Worker Beliefs about Occupational Mobility*

Pascal Heß Armando Miano

March 26, 2026

Preliminary, do not circulate

Abstract

We study how employed workers perceive and respond to opportunities for occupational mobility. Using a large-scale survey of 4,500 full-time workers in Germany, linked with administrative employment data, we measure workers' beliefs about the transferability of their skills, the similarity of alternative occupations to theirs, the benefits—potential earnings—and costs—retraining and licensing requirements—of moving to other occupations. We also capture respondents' beliefs about exposure of their own and alternative occupations to automation, AI, and the green transition. The results reveal that workers are imperfectly informed about opportunities in other occupations: they systematically underestimate task similarity and wages in alternative occupations while overestimating the need for retraining or licensing. These misperceptions are more severe for blue-collar workers and for workers in commercial and administrative occupations, and are strongly negatively correlated with intentions to seek jobs in other occupations. Randomized information treatments providing data on wages, retraining requirements, and displacement risk meaningfully alter workers' beliefs and mobility intentions, even nine months after the intervention. These findings suggest that information gaps may hinder efficient labor reallocation, especially during periods of structural transformations, and that targeted informational interventions can help improve occupational mobility decisions.

*Heß: Institute for Employment Research (IAB) (e-mail: pascal.hess2@iab.de); Miano: University of Naples Federico II, CSEF, and CEPR (e-mail: armando.miano@unina.it). We thank Silke Anger, Britta Matthes, Michael Stops, Gerrit Müller and seminar participants at the IAB internal seminar, Workshop on Frontiers in Measurement and Survey Methods, Workshop on Policy and Societal Problems, SkiLMeeT seminar, and Social Behavior and Experiments Meeting for their thoughtful comments. This study was approved by the IAB Ethics Commission (decision 2024_06) and pre-registered in the AEA RCT Registry (AEARCTR-0014651).

1 Introduction

Job mobility is a crucial driver of labor market dynamism and an important factor shaping workers' career development and earnings growth (Topel and Ward, 1992; Neal, 1999). The relevance of occupational mobility has increased substantially in recent years as labor markets undergo significant structural transformations driven by technological change and environmental concerns (Acemoglu and Restrepo, 2020; Curtis, O'Kane and Park, 2024; Bluedorn et al., 2023). As workers in occupations more exposed to automation or affected by the green transition face a higher risk of displacement, transitioning to less-exposed occupations offers a potential pathway to avoid the substantial scarring effects associated with unemployment (Jarosch, 2023; Schmieder, Von Wachter and Heining, 2023).

Recent evidence shows that workers have imperfect information about their outside options within their current occupations (Jäger et al., 2024). This raises a natural question: How well are workers informed about opportunities in other occupations? Understanding workers' knowledge about alternative career paths is a key step to correctly define the span of the labor market that workers have in mind when they consider their outside options. It becomes even more important in a time of profound structural changes in the labor market. If workers systematically misperceive opportunities in alternative occupations, information frictions may prevent efficient reallocation of labor and limit workers' ability to escape deteriorating employment prospects.

This paper addresses three fundamental questions about occupational mobility. First, how do workers think about changing occupations, and how informed are they about opportunities in other occupations? Second, how do workers perceive the transferability of their skills to other occupations and assess the costs of occupational mobility? Third, can information provision about alternative occupations shift workers' beliefs and mobility intentions?

To answer these questions, we administered a comprehensive online survey through the German Employment Agency to approximately 4,500 wage and salary workers. The survey elicited workers' beliefs about the transferability of their skills, how similar—in terms of tasks and requirements—alternative occupations are to their current occupation, the benefits—wage gains—and costs—licensing requirements and training needs—of moving to such occupations, and their exposure to automation and the green transition. We also measured workers' willingness to change occupations and linked their survey responses with administrative data on their employment histories. Crucially, we implemented three randomized information treatments that provided workers with objective information about the distri-

bution of wages in alternative occupations, the licensing and training requirements to work in alternative occupations, or the risk of displacement from automation and AI or the green transition of theirs and alternative occupations.

Our analysis yields three main findings. First, we document substantial information gaps about alternative occupations. When asked to list the two occupations closest to theirs in terms of tasks and skill requirements, only 30 percent of respondents mention at least one occupation that is actually in the top 10 most similar occupations according to a similarity index compiled by experts and based on actual requirements and occupational content. By comparing respondents' beliefs against benchmarks computed from the administrative data, we show that workers systematically underestimate how similar specific alternative occupations are to their current occupation, overestimate retraining and licensing requirements, and underestimate both median wages in alternative occupations and potential wage gains if they were to move. These misperceptions appear systematic rather than random, suggesting that workers face genuine information constraints rather than simply exhibiting measurement error in their responses. Respondents working in blue-collar and in commercial and administrative occupations—that are especially at risk of being displaced by automation or AI— underestimate the benefits and overestimate the costs of occupational mobility more severely. This suggests that workers who would benefit the most from moving to an alternative occupation are also the least informed about opportunities for occupational mobility.

Second, we establish that beliefs about alternative occupations strongly correlate with intentions to search for jobs in other occupations. Workers who perceive greater similarity, fewer training and licensing requirements, and greater potential wage gains express a significantly higher willingness to look for a new job in alternative occupations. These correlations hold even after controlling for objective benchmarks and for observed worker characteristics, job tenure, job satisfaction, and perceived skill fit with their current job, suggesting that beliefs represent an important driver of mobility decisions rather than merely reflecting actual heterogeneity across occupations or unobserved worker heterogeneity.

Third, our randomized information treatments successfully shift both beliefs and stated mobility intentions. All treatments generate strong first-stage effects on beliefs about alternative occupations and meaningfully increase workers' willingness to consider occupational changes. Information about the wage distribution in alternative occupations or the lack of retraining and licensing requirement for these occupations increases workers' willingness to search for a new job in these occupations by 15 percent of a standard deviation. Information about displacement risk from automation and the green transition is slightly more effective at increasing mobility intentions—20 percent of a standard deviation—than information purely

about the benefits or costs of occupational mobility, but all treatments have economically significant effects. These treatment effects are driven by respondents who initially overestimate the training and licensing requirements, or underestimate the median wage in alternative occupation or their occupation's automation risk, suggesting that the treatments work through genuine information updating, rather than simple priming. Women and younger respondents as well as respondents who are more open to new experiences—a personality trait that we also measure in the survey—respond more strongly to the treatments. Importantly, the treatment effects on beliefs and mobility intentions persist when measured in a follow-up survey fielded nine months after the initial intervention, suggesting that information provision generates lasting changes in workers' understanding of their labor market opportunities.

This paper contributes to several strands of the literature. First, we add to the growing body of research studying whether workers have accurate information about their outside options (Jäger et al., 2024; Hvidberg, Kreiner and Stantcheva, 2023; Caldwell, Haegele and Heining, 2025). While previous work has documented information frictions within occupations or regarding firm wage premia, we provide the first comprehensive evidence on workers' knowledge about opportunities across occupational boundaries. This represents an important extension, as occupational mobility offers a distinct margin of adjustment with potentially different information requirements than within-occupation job changes.

Second, we contribute to the literature examining how workers' beliefs affect their search behavior. Previous research has focused primarily on unemployed workers (Mueller and Spinnewijn, 2021; Spinnewijn, 2015; Mueller, Spinnewijn and Topa, 2021), with some exceptions (Conlon et al., 2018; Jäger et al., 2024; Miano, 2023). We extend this literature by studying the search behavior of employed workers, who face different constraints and opportunities than unemployed job seekers, and by focusing especially on mobility across occupations. Understanding employed workers' cross-occupation search behavior matters particularly for analyzing labor market responses to structural change, as workers who could be displaced by technological or environmental shifts may consider transitioning to alternative occupations before experiencing unemployment.

Third, we relate to the literature on job recommendations and interventions designed to push unemployed workers towards jobs in higher-demand occupations (Belot, Kircher and Muller, 2019; Altmann et al., 2022; Le Barbanchon, Hensvik and Rathelot, 2023; Behaghel et al., 2024; Belot et al., 2025). We contribute to this literature by showing that similar interventions can meaningfully affect the behavior of employed workers, suggesting broader applicability of information-based policies to facilitate labor market adjustment.

Furthermore, our experimental setting allows us to disentangle the effect of different kinds of information—benefits or costs of occupational mobility or unemployment risk related to structural transformations—and to observe directly the impact of this information on workers' beliefs.

