely to bias estimated parameters. Figure 2 shows the histograms of the elicited probabilities, for individuals without or with disabilities. The heterogeneity of the responses is clearly showing, but there is also heaping at the level of multiples of 5, 10, 25, 50%-points, which suggests a propensity of rounding at those points.

Table 4 presents, like in Manski and Molinari (2010), the response patterns for the job

prospects and insecurity questions and the number of respondents who were asked each question. There is a variation in the number of respondents across questions because some of these are only answered by employed workers. For each of the questions in Table 4, we show, in the first column, the fraction of individuals who respond with precise answers (not multiples of 5), while the second column presents three values multiples of 50 (0, 50, 100). Column M5 gives the fraction of responses that are multiples of 5 but not of 10; for example: 5, 15, 35, or 95. The column M10 gives the fraction of responses that are multiples of 10 other than the specific values: 0, 50, 100.

Table 4: Descriptive Statistics, response patterns

	Precise answers	M5	M10	M25	0/50/100	N
Having an interview	39.10	12.32	29.37	8.35	10.85	1161
Leaving job	32.97	8.75	15.63	4.06	38.59	640
Losing job	31.25	9.78	13.14	3.37	42.47	624
Being promoted	34.71	9.24	13.38	3.66	39.01	628
Coworkers being promoted	34.01	8.23	14.44	4.04	39.29	645
Having a better job	35.20	8.80	18.56	4.64	32.80	639

We find that more than half of all responses are multiples of 5. Except for the interview question, the fraction of cases where these multiples of 5 are 0, 50 or 100 represents at least 1/3 of all responses for each question, the highest fraction being for the job-loss question (0.425); Figure 2c shows a heaping at 0 for this question, suggesting that 0 overwhelms this category. It does not suggest any particular rounding behavior for the high fractions of responses at 0. For example, individuals may believe that losing their job is extremely unlikely, Canada having, through its federal and provincial levels, strong labor laws establishing minimum standards for wages, vacation, leaves, notice of termination and severance. The proportion of responses at 50 can display some ambiguity (in the sense of Knightian uncertainty). The fractions of cases where the response is M5 (multiples of 5, but not of 10), M10 (multiples of 10) and M25 (multiples of 25

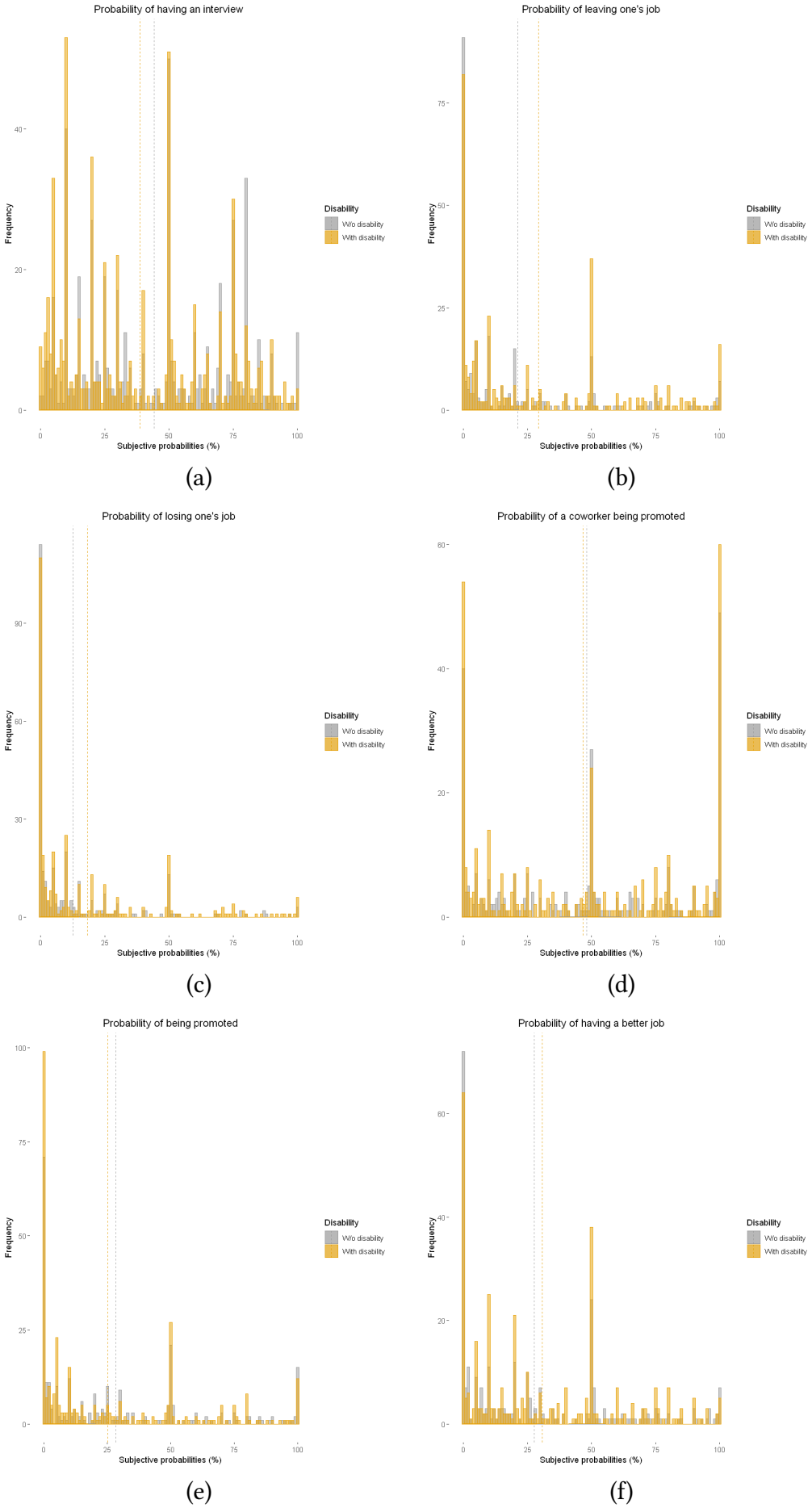

Figure 2: Distribution of responses, by disability status

without 0/50/100) lie respectively in the intervals [0.082, 0.123], [0.131, 0.294] and [0.034, 0.08] across questions. The "precise answers" category varies across questions, where the highest fraction (0.391) being to the interview question and the lowest (0.313) to the job-loss question.

3 Models

In this section, we introduce our model explaining the elicited subjective probabilities, taking into account rounding behavior. For simplicity, to avoid multiple subscripts that can be confusing, we model one subjective probability at a time.

3.1 The true unobserved probabilities

The elicited subjective expectations through the probabilistic questions impose this propriety to the answers:

$$y_i = \max\big(0, \min(y_i^*, 100)\big), \tag{1}$$

where y_i^* is the latent variable, modeled as : $y_i^* = x_i\beta + \epsilon_i$, with:

- $\epsilon_\mathbf{i}$, the error term;
- $\mathbf{x_i}$, a set of exogenous explanatory variables (with the constant) such as age, gender, marital status, education attainment, employment status, disability, etc. and β the vector of parameters to estimate.