The remainder of this paper proceeds as follows. Section 2 describes our survey design, sample construction, and the methodology for selecting alternative occupations. Section 3 presents evidence on workers' beliefs about alternative occupations and documents systematic information gaps. Section 4 examines the relationship between beliefs and stated mobility intentions. Section 5 presents our experimental results on information treatments. Section 6 discusses the persistence of treatment effects using follow-up survey data. Section 7 concludes.

2 Survey Design and Data

2.1 Sample Construction and Survey Administration

Our target population consists of wage and salary workers employed full-time in Germany, aged 20 to 50 years.[1] We randomly extracted a sample of workers from this population and obtained their contact information from social security records maintained by the German Employment Agency. We mailed invitation letters to potential respondents in November 2024, asking them to complete the survey online. We include a copy of the invitation letter in Appendix C. Respondents spent a median of 27 minutes completing the survey, with a mean completion time of 42.5 minutes. Participants who completed the survey fully received a 5€ voucher.

We collected approximately 4,800 complete responses. After excluding respondents with missing answers in key questions, extreme interview durations—too short or too long—or unidentifiable occupations, our final analysis sample comprises 4,506 respondents. As shown in Table 1, this sample is broadly representative of our target population in terms of age and gender. College-educated workers are somewhat overrepresented compared to the general population, while foreign-born workers are underrepresented. These patterns are comparable to other studies with similar sampling procedures (e.g., Caldwell, Haegele and Heining, 2025 and 2026).[2] The occupational composition of our sample closely matches the population distribution, with a correlation of 0.84 between sample and population shares

[1] We do not sample older workers because occupational mobility is likely less relevant for them, given they are closer to retirement.

[2] Foreign-born workers and workers without a college degree generally have a lower response rate and hence are inevitably underrepresented in studies with a sampling structure like ours.

Table 1: Sample Characteristics

	Survey	SIAB
Male	0.65	0.68
Age		
20-29 years old	0.21	0.26
30-39 years old	0.44	0.40
40-51 years old	0.35	0.35
Education		
College degree	0.45	0.27
Professional education degree	0.49	0.61
High-school degree	0.05	0.10
No school degree	0.01	0.02
Foreign-born	0.12	0.20
Married/living w. Partner	0.71	NA
Sample size	4506	274909

Notes: This table reports summary statistics for the survey, in the first column, and corresponding statistics for the target population in Germany, in the second column. Population statistics come from the 2023 Sample of Integrated Labor Market Biographies (SIAB). Target population: full-time wage and salary workers, between 20 and 50 years old.

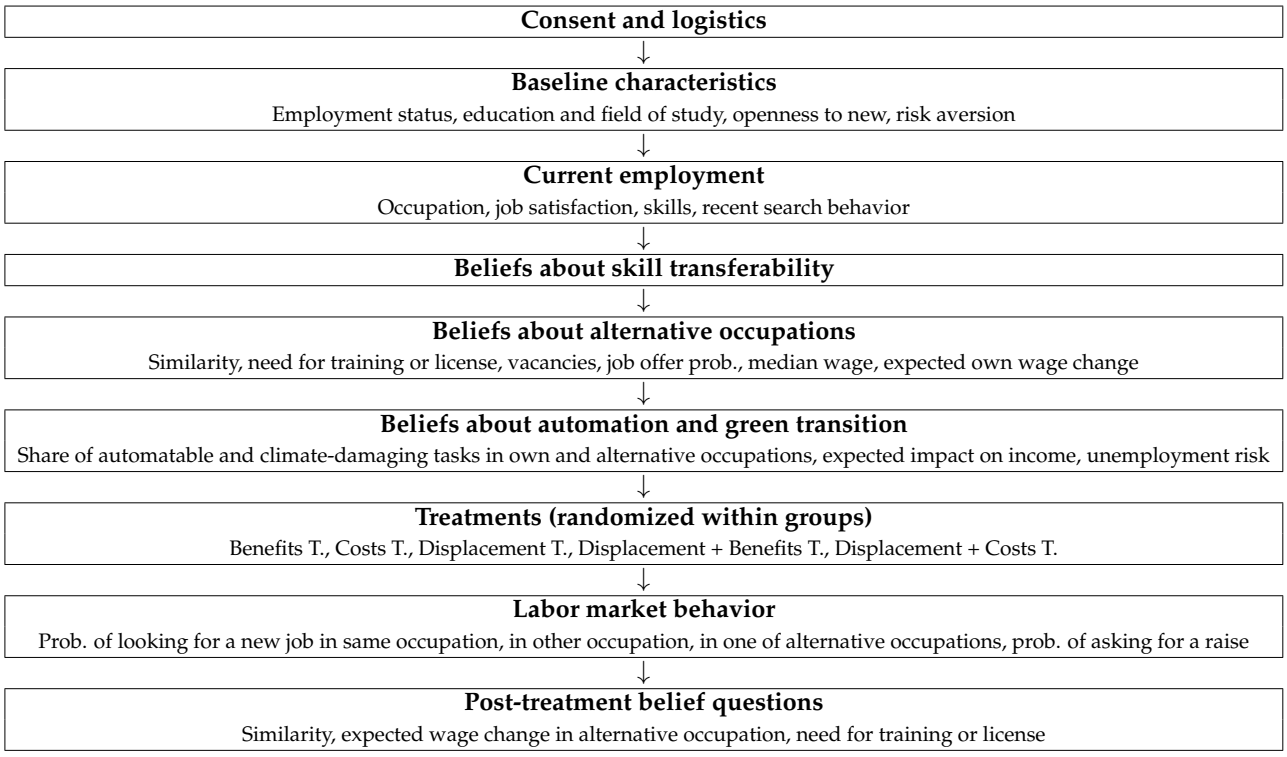
across occupations, as reported in Appendix Figure A1.

A critical feature of our design involves linking survey responses with administrative labor market data from the Integrated Employment Biographies (IEB) of the German Federal Employment Agency. These administrative records provide complete employment histories for all respondents, including information on wages, occupations, employer characteristics, and employment transitions over time. This linkage enables us to benchmark survey-elicited beliefs against objective labor market outcomes and will ultimately allow us to examine whether information treatments affect actual occupational mobility in addition to stated intentions. Given the importance of this linkage for our analysis, only respondents who gave their consent to us linking their survey answers to their employment histories were allowed to take the survey. Respondents' consent to be recontacted for the follow-up survey was another requirement to participate in the main survey.

2.2 Survey Structure

The survey followed a structured sequence designed to elicit comprehensive information about workers' current employment situation, beliefs about alternative occupations, and mo-

Figure 1: Survey Outline



bility intentions. After obtaining informed consent and collecting basic demographic information, the survey proceeded through the following modules, summarized in Figure 1.

First, we collected baseline characteristics that could complement the information we could retrieve *ex-post* from the administrative data, including educational attainment and field of study. We also measured some personality traits, such as openness to new experiences, and risk aversion using validated survey instruments. These baseline measures allow us to examine heterogeneity in beliefs and treatment responses across different types of workers.

Second, we gathered detailed information about current employment, including occupation—coded using the German Classification of Occupations 2010 (KldB 2010) at the three-digit level (roughly equivalent to the three-digit ISCO classification)—job satisfaction measured on multiple dimensions, perceived skill fit in their current role, and recent job search behavior both within and across occupational boundaries.

Third, we elicited beliefs about skill transferability using multiple complementary approaches. We asked workers to rate on a seven-point scale how transferable they believe their skills to be to other occupations. We also used open-ended questions asking workers to

name occupations they perceive as most similar to their current role, providing us with an unstructured measure of perceived alternatives.

Fourth, we collected detailed beliefs about specific alternative occupations that we selected for each respondent based on objective similarity measures to their current occupation. For each alternative occupation, we elicited beliefs about task similarity to their current occupation—on a six-point scale—necessity and difficulty of obtaining additional training or licenses, vacancy rates and job availability, probability of receiving a job offer conditional on applying for a job in that occupation, median wage in the alternative occupation, and expected wage change if the worker were to transition to that occupation.

Fifth, we measured beliefs about automation and the green transition, asking workers to estimate the share of tasks that can be automated in their current and alternative occupations, the share of climate-damaging tasks in each occupation, the expected impact on their earnings of technological and environmental changes, and their perceived displacement risk from these structural transformations.

We then implemented the randomized information treatments, described in detail in Section 5. Following these treatments, we re-elicited beliefs about some key variables—similarity, wage change if moving to the alternative occupations, need to retrain or obtain a license—to measure whether the treatments effectively shifted respondents' beliefs.

Finally, we measured respondents' intended labor market behavior, including the probability of looking for a new job in the same occupation or in a different occupation, including each specific alternative occupation shown, and the probability of asking for a raise at their current job.

2.3 Selecting Alternative Occupations

A crucial design challenge involved selecting appropriate alternative occupations to present to each respondent. Alternative occupations must be sufficiently similar to be plausible transitions, yet diverse enough to capture meaningful variation in mobility options. We developed a systematic approach to address this challenge.

For each occupation defined by three-digit occupational code plus educational requirements (3 digits + 5th digit of the KldB 2010), we selected four alternative occupations: two very close in terms of tasks to the respondent's occupation and two further away but still representing reasonable transitions. Our selection relies on a comprehensive occupation similarity index developed by Dengler, Matthes and Paulus (2014) and updated annually. This index measures the similarity between two occupations based on the skills and knowledge required to work in these occupations and the tasks typically performed in each occupation,

including specific tasks (*e.g.*, customer service) and knowledge requirements (*e.g.*, foreign language proficiency, specific software competencies). The requirements and similarity are assessed by experts from chambers of commerce and trade associations.

This similarity index provides pairwise ratings for occupations on a scale from 0 to 6, where 0 indicates no similarity at all and 6 indicates similarity exceeding 95 percent. This granular measure allows us to identify occupations at different distances from each worker's current role. Where the similarity index does not provide sufficient highly-similar occupations, we supplement our selection using the occupations transition matrix constructed from the administrative data, identifying occupations to which workers in the respondent's current occupation have historically moved.

This selection methodology generates meaningful variation in alternative occupations for each respondent while ensuring that the alternatives remain realistic possibilities. Table 2 reports some examples of occupations commonly occurring in our sample, as well as the alternatives presented ordered from first to fourth. For instance, office clerks and secretaries were presented with the following alternative occupations: computer specialist (very similar), public administration (also very similar), occupations in media and information services (moderately similar), occupations in business organization and strategy (reasonably similar but a common alternative occupation for office clerks and secretaries in the transitions observed in the administrative data).

Table 2: Examples of Alternative Occupations

Current Occupation	Alternatives
Office clerks and secretaries	Computer specialist
	Public administration
	Occupations in media, documentation and information services
	Occupations in business organisation and strategy
Warehousing, delivery and cargo handling	Drivers and operators of construction and transportation vehicles and equipment
	Ship's officers and masters
	Occupations in beverage production
	Occupations in metalworking
Occupations in machine-building and -operating	Occupations in building services and waste disposal
	Occupations in mechatronics, automation and control technology
	Occupations in precision mechanics and tool making
	Occupations in metalworking
Driver of vehicles in road traffic	Management assistants in transport and logistics
	Technical occupations in production planning and scheduling
	Drivers and operators of construction and transportation vehicles and equipment
	Warehousing, delivery and cargo handling
Occupations in business organization and strategy	Occupations in purchasing and sales
	Technical occupations in production planning and scheduling
	Office clerks and secretaries
	Occupations in advertising and marketing

Notes: This table reports some examples of occupations frequently occurring in our sample, together with the alternative occupations that were shown to respondents in each of these occupations in the survey.

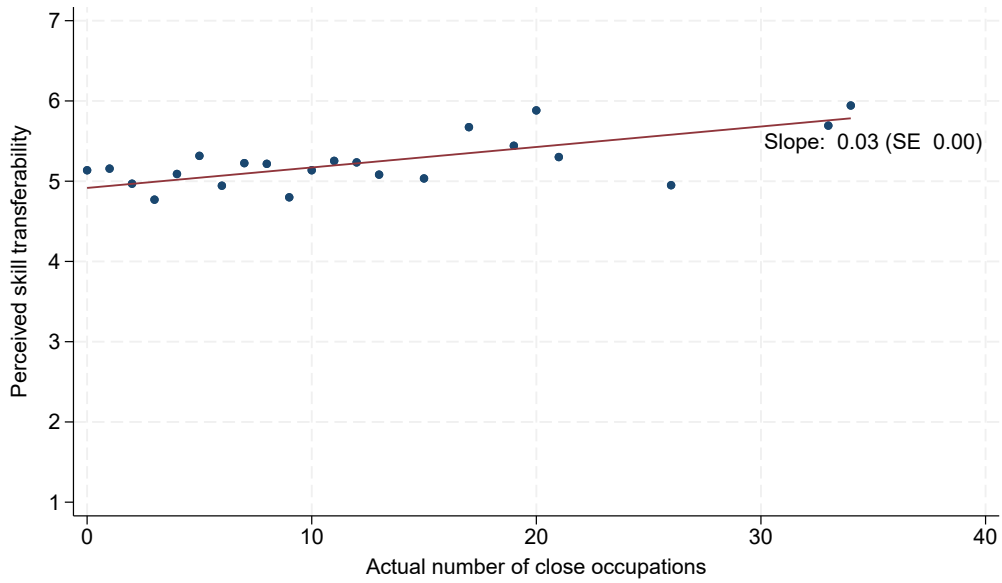
3 Worker Beliefs About Alternative Occupations

3.1 Beliefs About Skill Transferability

We begin by examining workers' general perceptions about the transferability of their skills to other occupations. We asked respondents to rate on a seven-point scale (from "not at all transferable" to "extremely transferable") how applicable they believe their skills are to other occupations. We report a screenshot of the question displayed to respondents (and translated in English) in Appendix B. Appendix Table A2 shows some summary statistics of respondents beliefs about their current occupation. We can benchmark these subjective assessments against objective measures of how many occupations actually require similar skills to the worker's current occupation.

Using the occupation similarity index, we count the number of occupations with a similarity rating of 4 or higher (on the 0-6 scale) to each worker's occupation. This provides an objective measure of the breadth of each worker's potential mobility options based on skill overlap. We find a positive but remarkably weak correlation between perceived skill transferability and this objective measure. A regression of perceived transferability on the number of close occupations yields a slope coefficient of just 0.03, meaning that respondents with a one-standard-deviation higher number of close occupations report only a 2%-of-a-standard-

Figure 2: Beliefs about Skills Transferability and Actual Number of Similar Occupations



Notes: This figure is a binned scatterplot of respondents' perceived skill transferability (measured on a 1 to 7 scale) over the number of occupations that can be considered "close"—that is, similar enough—to their current occupations. An occupation is considered close to the respondent's current occupation if their similarity index is > 3.

deviation higher skill transferability. This shows that workers with objectively more transferable skills do not perceive meaningfully greater transferability (Figure 2).

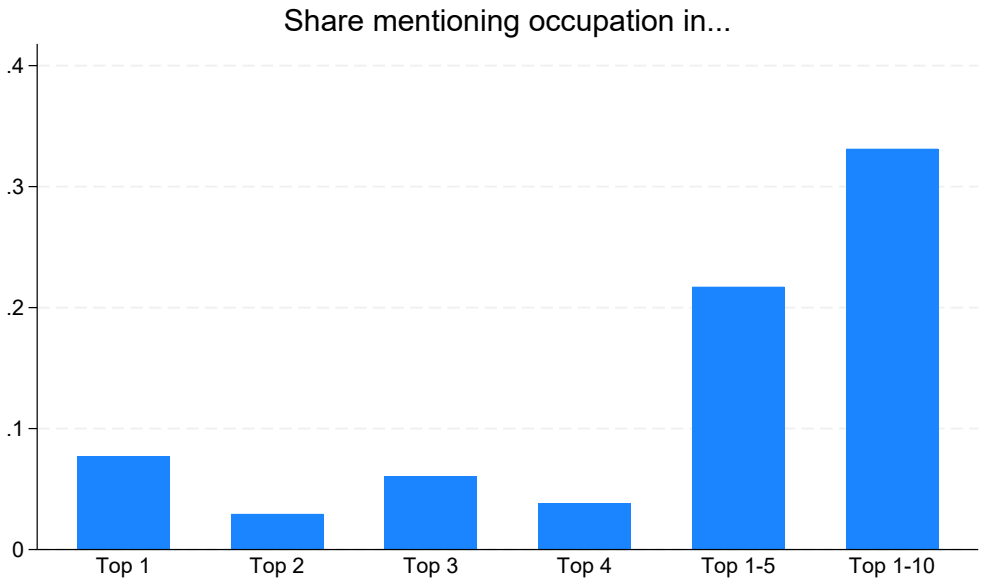
The disconnect between objective and perceived skill transferability suggests fundamental information constraints. Workers appear to form beliefs about skill transferability without systematic reference to the actual structure of occupational skill requirements in the labor market. This finding motivates our deeper investigation into beliefs about specific alternative occupations.