The true probability $\mathbf{y_i^T}$ is the value of $\mathbf{y_i^*}$, censored at 0 (lower bound) and 100 (upper bound). Explicitly, the value of this true probability can be 0 or 100; even if not realizable for objective probabilities, individuals may think otherwise and report 0 or 100 as their subjective probabilities, $\mathbf{y_i}$ (absolute certainty or result of rounding behaviors). We assume, that the self-reported probability, $\mathbf{y_i}$, which is observed, is a rounded value of the true unobserved probability $\mathbf{y_i^T}$:

1. Precise answer rounded to a multiple of 1%-point;
2. Rounding to a multiple of 5%-points;
3. Rounding to a multiple of 10%-points;
4. Rounding to a multiple of 25%-points;
5. Rounding to a multiple of 50%-points.

We do not know the true range; in other words, the rounding rule used is unknown. Suppose a respondent gives a probability of 75% (or in this case, 75 interviews). This could be the observed subjective value of a rounded probability ($\mathbf{y_i^*}$) lying within one of these admissible ranges:

- $74.5 : 75.5$: respondent gives a rounded answer to the nearest multiple of 1, which is assumed to be a precise answer;
- $72.5 : 77.5$: respondent gives an answer rounded to the nearest multiple of 5, which is an approximation of the true probability;
- $62.5 : 87.5$: respondent gives an answer rounded to the multiple of 25, which is a less precise rounding rule.

3.2 The probability that a given rounding regime is used

Following Kleinjans and Soest (2014), we consider each respondent has a propensity to round, $\mathbf{r}^*$. A respondent who reports a response multiple of 1 displays a precise knowledge of the true probability, while a response multiple of 50 means a vague knowledge of the true probability, and an approximate grasp of it is represented by responses multiple of 5 or 10. In other terms, a higher value of $\mathbf{r}^*$ implies respondents are more likely to use a less precise rule of rounding. Because of this order, we use an ordered probit equation to estimate the probability that a given

rounding regime is used. Let's assume:

$$\mathbf{r_i^*} = \mathbf{x_i}\gamma + \mathbf{u_i} \tag{2}$$

where **x** are individual characteristics, **u** follows the standard normal distribution. A respondent uses the rounding regime **r** (ranging from 1 to 5) if $\mathbf{m_{r-1}} < \mathbf{r}^* \leq \mathbf{m_r}$, where **m** the different cutoffs, $\mathbf{m_0} = -\infty$, $\mathbf{m_1} = 0$ and $\mathbf{m_6} = +\infty$. The parameters to estimate range from $\mathbf{m_2}$ to $\mathbf{m_5}$. The probability of observing the rounding regime **r** for individual i corresponds to the probability that the estimated linear function ($\mathbf{x_i}\gamma$), plus random error, is within the range of the estimated **m** for the rounding rule. This yields:

$$\Pr(\mathbf{R_i} = \mathbf{r}|\mathbf{x_i}\gamma) = \Phi(\mathbf{m_r} - \mathbf{x_i}\gamma) - \Phi(\mathbf{m_{r-1}} - \mathbf{x_i}\gamma) = \rho_{\mathbf{r,i}} \tag{3}$$

ie :

- $\Pr(\mathbf{R_i} = 1|\mathbf{x_i}) = \Phi(\mathbf{m_2} - \mathbf{x_i}\gamma) = \rho_{\mathbf{1,i}}$
- $\Pr(\mathbf{R_i} = 2|\mathbf{x_i}) = \Phi(\mathbf{m_3} - \mathbf{x_i}\gamma) - \Phi(\mathbf{m_2} - \mathbf{x_i}\gamma) = \rho_{\mathbf{2,i}}$
- $\Pr(\mathbf{R_i} = 3|\mathbf{x_i}) = \Phi(\mathbf{m_4} - \mathbf{x_i}\gamma) - \Phi(\mathbf{m_3} - \mathbf{x_i}\gamma) = \rho_{\mathbf{3,i}}$
- $\Pr(\mathbf{R_i} = \mathbf{4}|\mathbf{x_i}) = \Phi(\mathbf{m_5} - \mathbf{x_i}\gamma) - \Phi(\mathbf{m_4} - \mathbf{x_i}\gamma) = \rho_{\mathbf{4,i}}$
- $\Pr(\mathbf{R_i} = 5|\mathbf{x_i}) = 1 - \Phi(\mathbf{m_5} - \mathbf{x_i}\gamma) = \rho_{\mathbf{5,i}}$,

which gives the probability that the rounding regime **r** is used for the answer i.

3.3 The probability that the subjective probability lies within an interval

Finally, to buckle up the equation accounting for rounding behavior, we need to estimate the probability that a respondent's subjective probability lies within an interval, for a given regime. We use a linear index $XB = \boldsymbol{x_i}\boldsymbol{\beta}$ and consider that:

$$\Pr\left(y_i \in \left\{k_i - \frac{a}{2}, k_i + \frac{a}{2}\right\}\right) = \Phi\left(\frac{k_i + \frac{a}{2} - XB}{\sigma}\right) - \Phi\left(\frac{k_i - \frac{a}{2} - XB}{\sigma}\right), \tag{4}$$

where k = the elicited probability, a = {1, 5, 10, 25, 50}, the set of multiples and σ, the scale. The random error term follows a standard normal distribution and is given by: $\varepsilon = U^b - XB$ or $\varepsilon = L^b - XB$, where U^b is the upper bound, $k + \frac{a}{2}$, and L^b, the lower bound, $k - \frac{a}{2}$.

3.4 The probability to observe the self-reported answer

We use the maximum likelihood estimation to compute the probability to observe the self-reported probability with presence of rounding.

The stretched likelihood is given by:

$\mathbf{L_i} = \rho_{\mathbf{1i}} \Pr\left(\mathbf{y_i} \in \{\mathbf{k_i} - 0.5, \mathbf{k_i} + 0.5\}\right)$ if $\mathbf{k_i} \in \{1, ..., 100\}$ and not a multiple of 5

$\mathbf{L_i} = \rho_{\mathbf{1i}} \Pr\left(\mathbf{y_i} \in \{\mathbf{k_i} - 0.5, \mathbf{k_i} + 0.5\}\right) + \rho_{\mathbf{2i}} \Pr\left(\mathbf{y_i} \in \{\mathbf{k_i} - 2.5, \mathbf{k_i} + 2.5\}\right)$

if $\mathbf{k_i} \in \{5, 15, 35, 45, 55, 65, 85, 95\}$

$\mathbf{L_i} = \rho_{\mathbf{1i}} \Pr\left(\mathbf{y_i} \in \{\mathbf{k_i} - 0.5, \mathbf{k_i} + 0.5\}\right) + \rho_{\mathbf{2i}} \Pr\left(\mathbf{y_i} \in \{\mathbf{k_i} - 2.5, \mathbf{k_i} + 2.5\}\right) +$

$\rho_{\mathbf{3i}} \Pr\left(\mathbf{y_i} \in \{\mathbf{k_i} - 5, \mathbf{k_i} + 5\}\right)$ if $\mathbf{k_i} \in \{10, 20, 30, 40, 60, 70, 80, 90\}$

$\mathbf{L_i} = \rho_{\mathbf{1i}} \Pr\left(\mathbf{y_i} \in \{\mathbf{k_i} - 0.5, \mathbf{k_i} + 0.5\}\right) + \rho_{\mathbf{2i}} \Pr\left(\mathbf{y_i} \in \{\mathbf{k_i} - 2.5, \mathbf{k_i} + 2.5\}\right) +$

$\rho_{\mathbf{4i}} \Pr\left(\mathbf{y_i} \in \{\mathbf{k_i} - 12.5, \mathbf{k_i} + 12.5\}\right)$ if $\mathbf{k_i} \in \{25, 75\}$

$\mathbf{L_i} = \rho_{\mathbf{1i}} \Pr\left(\mathbf{y_i} \in \{\mathbf{k_i} - 0.5, \mathbf{k_i} + 0.5\}\right) + \rho_{\mathbf{2i}} \Pr\left(\mathbf{y_i} \in \{\mathbf{k_i} - 2.5, \mathbf{k_i} + 2.5\}\right) +$

$\rho_{3\mathbf{i}} \Pr\left(\mathbf{y_i} \in \{\mathbf{k_i}-5, \mathbf{k_i}+5\}\right)+\rho_{4\mathbf{i}} \Pr\left(\mathbf{y_i} \in \{\mathbf{k_i}-12.5, \mathbf{k_i}+12.5\}\right)+\rho_{5\mathbf{i}} \Pr\left(\mathbf{y_i} \in \{\mathbf{k_i}-25, \mathbf{k_i}+25\}\right)$ if $\mathbf{k_i} \in \{0, 50, 100\}$

The first part is for considering only the rounding rules admissible for an answer, for example, $r = 1$, $r = 2$ and $r = 4$ are the only rounding regimes compatible with a subjective probability of 75%. The second part is the probability that a given rounded regime is used (equation 3), and the last part represents the probability that the subjective probability lies within an interval (equation 4).

4 Results

Central to our analysis is the exploration of how disability affects individuals' subjective beliefs about labor market outcomes. As illustrated in our findings, the presence of a disability shape one's outlook on the labor market. Specifically, individuals with disabilities significantly manifest a reduced enthusiasm about securing interviews and express heightened concerns about the stability of their current positions. This overarching sentiment shows a larger narrative: the labor market is perceived as being less favorable to those with disabilities when juxtaposed against their counterparts without disabilities. When we further unpack the nature of these disabilities, we observe that those with visual impairments or motor disabilities particularly express these sentiments. Interestingly, while disabilities influence perceptions about job interviews and job security, they don't seem to significantly alter views on promotions or the prospects of landing more favorable job roles.

4.1 Determinants of subjective beliefs

Diving into the broader spectrum of co-factors, our results from Table 5 and Table 6 show the relationships between individual characteristics and their labor market perceptions.

For job searching, being in a committed relationship, current employment status, and prior experience often correlate with more positive expectations about being called for an interview. On the other hand, higher academic achievements, past episodes of involuntary unemployment, and lower self-esteem are tied to more cautious expectations.

Job transition expectations reveal that those in committed relationships or having more work experience tend to anticipate a prolonged tenure in their current roles, indicating a deeper sense of job security. Interestingly, regardless of the specific educational level attained, there seems to be an associated expectation of potentially moving on from the current position. Moreover, past experiences with involuntary unemployment lean individuals towards the idea of transitioning jobs, perhaps hinting at dissatisfaction with their current poor roles. Concurrently, there is an undercurrent of optimism, suggesting that the same individuals anticipate better job opportunities on the horizon.

On the topic of job security, the patterns suggest that males and individuals with extensive work experience convey a stronger sense of job security. In contrast, factors such as advancing age and recent experiences of involuntary unemployment heighten concerns about potential job losses.

Promotions expectations throw up a few intriguing insights. Those with advanced degrees, while tempering their expectations about personal upward mobility, believe in the imminent career advancements of their peers. This sentiment is also pronounced among older and more experienced professionals, suggesting a certain equilibrium in their career trajectory, potentially driven by the few possibilities to move forward in their careers.

Table 5: Determinants of subjective beliefs, with disability status

	Callback	**Job quit**	**Job loss**	**Being promoted**	**Coworker's Promotion**	**Better job**
Age	0.513	-1.545*	1.816**	-1.988**	-0.129	-1.229
	(0.458)	(0.928)	(0.781)	(0.947)	(1.131)	(0.801)
$Age^2/100$	-1.296**	2.132**	-1.573*	1.825*	-0.924	1.185
	(0.527)	(1.076)	(0.904)	(1.096)	(1.309)	(0.930)
Male	2.685*	-0.412	-7.372***	1.588	-11.756***	2.787
	(1.597)	(3.074)	(2.592)	(3.106)	(3.914)	(2.724)
Not single	4.028**	-8.526***	-1.919	-2.775	-0.738	-7.320**
	(1.656)	(3.266)	(2.750)	(3.306)	(4.121)	(2.907)
Lower Ed	-0.357	31.898***	15.398*	-5.254	-22.193*	19.415**
	(3.725)	(9.377)	(8.411)	(10.803)	(12.573)	(8.503)
High school	0.455	5.473	6.752	4.256	-3.700	7.068
	(2.514)	(5.585)	(4.576)	(5.601)	(7.101)	(5.025)
College	-5.842***	7.907**	5.741*	-3.948	11.434**	3.900
	(1.918)	(3.599)	(2.985)	(3.586)	(4.517)	(3.164)
Grad School	-3.509	12.561***	4.148	-11.452**	19.191***	3.696
	(2.666)	(4.725)	(4.048)	(4.832)	(6.054)	(4.191)
Involuntary Unemp	-3.893**	16.511***	16.199***	0.157	-10.923**	13.697***
	(1.703)	(3.382)	(2.814)	(3.433)	(4.319)	(3.010)
Employed	15.339***					
	(2.402)					
Disabilities	-8.016***	9.221***	5.625**	-2.589	0.739	4.281
	(2.121)	(3.090)	(2.588)	(3.105)	(3.917)	(2.730)
Disab x Unemp	5.068					
	(3.224)					
Self esteem	-4.177***	1.056	2.212*	-3.642**	1.276	-2.537*
	(0.765)	(1.506)	(1.264)	(1.520)	(1.914)	1.336)
Experience	0.381***	-0.756***	-0.781***	-0.684***	0.445	-0.508**
	(0.116)	(0.259)	(0.214)	(0.258)	(0.321)	(0.229)
L	-4868	-2251	-1954	-2227	-2411	-2361
N	1159	640	624	628	645	639