3.2 Open-Ended Beliefs About Similar Occupations

To complement our structured belief elicitation, we asked workers in an open-ended format to name the two occupations they believe have tasks and skill requirements most similar to their current occupation. We then manually classified responses into occupational categories using the taxonomy from Berufenet, the German equivalent for O*NET.

These open-ended responses reveal limited accuracy in workers' spontaneous assessments of occupational similarity. As shown in Figure 3, among all respondents, about 20

Figure 3: Share of Respondents Mentioning Most Similar Occupations



Notes: This figure reports the share of respondents mentioning an occupation in the top N occupations ranked by similarity index, when asked to list the two occupations most similar to theirs.

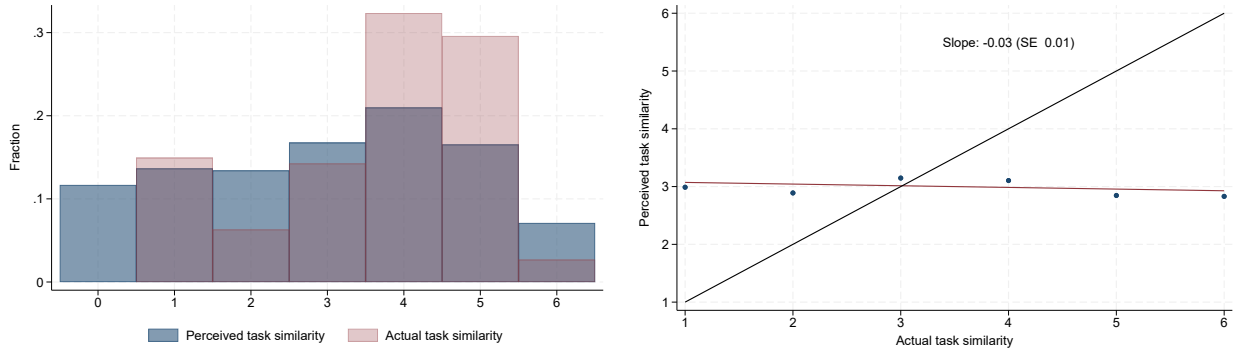
percent name at least one of the top four most similar occupations, according to the objective similarity index. 32 percent of respondents mention at least one occupation in the top ten objectively most similar occupations.

This pattern of responses demonstrates that the weak correlation between perceived and actual skill transferability documented above does not reflect workers consciously holding different definitions of similarity than the objective index. Rather, workers appear genuinely uncertain about which occupations require similar skills to their own. Even when given freedom to define similarity in their own terms through open-ended questions, workers frequently fail to identify occupations that experts rate as highly similar based on detailed assessment of skills, knowledge, and tasks.

3.3 Beliefs About Task Similarity of Specific Occupations

We next examine beliefs about the similarity of the specific alternative occupations selected for each respondent. For each alternative occupation, we asked workers to rate the similarity of said occupation to their current occupation on a scale from 0 (completely different) to 6 (extremely similar), matching the scale used in the objective similarity index. A screenshot of the question is included in Appendix B. Appendix Table A3 reports some summary statistics

Figure 4: Perceived vs. Actual Task Similarity of Alternative Occupations



Notes: Left panel: distribution of perceived (blue) and actual (red) task similarity across respondents and occupations. Right panel: binned scatterplot of perceived task similarity over actual task similarity. The red line is the fit line. 45 degree line in black.

of respondents' beliefs about alternative occupations.

Workers systematically underestimate the similarity of alternative occupations to their current ones. As shown in Figure 4, the distribution of perceived similarity concentrates at lower levels than the distribution of actual similarity. On average, workers rate alternative occupations as less similar than the objective index suggests by approximately 0.5 points on the six-point scale. More strikingly, we find essentially zero correlation between perceived and actual similarity, with a slope coefficient of -0.03 (standard error 0.01) when regressing perceived similarity on actual similarity. Furthermore, most points of the binned scatterplot are largely below the 45 degree line, suggesting substantial underestimation of task similarity.

This systematic underestimation of the similarity across occupations has important implications. If workers underestimate how similar alternative occupations are to their current roles, they may overestimate the difficulty of transitioning to these occupations and underestimate their probability of success if they attempt such transitions. These misperceptions could substantially reduce workers' willingness to consider occupational mobility even when such moves would improve their labor market outcomes.

3.4 Beliefs About Licensing and Training Requirements

Beyond task similarity, the costs of transitioning between occupations depend critically on regulatory requirements such as occupational licenses and the need for additional training or education. We elicited workers' beliefs about whether transitions to each alternative occupation would require obtaining a license and whether substantial retraining would be necessary.

Workers substantially overestimate both licensing and training requirements, as shown in Figures 5 and 6. For occupations that do not actually require a specific license, the majority of workers believe they would need to obtain one to make the transition. The fraction of workers who believe a license is required substantially exceeds the fraction of alternative occupations that genuinely require licensing.

Similarly, workers overestimate training requirements. When asked to assess the likelihood that they would need additional training to work in each alternative occupation (on a five-point scale from "definitely not" to "definitely yes"), workers' assessments skew heavily toward believing training is necessary even for relatively similar occupations where skill overlap is high. Among workers who believe training or obtaining a license would be required, assessments of the difficulty or effort required to complete such processes cluster at moderate to high levels, as shown in Appendix Figures A2 and A3.

These overestimates of licensing and training requirements likely reflect genuine uncertainty about regulatory requirements and skill gaps. Occupational licensing regimes vary considerably across occupations and often involve complex requirements that are not transparent to workers outside the licensed occupation. Similarly, assessing skill gaps requires detailed knowledge of both one's own capabilities and the requirements of alternative occupations, information that may be costly for employed workers to acquire.

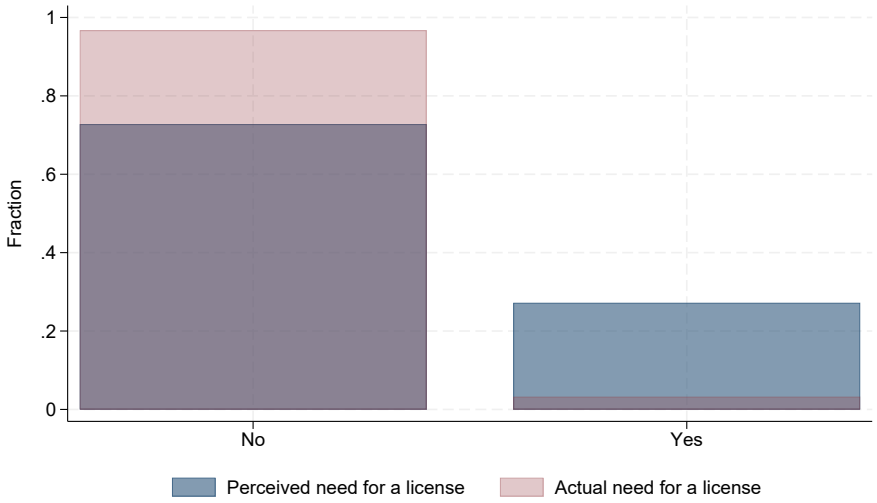
The systematic overestimation of costs suggests a reinforcing dynamic in information frictions: while workers underestimate how similar alternative occupations are to their current roles, they simultaneously overestimate the barriers to entry. Both biases work in the same direction, reducing perceived net benefits of occupational mobility and potentially leading to inefficiently low levels of occupational transitions.

3.5 Beliefs About Wages in Alternative Occupations

Wage expectations represent a crucial determinant of mobility decisions. We elicited beliefs about wages in alternative occupations using two complementary approaches: we asked workers to estimate the median wage in each alternative occupation and to predict how their own wage would change if they were forced to find a job in each alternative occupation having six months to find one.

Workers systematically underestimate median wages in alternative occupations. On average, perceived median wages fall 4.78 percentage points below actual median wages. However, the distribution exhibits a long right tail, indicating that while most workers underestimate wages, some workers substantially overestimate them. This long right tail was also observed in similar studies, such as Jäger et al. (2024) and Miano (2023).