$^{***}p < 0.01$. $^{**}p < 0.05$. $^{*}p < 0.1$. Standard errors in parentheses – Intercept included but not reported

Table 6: Determinants of subjective beliefs, with types of disabilities

	Callback	Job quit	Job loss	Being promoted	Coworker's Promotion	Better job
Age	0.547	-1.659**	1.827**	-2.041**	-0.227	-1.189
	(0.447)	(0.931)	(0.769)	(0.945)	(1.159)	(0.821)
$Age^2/100$	-1.299**	2.297**	-1.628*	1.846*	-0.859	1.182
	(0.515)	(1.081)	(0.891)	(1.094)	(1.337)	(0.950)
Male	2.620	-0.487	-7.167***	1.536	-11.840***	2.512
	(1.596)	(3.101)	(2.591)	(3.124)	(3.931)	(2.733)
Not single	3.604**	-8.344**	-0.939	-2.229	0.297	-7.352**
	(1.658)	(3.295)	(2.757)	(3.338)	(4.154)	(2.923)
Lower Ed	-0.341	32.753***	15.922*	-5.719	-21.076*	20.765**
	(3.717)	(9.451)	(8.409)	(10.809)	(12.633)	(8.512)
High school	0.226	5.317	6.311	4.418	-4.377	6.660
	(2.505)	(5.601)	(4.562)	(5.608)	(7.107)	(5.021)
College	-5.894**	7.616**	5.883**	-3.822	11.566**	3.837
	(1.909)	(3.607)	(2.969)	(3.587)	(4.505)	(3.156)
Grad School	-3.304	11.823**	3.957	-11.320**	19.270***	3.666
	(2.657)	(4.758)	(4.031)	(4.843)	(6.065)	(4.193)
Involun Unemp	-4.191**	16.924***	15.885***	-0.598	-12.035***	13.986***
	(1.695)	(3.397)	(2.808)	(3.445)	(4.324)	(3.009)
Employed	12.579***					
	(1.745)					
Visual	-7.146**	-2.684	10.615**	4.429	13.730*	0.270
	(3.316)	(5.870)	(4.689)	(5.907)	(7.514)	(5.250)
Hearing	-6.515	8.604	12.039**	7.222	7.964	1.007
	(3.735)	(6.628)	(5.877)	(6.878)	(8.704)	(5.969)
Motor	-11.283***	7.511*	7.856	2.546	5.034	-2.770
	(2.544)	(5.168)	(4.455)	(5.443)	(6.434)	(4.499)
Episodic	-0.183	5.794	1.384	2.780	7.353	2.667
	(2.391)	(4.516)	(3.751)	(4.578)	(5.718)	(3.981)
Self esteem	-4.540***	1.436	2.695**	-3.587**	1.340	-2.467*
	(0.759)	(1.515)	(1.258)	(1.525)	(1.907)	(1.337)
Experience	0.352***	-0.799***	-0.752***	-0.671***	0.461	-0.539**
	(0.116)	(0.260)	(0.213)	(0.259)	(0.322)	(0.229)
L	-4864	-2250	1950	-2226	-2408	-2361
N	1159	640	624	628	645	639

$^{***}p < 0.01$. $^{**}p < 0.05$. $^{*}p < 0.1$. Standard errors in parentheses – Intercept included but not reported

4.2 Rounding behavior

Our analysis on rounding behavior, as presented in Tables 7 and 8, uncovers some patterns. Starting with employment status and experience, both these factors appear prominently related

to the rounding behavior, especially when considering the question about chances of getting an interview. This relationship becomes even more pronounced when we incorporate the variables of disability types into our analysis.

For the question of quitting a job, we observe that individuals with episodic disabilities tend to display more rounding. This suggests that such individuals might often refrain from providing exact answers. Similarly, the topic of job loss expectations brings up some specific correlations. Being in a relationship introduces a marginal tendency to round answers. In contrast, other factors, like being younger in age, having an education level less than a high school diploma, or having faced periods of involuntary unemployment in the past, seem to amplify the inclination towards rounding. Such behaviors might be indicative of certain hesitancy or uncertainties in these cohorts.

Interestingly, as we explore promotions expectations, a high school education stands out as a factor reducing rounding behavior. This suggests that individuals with at least a high school education feel more confident or certain in their responses about promotion prospects. A deeper dive into age-related rounding tendencies reveals a strong but non-linear relationship, specifically, when probing into the possibilities of securing a better job, being single emerges as a significant predictor for rounding behaviors, possibly indicating that younger individuals, in the start of their careers, display more uncertainties about the accuracy of their beliefs.

However, amidst all these nuances, one clear observation is the absence of a consistent relationship between disability and rounding practices. This denotes that having a disability does not necessarily sway an individual towards or away from rounding their responses.

Table 7: Rounding propensity, determinants with disability status

	Callback	**Job quit**	**Job loss**	**Being promoted**	**Coworker's Promotion**	**Better job**
Age	-0.013	0.040	0.107**	0.000	0.106**	0.041

	Callback	Job quit	Job loss	Being promoted	Coworker's Promotion	Better job
	(0.024)	(0.045)	(0.053)	(0.043)	(0.047)	(0.040)
$Age^2/100$	0.005	-0.047	-0.111*	0.005	-0.128**	-0.062
	(0.028)	(0.053)	(0.062)	(0.050)	(0.054)	(0.047)
Male	-0.014	0.023	0.137	0.230	0.109	0.097
	(0.086)	(0.141)	(0.165)	(0.151)	(0.147)	(0.133)
Not single	-0.019	-0.209	-0.325*	0.069	-0.051	-0.367***
	(0.090)	(0.148)	(0.167)	(0.159)	(0.153)	(0.139)
Lower Ed	0.047	-0.229	1.054**	-0.178	0.212	0.316
	(0.210)	(0.457)	(0.434)	(0.654)	(0.463)	(0.441)
High school	-0.009	-0.468	-0.167	-0.560**	0.241	-0.280
	(0.137)	(0.286)	(0.321)	(0.285)	(0.239)	(0.276)
College	-0.006	-0.123	0.219	-0.152	-0.022	0.165
	(0.102)	(0.164)	(0.187)	(0.163)	(0.166)	(0.154)
Grad School	-0.013	-0.153	0.002	-0.616**	-0.168	0.031
	(0.141)	(0.215)	(0.262)	(0.258)	(0.248)	(0.206)
Involuntary Unemp	-0.042	-0.033	0.329**	-0.070	-0.125	0.141
	(0.093)	(0.153)	(0.166)	(0.162)	(0.162)	(0.141)
Employed	0.365***					
	(0.129)					
Disabilities	-0.178	0.230	0.090	-0.036	-0.041	0.208
	(0.110)	(0.147)	(0.164)	(0.146)	(0.145)	(0.138)
Disab x Unemp	0.190					
	(0.175)					
Self-esteem	-0.068*	-0.001	0.044	-0.091	0.048	-0.042
	(0.041)	(0.068)	(0.075)	(0.071)	(0.068)	(0.064)
Experience	0.012*	0.020*	0.001	0.003	0.017	0.021*
	(0.006)	(0.012)	(0.013)	(0.012)	(0.012)	(0.011)
m_2	-0.290	1.186	2.824	0.087	2.649	0.982
m_3	0.605	0.517	0.754	0.554	0.487	0.452
m_4	0.830	0.438	0.301	0.271	0.365	0.582
m_5	3.824	0.282	0.139	-0.187	0.252	0.310
Scale	0.038	0.028	0.035	0.028	0.022	0.031
L	-4868	-2251	-1954	-2227	-2411	-2361
N	1159	640	624	628	645	639

$^{***}p < 0.01$. $^{**}p < 0.05$. $^{*}p < 0.1$. Standard errors in parentheses

Table 8: Rounding propensity, determinants with types of disabilities

	Callback	**Job quit**	**Job loss**	**Being promoted**	**Coworker's Promotion**	**Better job**
Age	-0.015	0.024	0.099*	-0.009	0.104**	0.039
	(0.024)	(0.046)	(0.055)	(0.044)	(0.047)	(0.041)
$Age^2/100$	0.006	-0.028	-0.103	0.015	-0.126**	-0.057
	(0.028)	(0.054)	(0.063)	(0.050)	(0.054)	(0.047)
Male	-0.013	-0.048	0.123	0.203	0.109	0.071
	(0.086)	(0.145)	(0.169)	(0.154)	(0.148)	(0.134)
Not single	-0.009	-0.252	-0.361**	0.072	-0.055	-0.382***
	(0.090)	(0.149)	(0.172)	(0.161)	(0.155)	(0.140)
Lower Ed	0.045	-0.101	1.022**	-0.209	0.188	0.446
	(0.210)	(0.452)	(0.449)	(0.659)	(0.462)	(0.431)
High school	-0.018	-0.482*	-0.117	-0.552*	0.262	-0.311
	(0.137)	(0.285)	(0.318)	(0.284)	(0.240)	(0.281)
College	-0.004	-0.128	0.238	-0.178	-0.020	0.164
	(0.102)	(0.165)	(0.191)	(0.164)	(0.167)	(0.153)
Grad School	-0.009	-0.057	0.041	-0.605**	-0.157	0.060
	(0.141)	(0.216)	(0.266)	(0.262)	(0.252)	(0.206)
Involuntary Unemp	-0.049	0.003	0.356**	-0.079	-0.129	0.158
	(0.092)	(0.152)	(0.168)	(0.163)	(0.165)	(0.141)
Employed	0.245***					
	(0.095)					
Visual	0.170	-0.417	-0.300	-0.009	-0.043	-0.108
	(0.176)	(0.320)	(0.350)	(0.291)	(0.296)	(0.264)
Hearing	-0.084	-0.455	-0.178	-0.053	-0.053	-0.085
	(0.199)	(0.329)	(0.365)	(0.307)	(0.314)	(0.275)
Motor	-0.070	-0.036	0.172	0.201	0.127	-0.165
	(0.138)	(0.229)	(0.250)	(0.242)	(0.222)	(0.217)
Episodic	0.045	0.401**	0.176	0.313	-0.032	0.289
	(0.130)	(0.195)	(0.218)	(0.205)	(0.209)	(0.181)
Self-esteem	-0.074*	-0.032	0.047	-0.085	0.050	-0.051
	(0.041)	(0.070)	(0.076)	(0.071)	(0.068)	(0.065)
Experience	0.013**	0.018	0.001	0.001	0.017	0.019*
	(0.006)	(0.012)	(0.014)	(0.012)	(0.012)	(0.011)
m_2	-0.339	0.576	2.625	-0.044	2.648	0.791
m_3	0.602	0.507	0.760	0.568	0.494	0.431
m_4	0.826	0.453	0.311	0.265	0.365	0.579
m_5	3.879	0.294	0.141	0.182	0.250	0.320
Scale	0.038	0.028	0.035	0.028	0.022	0.031
L	-4864	-2250	1950	-2226	-2408	-2361
N	1159	640	624	628	645	639

$^{***}p < 0.01$. $^{**}p < 0.05$. $^{*}p < 0.1$. Standard errors in parentheses

Table 9 shows the estimated probabilities for each type of response, for each of the six questions asked in our survey. Compared to Kleinjans and Soest (2014) and Bissonnette et al. (2017), precise answers represent at least 50% of all responses. For interview expectations, rounding to the nearest multiple of 50 does not occur, while it is more common, but still not preponderant, with the other questions. Rounding to the nearest multiple of 10 is more prevalent for the interview-getting and the prospect of a better job questions. Rounding to multiples of 5 is the most common, overall, with proportion of responses ranging from 16% to 23%, while rounding to multiples of 25 are less prevalent (at most 8% for each question).

Table 9: Estimated probabilities for each type of response

	1	5	10	25	50	N
Interviews						
(a)	0.497	0.223	0.198	0.080	0.000	1159
(b)	0.499	0.223	0.198	0.081	0.000	
Leaving job						
(a)	0.556	0.182	0.118	0.053	0.093	640
(b)	0.554	0.177	0.121	0.055	0.094	
Losing job						
(a)	0.594	0.232	0.062	0.022	0.089	624
(b)	0.595	0.232	0.062	0.022	0.088	
Own's promotion						
(a)	0.593	0.187	0.070	0.039	0.112	628
(b)	0.593	0.190	0.067	0.037	0.113	
Coworker's promotion						
(a)	0.581	0.168	0.098	0.050	0.102	645
(b)	0.582	0.170	0.097	0.050	0.102	
Better job						
(a)	0.541	0.163	0.159	0.055	0.082	639
(b)	0.539	0.156	0.161	0.058	0.086	

a: estimation with disabilities status

b: estimations with types of disabilities

4.3 Conclusion

Understanding the labor market dynamics for individuals with disabilities necessitates a comprehensive grasp of how they shape their beliefs, particularly in comparison to those without disabilities. Gaining insights into their expectations is vital to measure their perceptions surrounding job opportunities and security. In our research, exploiting data from online surveys undertaken at DEPPI across the Quebec and New Brunswick provinces, we use a two-equation model to discern differences in expectations between people with disabilities and those without, prominently factoring in disability status and its specific types.

Measuring beliefs using subjective probabilistic questions has its challenges, notably the tendency for respondents to round their answers. Kleinjans and Soest (2014) observed this behavior, with answers often rounded to the nearest 5, 10, or 50. This can obscure respondents' true beliefs, potentially muddling accurate interpretation. Yet, unlike their findings of few precise responses, our data showed many. Differences in question framing might explain this discrepancy. However, such rounding did not greatly impact our main conclusions when we artificially introduced it as robustness check.

We found that individuals with disabilities view their job prospects and stability differently than their non-disabled peers. Specifically, those with visual and motor disabilities seem less optimistic about receiving callbacks after job applications. Those with visual and hearing disabilities also express heightened fears of job loss, emphasizing a generally more cautious perspective on job opportunities and stability among people with disabilities.