Figure 5: Perceived vs. Actual Need to Obtain a License



Notes: Distribution of perceived (blue) and actual (red) need to obtain a license across respondents and occupations.

Perceived median wages show evidence of anchoring to workers' own current wages. Following Jäger et al. (2024), we residualize both perceived and actual median wages on the worker's own wage and examine the correlation of residuals. We find a positive relationship with a slope of 0.63 (standard error 0.01). This suggests workers form beliefs about wages in alternative occupations partly by reference to their own earnings, potentially underweighting information about market-wide wage differences across occupations.

Workers also underestimate expected wage changes from occupational transitions. In Figure 8 we benchmark beliefs about wage changes against actual average wage changes observed in the administrative data when workers transition from each respondent's occupation to each alternative occupation over the period 2018-2024. Perceived wage changes correlate positively but very weakly with actual wage changes, with a slope coefficient of 0.08 (standard error 0.02), indicating workers have some information about relative wage levels but substantially underestimate actual differences—most points in the binned scatterplot are below the 45 degree line.

To account for spurious variation that would bias raw averages of wage changes—especially for the occupation pairs with fewer transitions in the administrative data—we also implement an empirical Bayes (EB) correction (Morris, 1983). This correction shrinks imprecisely estimated averages to the sample means. Appendix Figure A4 reports the correlation between beliefs about wage changes and EB-corrected benchmark wage changes. The correla-

Figure 6: Perceived vs. Actual Need for Retraining



Notes: Left panel: distribution of perceived (blue) and actual (red) likelihood of having to retrain in order to work in the occupation. Right panel: binned scatterplot of perceived likelihood over actual likelihood of having to retrain in order to work in the occupation. The red line is the fit line. 45 degree line in black.

tion is similarly low—0.09 (se 0.02)—showing that the underestimation patterns are robust. Interestingly, this correlation is lower than the correlation between workers' beliefs about how much their wage could change if they were to move to another job in their current occupation and actual changes observed in the data reported in Jäger et al. (2024), showing that workers are even less informed about opportunities in other occupations.

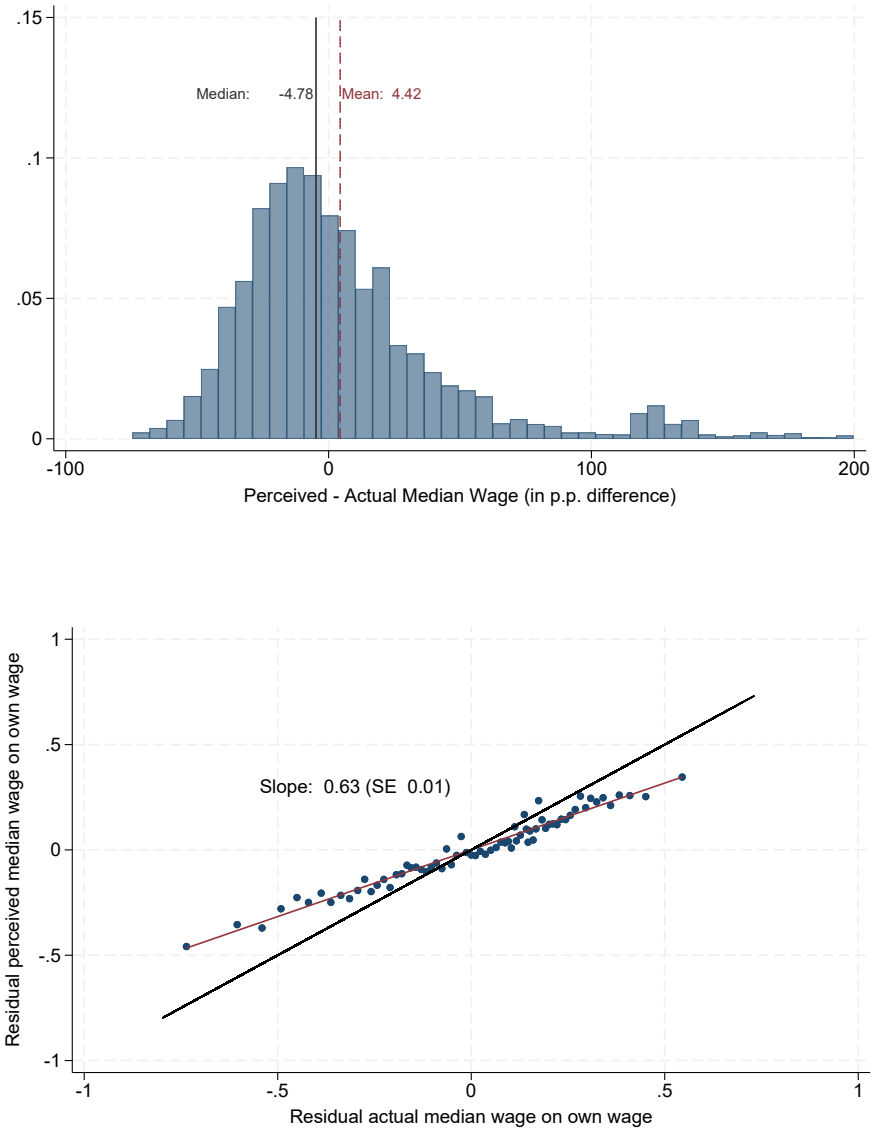
These patterns suggest workers face significant information constraints regarding wage outcomes in alternative occupations. The positive correlation between beliefs about wage changes and benchmark wage changes shows that respondents gave thoughtful answers that do not reflect pure noise. However, this correlation being weak implies that workers cannot perfectly infer wage opportunities from observable characteristics of occupations. This information friction may lead workers to forgo beneficial occupational transitions when potential wage gains are not readily apparent.

3.6 Beliefs About Automation and Green Transition

In the survey we also directly elicited beliefs about exposure to automation and green transition. Workers vastly underestimate the share of tasks that can be automated in their own occupation. When we regress perceived automation potential on actual automation potential as measured by expert assessments (Grienberger, Janser and Lehmer, 2023), we obtain a slope coefficient of just 0.09 (standard error 0.01), indicating a very weak correlation, as reported in Appendix Figure A5.

Interestingly, as shown in Appendix Figure A6, workers are somewhat more accurate

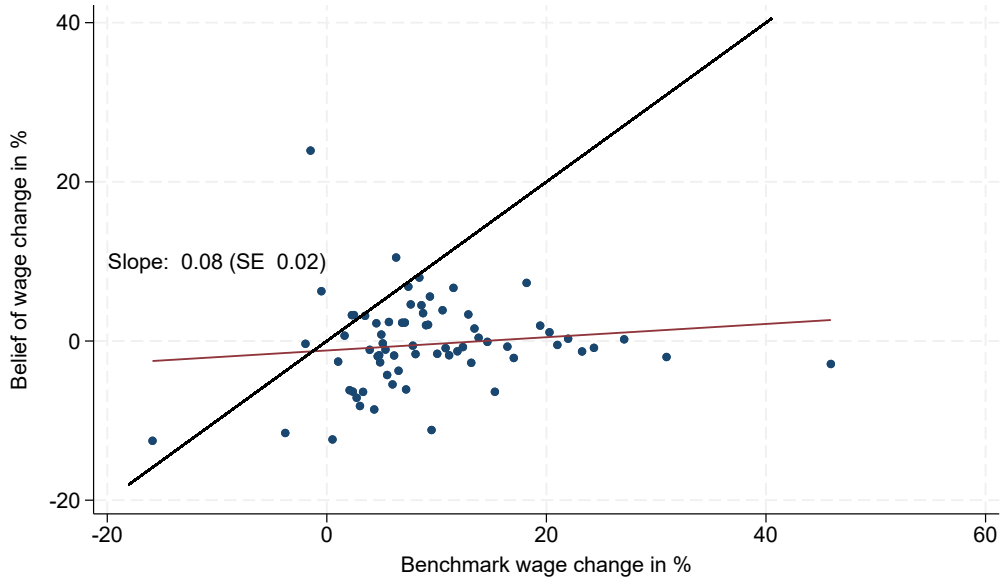
Figure 7: Beliefs about Wages in Alternative Occupations



Notes: Top panel: distribution of misperception about median wage, defined as *(perceived median wage - actual median wage)/actual median wage*. Bottom panel: correlation between perceived and actual median wage, both residualized on respondents' own wage.

in assessing automation potential in alternative occupations, with a slope coefficient of 0.19 (standard error 0.01), though they still substantially underestimate exposure. This asymmetry may reflect workers' motivated reasoning about their own occupations combined with greater objectivity when assessing alternatives. Workers similarly underestimate how "green" their own and their alternative occupations are, as displayed in Appendix Figure

Figure 8: Expected *vs* Benchmark Wage Changes if Moving to Alternative Occupations



Notes: This figure plots a binned scatterplot of expected wage change over the benchmark actual wage change if moving to the alternative occupation. Benchmark wage changes are average wage changes observed in the administrative data when workers transition from each respondent's occupation to each alternative occupation over the period 2018-2024.

A7.

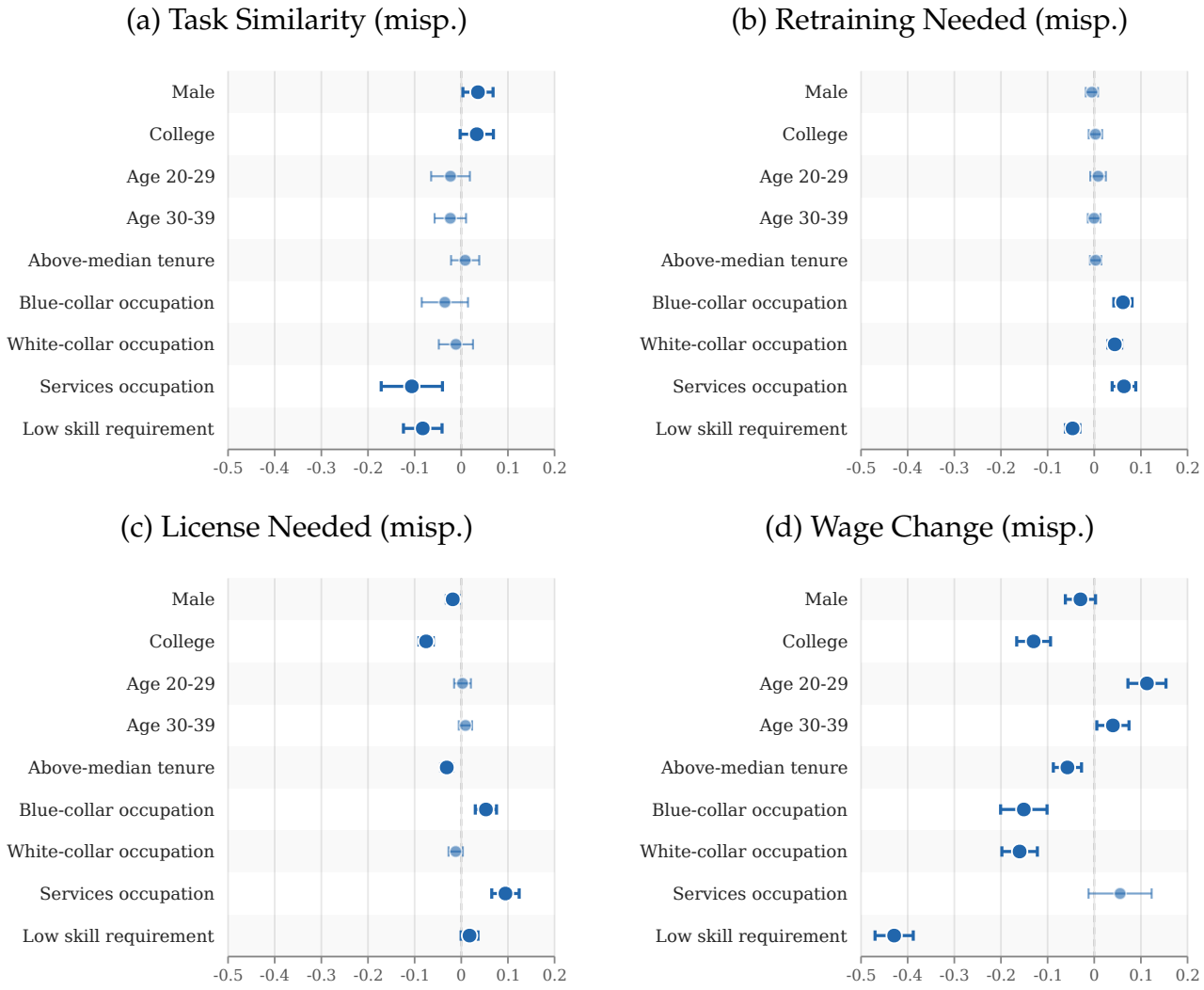
Despite underestimating automation potential, most workers expect either no effect or even a positive effect of automation on their own earnings. This combination of underestimating technical feasibility of automation while remaining optimistic about personal consequences suggests workers may not fully internalize displacement risks from structural change. Such beliefs could lead to insufficient precautionary occupational mobility even when transitions would reduce long-run displacement risk.

3.7 Heterogeneity in Beliefs

In Figure 9 we display the heterogeneity in beliefs about alternative occupations for different groups of respondents. Appendix Tables A4 and A5 replicate the analysis for a larger set of variables and for beliefs about respondents' own current occupation for different groups of respondents. We classify occupations in blue-collar, white-collar—including commercial and administrative occupations—services and managerial occupations, following Blossfeld (1985). Respondents currently working in blue-collar occupations are significantly more

likely to overestimate their need to re-train or obtain a license to work in alternative occupations. They also underestimate how similar alternative occupations are to theirs and how much they could earn if they were to move to the alternative occupations, relative to the benchmark computed from actual transitions in the administrative data. At the same time, they severely underestimate the automation potential of their current occupation. Respondents currently working in white-collar occupations and, especially, in occupations with low skill requirements display a similar pattern of misperceptions. This heterogeneity suggests that respondents who would benefit the most from occupational mobility—because they are in occupations more at risk of being displaced by automation or AI—underestimate the benefits and overestimate the costs of moving to an alternative occupation more severely.

Figure 9: Heterogeneity in Beliefs about Alternative Occupations



Notes: Each panel plots OLS coefficients and 95% confidence intervals from regressing the misperception listed on top on worker and occupation characteristics listed on the left. Variables are standardized, so coefficients can be interpreted as partial correlations.

4 Beliefs and Search Intentions

Having documented systematic information gaps in workers' beliefs about alternative occupations, we now examine whether these beliefs relate to stated mobility intentions. If workers' beliefs about alternative occupations genuinely influence their decisions rather than merely reflecting measurement error, we should observe strong correlations between beliefs and willingness to search for jobs in other occupations.

4.1 Occupations Workers Would Consider

First, we asked respondents an open-ended question about which occupations they would seriously consider if looking for a job in a different occupation, allowing them to name up to two. This provides a revealed measure of which alternative occupations workers view as most attractive, unconstrained by the specific alternatives we selected for the detailed belief elicitation.

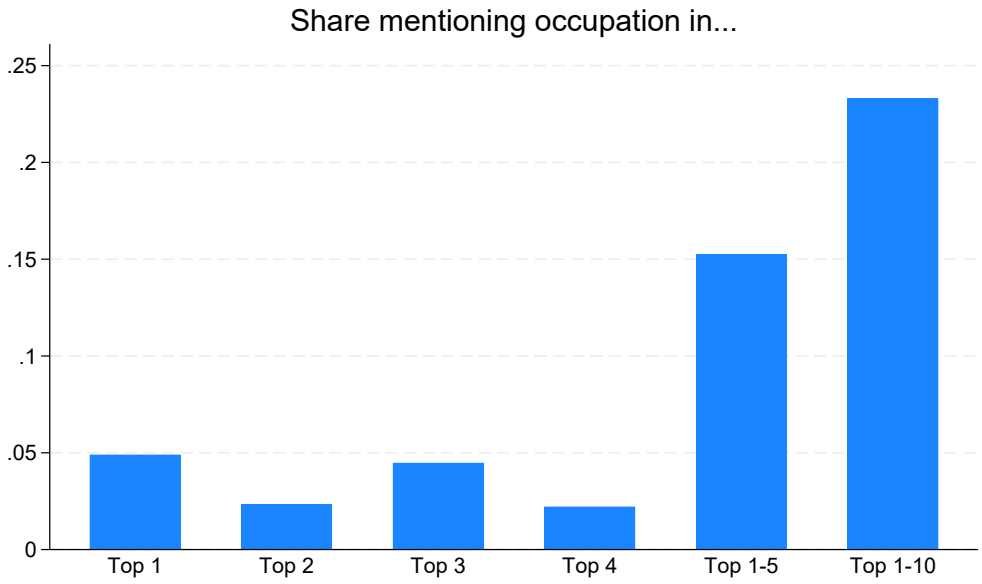
As shown in Figure 10, when we examine where the occupations workers mention fall in the objective similarity distribution, we find that only a small share of workers mention occupations that are objectively most similar to their current occupation. Among respondents who name specific alternative occupations, only 15 percent mention at least one of the top four most similar occupations according to the objective index, 24 percent mention at least one of the top 10 most similar occupations. This concentration is lower than what we observed in the earlier open-ended question about similar occupations (Figure 3).