This gap in labor market expectations between individuals with and without disabilities poses significant economic challenges. Those with disabilities, when faced with perceived limited opportunities for job placements or career growth, may curtail their endeavors towards acquiring new skills or pursuing advanced education. Such restrained ambition can amplify the

already evident economic gaps between these groups. To shed light on this, the Labor Force Survey of 2022 offers a telling snapshot: the employment rate for those aged 16 to 64 with disabilities stood at 65.1%, a stark 15 percentage points below their non-disabled counterparts at 80.1%. Furthermore, the unemployment rate for this age group with disabilities was recorded at 6.9%, almost double the 3.8% observed for those without disabilities. This data underscores the urgency of addressing not just the tangible barriers but also the perceptual ones that may be holding back a significant segment of the workforce. Concurrently, the broader economy faces inefficiencies as a portion of the workforce remains underutilized, implying potential growth left untapped (Buckup, 2009). Such lower expectations can also perpetuate negative stereotypes; if disabled individuals preemptively opt out of certain labor market activities expecting bias, employers miss out on witnessing their potential contributions, inadvertently solidifying existing biases from employers and other employees (Nelissen et al., 2016). Moreover, the mental toll of these expectations should not be underestimated, as prolonged perceptions of inequity or job loss can detrimentally affect mental well-being, leading to increased societal costs (Caroli and Godard, 2016). From a policy perspective, our findings signal a need for interventions that transcend mere physical accommodations. Addressing the belief systems, through mechanisms like awareness drives or mentorship programs, can be pivotal in bridging the belief gap, fostering a more inclusive and productive economic landscape.

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Probabilistic questions

- Q1: probability of being called for an interview, conditional on having sent CVs, in this way:
  Assume you are applying to 100 jobs, how many callbacks do you think you will receive for an interview?
- Q2: probability of being offered a job, conditional on being convoked for an interview:
  Assume you are convoked to (response at Q1) interviews, how many job offers do you think you will receive?
- Q3: probability of leaving one's job, conditional on having a job:
  Please indicate your estimate, in %, of the probability that you will leave your job, in the next 12 months?
- Q4: probability of losing one's job:
  Please indicate your estimate, in %, of the probability that you will leave your job, in the next 12 months?
- Q5: probability of being promoted:
  Please indicate your estimate, in %, of the probability that you will be promoted, in the next 12 months?
- Q6: probability of a coworker being promoted:
  Please indicate your estimate, in %, of the probability that one of your coworkers being promoted, in the next 12 months?
- Q7: probability of find a better job:
  Please indicate your estimate, in %, of the probability that you will find a better job, in the next 12 months?

Artificial rounding

The unusual proportion of precise answers in our surveys might be explained by the way elicited probabilistic questions were presented, a slider that explicitly presents numeric options. Respondents can drag the slider to any value between 0 and 100. If we assume that those who gave answers in the range 6 and 94 had trouble getting to the nearest multiple of 5 because of the slider, we can artificially round these values, and test the model. For a robustness check, we rounded the precise responses in the interval [6:94] to the nearest multiple of 5. For example, if a respondent gives the probabilistic response of 49, we round it to 50, which may fall into the other four rounding regimes (5, 10, 25, 50). Another example: a raw value of 74 is rounded to 75, which may go into the two regimes of multiples of 5 and 25. Tables 10 and 11 show the results of the measured expectations using individual characteristics, where the precise answers in [6:94] are rounded to the nearest multiple of 5; Tables 12 and 13 measure the propensity to round, using individual characteristics. We find that our results from Tables 5 and 6 did not significantly change (see Table 16 for a comparison). Table 15, highlighting the estimated probabilities for each type of responses (with raw and artificially rounded data), show that the artificially rounded values generally fall into the regime of multiples of 5.

Table 10: Determinants of subjective beliefs, with disability status (artificially rounded data)

	Callback	**Job quit**	**Job loss**	**Being promoted**	**Coworker's Promotion**	**Better job**
Age	0.540	-1.536*	1.758**	-1.907**	-0.135	-1.189
	(0.444)	(0.921)	(0.765)	(0.904)	(1.106)	(0.807)
$Age^2/100$	-1.319**	2.121**	-1.499*	1.730*	-0.892	1.138
	(0.513)	(1.067)	(0.888)	(1.048)	(1.279)	(0.934)
Male	2.659*	-0.364	-7.548***	1.612	-11.501***	2.765
	(1.594)	(3.039)	(2.566)	(3.063)	(3.819)	(2.700)
Not single	4.078**	-8.270 **	-1.602	-2.486	-0.856	-6.881**
	(1.653)	(3.231)	(2.721)	(3.257)	(4.020)	(2.875)
Lower Ed	-0.362	31.303***	14.258*	-4.011	-22.028*	18.817**
	(3.720)	(9.370)	(8.289)	(10.820)	(12.278)	(8.509)
High school	0.517	5.981	6.867	3.964	-3.733	7.334
	(2.512)	(5.531)	(4.538)	(5.541)	(6.939)	(4.992)
College	-5.797***	7.960**	5.839**	-3.945	11.189**	3.679
	(1.915)	(3.557)	(2.957)	(3.534)	(4.402)	(3.132)
Grad School	-3.625	12.468***	4.268	-11.234**	18.722***	3.517
	(2.664)	(4.665)	(4.014)	(4.769)	(5.902)	(4.155)
Invol Unemp	-3.975**	16.496***	16.206***	0.293	-10.709**	13.661***
	(1.700)	(3.349)	(2.790)	(3.392)	(4.217)	(2.984)
Employed	15.306***					
	(2.399)					
Disability	-7.973***	9.061***	5.361**	-2.523	0.785	4.356
	(2.119)	(3.058)	(2.566)	(3.062)	(3.822)	(2.706)
Disab x Unemp	4.910					
	(3.217)					
Self esteem	-4.165***	1.004	2.278*	-3.488**	1.254	-2.387*
	(0.764)	(1.489)	(1.253)	(1.501)	(1.866)	(1.324)
Experience	0.373***	-0.759***	-0.802	-0.676***	0.431	-0.521**
	(0.116)	(0.256)	(0.212)	(0.254)	(0.314)	(0.227)
L	-3843	-1936	-1710	-1885	-2020	-1920
N	1159	640	624	628	645	639

$^{***}p < 0.01$. $^{**}p < 0.05$. $^{*}p < 0.1$. Standard errors in parentheses

Table 11: Determinants of subjective beliefs, with disabilities types, artificially rounded data

	Callback	**Job quit**	**Job loss**	**Being promoted**	**Coworker's Promotion**	**Better job**
Age	0.577	-1.642*	1.802**	-1.968**	-0.248	-1.130
	(0.457)	(0.923)	(0.783)	(0.915)	(1.169)	(0.805)
$Age^2/100$	-1.325**	2.279**	-1.580*	1.760*	-0.811	1.119
	(0.525)	(1.070)	(0.906)	(1.061)	(1.345)	(0.932)
Male	2.587	-0.361	-7.310***	1.635	-11.669***	2.596
	(1.595)	(3.074)	(2.567)	(3.084)	(3.860)	(2.707)
Not single	3.655 **	-8.081**	-0.528	-1.868	0.272	-6.860**
	(1.657)	(3.265)	(2.728)	(3.292)	(4.078)	(2.889)
Lower Ed	-0.358	32.073***	15.262*	-4.016	-20.688*	20.345**
	(3.713)	(9.467)	(8.280)	(10.829)	(12.344)	(8.502)
High school	0.289	5.809	6.461	4.093	-4.461	7.045
	(2.505)	(5.556)	(4.528)	(5.554)	(6.987)	(4.987)
College	-5.841***	7.696**	5.924**	-3.860	11.361**	3.541
	(1.908)	(3.572)	(2.944)	(3.540)	(4.425)	(3.122)
Grad School	-3.416	11.702**	3.992	-11.240**	18.951***	3.153
	(2.656)	(4.707)	(4.001)	(4.780)	(5.953)	(4.153)
Invol Unemp	-4.282**	16.907***	15.944***	-0.340	-11.842***	13.918***
	(1.693)	(3.369)	(2.786)	(3.407)	(4.245)	(2.981)
Employed	12.614***					
	(1.744)					
Vision	-7.262**	-2.602	11.354**	4.059	13.464*	0.609
	(3.312)	(5.836)	(4.677)	(5.831)	(7.397)	(5.243)
Hearing	-6.399*	8.540	11.779**	7.051	7.809	0.893
	(3.730)	(6.577)	(5.838)	(6.817)	(8.524)	(5.896)
Motor	-11.192***	7.263	7.621*	2.701	4.790	-3.181
	(2.541)	(5.132)	(4.401)	(5.365)	(6.296)	(4.448)
Episodic	-0.206	5.702	1.167	2.838	6.987	2.438
	(2.394)	(4.463)	(3.714)	(4.516)	(5.613)	(3.933)
Self-esteem	-4.535***	1.434	2.703**	-3.443**	1.340	-2.303*
	(0.759)	(1.500)	(1.249)	(1.507)	(1.874)	(1.323)
Experience	0.344***	-0.804***	-0.783***	-0.664***	0.448	-0.555**
	(0.116)	(0.258)	(0.212)	(0.255)	(0.316)	(0.227)
L	-3841	-1935	-1706	-1884	-2017	-1919
N	1159	640	624	628	645	639

$^{***}p < 0.01$. $^{**}p < 0.05$. $^{*}p < 0.1$. Standard errors in parentheses – Intercept included but not reported

Table 12: Rounding propensity, determinants with disability status, artificially rounded data

	Callback	**Job quit**	**Job loss**	**Being promoted**	**Coworker's Promotion**	**Better job**
Age	0.011	-0.034	0.063	-0.012	0.102**	0.082*
	(0.029)	(0.043)	(0.046)	(0.041)	(0.041)	(0.043)
$Age^2/100$	-0.020	0.031	-0.046	0.020	-0.119**	-0.109**
	(0.034)	(0.051)	(0.054)	(0.048)	(0.047)	(0.049)
Male	-0.042	0.011	-0.006	0.138	0.001	0.060
	(0.102)	(0.135)	(0.155)	(0.138)	(0.140)	(0.141)
Not single	0.006	-0.195	-0.146	0.267*	-0.029	-0.070
	(0.107)	(0.143)	(0.159)	(0.148)	(0.145)	(0.150)
Lower Ed	-0.101	0.603	0.966***	0.453	0.229	0.941**
	(0.259)	(0.404)	(0.481)	(0.508)	(0.461)	(0.416)
High school	0.026	-0.040	-0.032	-0.230	0.221	0.056
	(0.162)	(0.249)	(0.268)	(0.238)	(0.240)	(0.267)
College	-0.266**	0.118	0.343*	-0.064	-0.165	0.169
	(0.122)	(0.158)	(0.176)	(0.157)	(0.159)	(0.162)
Grad School	-0.207	-0.005	0.141	-0.475**	-0.202	0.111
	(0.170)	(0.205)	(0.232)	(0.214)	(0.223)	(0.211)
Invol Unemp	-0.084	0.107	0.492***	0.135	-0.041	0.290*
	(0.112)	(0.145)	(0.162)	(0.148)	(0.152)	(0.150)
Employed	0.637***					
	(0.158)					
Disability	-0.415***	0.097	-0.043	-0.012	-0.120	0.128
	(0.142)	(0.137)	(0.151)	(0.135)	(0.140)	(0.142)
Disab x Unemp	0.265					
	(0.206)					
Self esteem	-0.090*	0.031	0.060	-0.009	0.050	0.003
	(0.047)	(0.063)	(0.071)	(0.063)	(0.065)	(0.065)
Experience	0.011	0.013	-0.020	-0.006	-0.004	0.002
	(0.007)	(0.011)	(0.013)	(0.011)	(0.011)	(0.011)
m_2	-1.373	-1.395	0.917	-1.061	0.746	0.357
m_3	1.947	1.351	1.679	1.523	1.837	1.796
m_4	0.875	0.579	0.505	0.341	0.212	0.512
m_5	4.202	0.378	0.043	0.337	0.217	0.431
Scale	0.038	0.028	0.035	0.028	0.022	0.031
L	-3843	-1936	-1710	-1885	-2020	-1920
N	1159	640	624	628	645	639

***$p < 0.01$. **$p < 0.05$. *$p < 0.1$. Standard errors in parentheses

Table 13: Rounding propensity, with disabilities types, artificially rounded data