Furthermore, only approximately 40 percent of respondents mention one or both of the occupations they earlier identified as most similar to their own. These patterns suggest that there is some reasonable internal consistency in workers' assessments, which, however, are often biased by incorrect beliefs about similarity between occupations, as we previously demonstrated. At the same time, they also show that most respondents weight other factors when thinking about alternative occupations they would move to. This motivates the need to study the relation between mobility intentions and a broad set of beliefs about alternative occupations. We proceed to this analysis in the following section.

4.2 Correlations Between Beliefs and Mobility Intentions

We examine the relationship between beliefs about alternative occupations and stated probability of looking for a new job in those occupations using a regression framework. For each alternative occupation shown to each respondent, we regress the stated probability of looking for a job in that occupation on the beliefs elicited about that occupation, controlling for the corresponding objective benchmark, as well as personal characteristics, tenure at worker's

Figure 10: What Alternative Occupations Would Workers Consider?



Notes: This figure reports the share of respondents mentioning an occupation in the top N occupations ranked by similarity index, when asked to list the two occupations they would consider if they had to look for a job in another occupation.

current job, current job satisfaction, and perceived skill fit in the current job.

These regressions reveal strong correlations between beliefs and mobility intentions. Workers who perceive greater task similarity to an alternative occupation report 0.35 standard deviations higher probability of looking for a job in that occupation. Workers who believe they would need retraining report 0.23 standard deviations lower probability, while beliefs about licensing requirements display a smaller but still statistically significant correlation.

Perceived job offer probability exhibits a very strong relationship, with a one standard deviation increase in expected offer probability associated with 0.37 standard deviations higher search probability. Expected wage changes also matter substantially. Workers who believe they would earn more in an alternative occupation report 0.16 standard deviations higher probability of searching in that occupation. Beliefs about median wages in the alternative occupation show an additional positive correlation of 0.10 standard deviations even after controlling for expected own wage changes, suggesting workers value access to occupations with higher average wages independent of their personal expected outcomes.

Beliefs about automation and green transition show more limited correlations. Perceived automation potential in alternative occupations shows essentially zero relationship with mo-

Table 3: Beliefs and Search Intentions

	Prob. Looking for New Job in Alternative Occupation (1)
Belief similarity	0.348***
	(0.0142)
Belief retraining needed	-0.225***
	(0.0153)
Belief license needed	-0.0326**
	(0.0149)
Belief vacancies	-0.000191
	(0.0145)
Belief wage change	0.160***
	(0.0154)
Belief median wage	0.0736***
	(0.0196)
Belief substitution potential	0.00543
	(0.0150)
Belief green rating	0.0316**
	(0.0148)
Observations	6779
Individual controls	Yes
Objective benchmarks	Yes

Notes: All variables in the regression are standardized so they have mean 0 and standard deviation 1, hence coefficients represent partial correlations. Each correlation is estimated in a separate regression which also includes the relevant objective benchmark for the specific belief, personal characteristics, tenure at current job, current job satisfaction, perceived skill fit with current job. Sample: respondents who did not receive any treatment. Each observation is respondent $\times$ alternative occupation.

bility intentions, while beliefs about the environmental impact (green rating) of alternative occupations show a small positive correlation of 0.04 standard deviations.

These correlations provide several important insights. First, the strong relationships between beliefs and intentions suggest that workers' stated beliefs represent genuine inputs into mobility decisions rather than merely reflecting actual heterogeneity across occupations or measurement error. The magnitudes of these correlations are economically meaningful, implying that shifts in beliefs of realistic size may be associated with substantial changes in mobility intentions.

Second, the pattern of correlations accords well with economic theory. Beliefs that in-

crease perceived benefits of transitions (similarity, offer probability, wages) positively predict mobility intentions, while beliefs that increase perceived costs (retraining needs) negatively predict mobility. This sensible pattern increases confidence that our belief measures capture economically relevant variables.

Third, the limited role of automation and green transition beliefs suggests workers may not fully incorporate displacement risks into mobility decisions, consistent with our earlier finding that workers underestimate these risks. This disconnect between objective exposure to structural change and behavioral response motivates our information treatments focused on displacement risk.

5 Information Treatments

5.1 Experimental Design

To examine whether information provision can shift beliefs and mobility intentions, we implemented five randomized information treatments. First, we split respondents in three groups, as reported in Appendix Table A1, according to their potential eligibility for one or more treatments. Respondents who work in occupations that do not have any similar enough alternative occupation where the median wage is higher than the median wage in their current occupation are not considered eligible for any treatment. Indeed, for these respondents moving to a similar alternative occupation would likely imply a wage loss and hence would not be an improvement with respect to their current job. Of the remaining respondents, those who work in occupation that have a high "substitution potential"—meaning a high share of tasks that can be automated/performed by AI— or a particularly bad green rating are considered eligible for both the displacement treatment and the benefits and costs treatments. The remaining respondents are only eligible for the benefits and costs treatments.

Workers were randomly assigned to one of the five treatment groups or a control group. The randomization was performed within treatment eligibility group, ensuring that we have a comparable set of treated and control units for each treatment. Some screenshots from the treatments are included in Appendix B. Respondents in the control group did not receive any piece of information and jumped directly to the remainder of the survey. All treated workers were presented with two alternative occupations selected from the pool of alternatives shown earlier. These occupations were chosen to be the most similar to the respondent's current occupation and to have median wages higher than the median wage in the respondent's occupation, ensuring that the alternatives represented potentially attractive and welfare-improving options. The specific treatments provided different types of information

about the two alternative occupations.

Benefits Treatment This treatment provided information on the wage distribution (25th, 50th, and 75th percentiles) in each alternative occupation and qualitative information about the ratio of job vacancies to job seekers, indicating whether finding a job in that occupation would be relatively easy or difficult.

Costs Treatment This treatment provided information about whether workers would need to complete additional training or acquire a license to work in each alternative occupation.

Displacement Treatment This treatment began with a primer on the increasing risk of displacement due to structural transformations in the labor market, particularly automation and green transition. It then provided information about the share of automatable or environmentally damaging tasks in both the worker's current occupation and each alternative occupation allowing workers to assess their relative exposure to displacement risk. Respondents received information on automation or greening depending on which of the two issues is more relevant for their occupation.

Displacement + Benefits Treatment This treatment combined the information provided in the displacement treatment with the information provided in the benefits treatment, allowing us to examine whether information about displacement risk amplifies the effect of information about benefits.

Displacement + Costs Treatment This treatment combined displacement information with the information provided in the costs treatment, testing whether highlighting displacement risk affects how workers process information about barriers to occupational mobility.

Following the treatments, we re-elicited beliefs about the similarity of alternative occupations, the wage change if moving to alternative occupations, the need to retrain or obtain a license, to measure "first-stage" effects of the treatments on knowledge and expectations. We elicited these beliefs in a slightly different and more qualitative way compared to the pre-treatment questions in order to minimize repetitions that could be unpleasant for respondents. We then elicited mobility intentions, including the probability of looking for a job in the same occupation, in any different occupation, in each of the two treated alternative occupations specifically, and in the untreated alternative occupations shown earlier in the survey.

5.2 First-Stage Effects on Beliefs

The information treatments successfully shifted beliefs about the alternative occupations they targeted in the expected direction, as shown in Table 4. The benefits treatment increased the perceived likelihood of earning more in alternative occupations by 16 percentage points and increased the perceived task similarity index by 0.06, corresponding to 4 percent of a standard deviation. The costs treatment increased the perceived similarity index by 0.18 or 10 percent of a standard deviation and reduced the perceived likelihood of needing to retrain or acquire a license by 8 percentage points.

The displacement treatment increased the perceived likelihood of earning more if moving to the alternative occupations—0.07 or 7 percent of a sd—while it did not have a statistically significant effect on the perceived similarity or probability of needing retraining. The combined displacement and benefits treatment shows negative interaction effects, suggesting that providing both types of information simultaneously may lead to more complex processing than providing each separately, or some plateauing in the potential effect of information.