	Callback	Job quit	Job loss	Being promoted	Coworker's Promotion	Better job
Age	0.008	-0.039	0.063	-0.015	0.100**	0.094**
	(0.029)	(0.043)	(0.046)	(0.041)	(0.041)	(0.043)
$Age^2/100$	-0.017	0.036	-0.045	0.024	-0.117**	-0.120**
	(0.033)	(0.051)	(0.054)	(0.048)	(0.047)	(0.050)
Male	-0.040	-0.041	-0.002	0.136	0.005	0.048
	(0.101)	(0.138)	(0.155)	(0.140)	(0.141)	(0.141)
Not single	0.020	-0.229	-0.136	0.291*	-0.001	-0.075
	(0.107)	(0.144)	(0.161)	(0.151)	(0.148)	(0.150)
Lower Ed	-0.084	0.643	1.004**	0.415	0.257	1.055***
	(0.256)	(0.400)	(0.480)	(0.520)	(0.466)	(0.408)
High school	0.012	-0.079	-0.037	-0.225	0.210	0.049
	(0.162)	(0.252)	(0.270)	(0.238)	(0.241)	(0.266)
College	-0.243**	0.115	0.339*	-0.088	-0.162	0.174
	(0.121)	(0.158)	(0.176)	(0.158)	(0.159)	(0.161)
Grad School	-0.195	0.030	0.120	-0.488**	-0.215	0.134
	(0.168)	(0.207)	(0.233)	(0.216)	(0.228)	(0.211)
Invol Unemp	-0.100	0.128	0.499***	0.138	-0.080	0.285*
	(0.110)	(0.145)	(0.163)	(0.149)	(0.154)	(0.149)
Employed	0.426***					
	(0.113)					
Vision	0.006	-0.107	0.037	0.038	0.290	0.265
	(0.214)	(0.256)	(0.271)	(0.252)	(0.269)	(0.262)
Hearing	-0.035	-0.353	-0.059	0.175	0.000	-0.322
	(0.228)	(0.274)	(0.309)	(0.273)	(0.288)	(0.282)
Motor	-0.220	0.181	-0.285	0.046	-0.103	-0.283
	(0.162)	(0.217)	(0.257)	(0.233)	(0.225)	(0.220)
Episodic	0.210	0.336*	0.085	0.276	0.030	0.081
	(0.157)	(0.204)	(0.215)	(0.203)	(0.204)	(0.200)
Self-esteem	-0.111**	0.015	0.058	-0.006	0.045	-0.010
	(0.047)	(0.064)	(0.072)	(0.064)	(0.065)	(0.066)
Experience	0.010	0.011	-0.020	-0.007	-0.003	0.000
	(0.007)	(0.011)	(0.013)	(0.011)	(0.011)	(0.011)
m_2	-1.433	-1.662	0.930	-1.077	0.796	0.470
m_3	1.922	1.365	1.652	1.529	1.832	1.808
m_4	0.844	0.585	0.526	0.345	0.232	0.496
m_5	4.149	0.381	0.071	0.358	0.218	0.400
Scale	0.038	0.028	0.035	0.028	0.022	0.031
L	-3841	-1935	-1706	-1884	-2017	-1919
N	1159	640	624	628	645	639

$^{***}p < 0.01$. $^{**}p < 0.05$. $^{*}p < 0.1$. Standard errors in parentheses

Table 14: Estimated probabilities for each type of response, artificially rounded data

	1	5	10	25	50	N
Interviews						
(a)	0.081	0.586	0.225	0.108	0.000	1159
(b)	0.081	0.589	0.223	0.103	0.000	
Leaving job						
(a)	0.181	0.479	0.176	0.075	0.089	640
(b)	0.180	0.480	0.177	0.075	0.088	
Losing job						
(a)	0.239	0.559	0.109	0.010	0.083	624
(b)	0.239	0.568	0.102	0.006	0.085	
Own's promotion						
(a)	0.170	0.531	0.105	0.081	0.114	628
(b)	0.168	0.531	0.104	0.078	0.118	
Coworker's promotion						
(a)	0.128	0.612	0.068	0.052	0.140	645
(b)	0.128	0.616	0.062	0.053	0.140	
Better job						
(a)	0.103	0.575	0.147	0.081	0.094	639
(b)	0.104	0.577	0.151	0.083	0.085	

a: estimation with disabilities status

b: estimations with types of disabilities

Table 15: Estimated probabilities for each type of response, raw (and artifially rounded) data

	1	5	10	25	50	N
Interviews						
(a)	0.497 (0.081)	0.223 (0.586)	0.198 (0.225)	0.080 (0.108)	0.000 (0.000)	1159
(b)	0.499 (0.081)	0.223 (0.589)	0.198 (0.223)	0.081 (0.103)	0.000 (0.000)	
Leaving job						
(a)	0.556 (0.181)	0.182 (0.479)	0.118 (0.176)	0.053 (0.075)	0.093 (0.089)	640
(b)	0.554 (0.180)	0.177 (0.480)	0.121 (0.177)	0.055 (0.075)	0.094 (0.088)	
Losing job						
(a)	0.594 (0.239)	0.232 (0.559)	0.062 (0.109)	0.022 (0.010)	0.089 (0.083)	624
(b)	0.595 (0.239)	0.232 (0.568)	0.062 (0.102)	0.022 (0.006)	0.088 (0.085)	
Own's promotion						
(a)	0.593 (0.170)	0.187 (0.531)	0.070 (0.105)	0.039 (0.081)	0.112 (0.114)	628
(b)	0.593 (0.168)	0.190 (0.531)	0.067 (0.104)	0.037 (0.078)	0.113 (0.118)	
Coworker's promotion						
(a)	0.581 (0.128)	0.168 (0.612)	0.098 (0.068)	0.050 (0.052)	0.102 (0.140)	645
(b)	0.582 (0.128)	0.170 (0.616)	0.097 (0.062)	0.050 (0.053)	0.102 (0.140)	
Better job						
(a)	0.541 (0.103)	0.163 (0.575)	0.159 (0.147)	0.055 (0.081)	0.082 (0.094)	639
(b)	0.539 (0.104)	0.156 (0.577)	0.161 (0.151)	0.058 (0.083)	0.086 (0.085)	

a: estimation with disabilities status

b: estimations with types of disabilities

Estimated probabilities for artificially rounded data in parentheses

Table 16: Determinants of two subjective beliefs, with disability status, raw/artificially rounded data

	Interviews		***Better job***	
	Raw data	Artificial	Raw data	Artificial
Age	0.513	0.540	-1.229	-1.189
	(0.458)	(0.444)	(0.801)	(0.807)
$Age^2/100$	-1.296**	-1.319**	1.185	1.138
	(0.527)	(0.513)	(0.930)	(0.934)
Male	2.685*	2.659*	2.787	2.765
	(1.597)	(1.594)	(2.724)	(2.700)
Not single	4.028**	4.078**	-7.320**	-6.881**
	(1.656)	(1.653)	(2.907)	(2.875)
Lower Ed	-0.357	-0.362	19.415**	18.817**
	(3.725)	(3.720)	(8.503)	(8.509)
High school	0.455	0.517	7.068	7.334
	(2.514)	(2.512)	(5.025)	(4.992)
College	-5.842***	-5.797***	3.900	3.679
	(1.918)	(1.915)	(3.164)	(3.132)
Grad School	-3.509	-3.625	3.696	3.517
	(2.666)	(2.664)	(4.191)	(4.155)
Invol Unemp	-3.893**	-3.975**	13.697***	13.661***
	(1.703)	(1.700)	(3.010)	(2.984)
Employed	15.339***	15.306***		
	(2.402)	(2.399)		
Disabilities	-8.016***	-7.973***	4.281	4.356
	(2.121)	(2.119)	(2.730)	(2.706)
Disabil x Unemp	5.068	4.910		
	(3.224)	(3.217)		
Self esteem	-4.177***	-4.165***	-2.537*	-2.387*
	(0.765)	(0.764)	(1.336)	(1.324)
Experience	0.381***	0.373***	-0.508**	-0.521**
	(0.116)	(0.116)	(0.229)	(0.227)
N	1159		639	

$^{***}p < 0.01$. $^{**}p < 0.05$. $^{*}p < 0.1$. Standard errors in parentheses – Intercept included but not reported