Importantly, these first-stage effects show that the treatment induced substantial shifts in beliefs relative to control group means. For the training/licensing outcome, where the control mean is 0.89, the costs treatment reduces the perceived necessity of retraining or obtaining a license by nearly 10 percent. For the perceived earnings changes, where the control mean is 3.09 on a five-point scale, the benefits treatment shifts beliefs by approximately 5 percent.

We also observe some modest spillover effects across treatment dimensions. The benefits treatment slightly increases the perceived necessity of training or licensing suggesting that information about positive aspects of alternative occupations may prompt workers to consider barriers they had not previously weighed carefully. Similarly, the costs treatment slightly increases the perceived likelihood of earning more. These spillovers across belief dimensions indicate that information provision triggers broader updating of mental models about alternative occupations, as we would expect. However, the magnitudes of these spillover effects are much smaller than those of the direct effects, suggesting that the treatments overwhelmingly operate through the beliefs they are designed to target.

5.3 Effects on Mobility Intentions

The information treatments produce meaningful increases in stated mobility intentions. For the treated alternative occupations, the benefits treatment increases the probability of looking for a job in those occupations by 3.6 percentage points, representing a 25 percent increase

Table 4: Treatment Effects on Beliefs about Alternative Occupations

	Similarity	Earn more or less	Training or license necessary
Benefits T.	0.0622*	0.159***	0.0153*
	(0.0367)	(0.0233)	(0.00839)
Costs T.	0.180***	0.0375*	-0.0845***
	(0.0375)	(0.0204)	(0.0104)
Displacement T.	0.0590	0.0682**	0.0160
	(0.0638)	(0.0337)	(0.0142)
Displacement x Benefits T.	0.0359	-0.0590	-0.0227
	(0.0920)	(0.0553)	(0.0197)
Displacement X Costs T.	0.0782	-0.0451	0.00877
	(0.0941)	(0.0509)	(0.0242)
Observations	7566	7566	7566
Control mean	3.52	3.09	0.89
Individual controls	Yes	Yes	Yes
Prior beliefs	Yes	Yes	Yes

Notes: The dependent variables are post-treatment beliefs about skill similarity (1-5 scale) likelihood of earning more or less if moving to the alternative occupation (1-5 scale) and need of acquiring a license or retraining (0-1) for the alternative occupation. The regressors include dummies for each treatment and interactions terms for the Displacement + Benefits and Displacement + Costs treatments. Controls include gender, education, age, and the corresponding pre-treatment belief. Observations are at the respondent $\times$ alternative occupation level. Respondents who were not eligible for any treatment are excluded.

relative to the control mean of 14.4 or 15 percent of a standard deviation. The costs treatment produces a similar increase of 3.4 percentage points.

The displacement treatment generates an even larger effect, increasing the probability to search for a new job in one of the treated occupations by 4.7 percentage points, or 33 percent relative to the control group mean. This stronger effect suggests that information about displacement risks may be particularly salient for workers or may operate through additional channels beyond simply updating beliefs about specific occupation characteristics.

The combined treatments show interesting patterns. The displacement plus benefits treatment exhibits a negative interaction effect of 3.3 percentage points, suggesting diminishing returns to providing multiple types of information simultaneously. The displacement plus costs treatment shows an even stronger negative interaction of 3.8 percentage points.

Treatment effects extend beyond the specific occupations featured in the treatments. Workers receiving information treatments also increase their stated probability of looking for jobs in the untreated alternative occupations shown earlier in the survey. The benefits treatment raises this probability by 2.0 percentage points, while the costs treatment increases it by 1.4

Table 5: Treatment Effects on Mobility Intentions

	Probability of looking for a new job in			
	Same occupation	Different occupation	Treated Alternative Occ.	Untreated Alternative Occ.
Benefits T.	-0.291	1.571	3.606***	2.004***
	(1.277)	(1.106)	(0.702)	(0.723)
Costs T.	0.585	1.856	3.391***	1.435**
	(1.302)	(1.145)	(0.696)	(0.731)
Displacement T.	0.638	3.578*	4.680***	1.768
	(2.224)	(1.908)	(1.236)	(1.208)
Displacement x Benefits T.	-1.471	-4.258	-3.304*	-3.151*
	(3.195)	(2.759)	(1.815)	(1.780)
Displacement X Costs T.	-7.485**	-7.461***	-3.786**	-4.050**
	(3.026)	(2.654)	(1.728)	(1.676)
Observations	3600	3560	7224	7211
Control mean	35.20	23.01	14.37	16.11
Individual controls	Yes	Yes	Yes	Yes

Notes: The dependent variables are respondent's stated probability (0-100 scale) of looking for a new job in the 12 months following the survey in the current respondent's occupation, any different occupation, the alternative occupations mentioned in the treatments, the alternative occupations not mentioned in the treatment. The regressors include dummies for each treatment and interactions terms for the Displacement + Benefits and Displacement + Costs treatments. Controls include gender, education, age. Observations are at the respondent level. Respondents who were not eligible for any treatment are excluded.

percentage points. These spillover effects suggest that information about specific alternative occupations causes workers to reconsider their general openness to occupational mobility rather than merely shifting interest toward the particular occupations featured.

We also examine effects on within-current-occupation search and find limited impact. None of the treatments significantly affect the probability of looking for a new job in respondent's current occupation, with point estimates ranging from slightly negative to slightly positive. This null result suggests the treatments specifically increase interest in cross-occupational moves rather than generally increasing job search propensity, as we would expect given the focus of the treatments.

5.4 Heterogeneous Treatment Effects

Heterogeneity by pre-treatment beliefs In Appendix Tables A6 and A7 we explore heterogeneity in the effect of the treatments conditioning on respondents' pre-treatment beliefs. The effect of the Benefits treatment is entirely driven by respondents who initially underestimate the median wage in alternative occupations. These respondents display a higher propensity to search in alternative occupations, after having received information that makes them revise upward their estimate of the wage distribution in alternative occupations. Respondents

who initially overestimate the median wage in alternative occupations do not react to the treatment. We find a similar pattern for the Costs treatment: respondents who find out, contrary to their prior beliefs, that they do not need to acquire a license or retrain in order to work in one of the alternative occupations display a higher likelihood of searching for a job in one of the alternative occupations; respondents who are negatively surprised by the treatment do not change their mobility intentions. Similarly, respondents who initially underestimate the automation potential of their occupation react strongly to the Displacement treatment by increasing their propensity to look for a job in one of the alternative occupations. These results show that the treatments work through genuine information updating rather than simple priming, and further confirm that the effects are not driven by experimenter demand. These patterns also provide some evidence of asymmetric updating, as respondents who are negatively surprised do not significantly reduce their propensity to move to one of the alternative occupations relative to the control group.

Heterogeneity by worker characteristics We observe some variation in treatment effects across worker characteristics. Women respond more strongly than men to information treatments in both first and second stages. This gender difference could reflect women facing greater information constraints in labor markets, having less access to informal networks that provide information about alternative occupations, or being more responsive to formal information sources.

Young workers (ages 20-29) show stronger treatment responses than older workers, with those aged 40-50 exhibiting the weakest responses. This age gradient may reflect younger workers having longer time horizons over which to benefit from improved occupational matches, facing lower costs of retraining given more years to amortize human capital investments, or simply being in earlier career stages where occupational identity remains more fluid.

Workers who score higher on self-reported openness to new experiences respond somewhat more strongly to treatments. This finding suggests personality traits related to exploration and flexibility amplify responsiveness to information about labor market opportunities.

6 Persistence of Treatment Effects

To assess whether information treatments generate lasting changes in beliefs and intentions versus merely temporary shifts, we conducted a follow-up survey nine months after the main survey. We invited all respondents who completed the main survey to participate in the

follow-up. Approximately 1,700 respondents completed the follow-up survey, representing a 38 percent recontact rate. Reassuringly, we did not observe any selection in the followup based on treatment status in the main survey.

The follow-up survey repeated key questions about beliefs and mobility intentions but did not include additional information treatments. This design allows us to measure whether the effect of the information received in the main survey persists nine months post-treatment.

Appendix Table A8 shows that some treatment effects on beliefs persist nine months after the initial intervention, though with varying strength across outcomes and treatments. The benefits treatment still has a positive and statistically significant effect on the perceived likelihood of earning more in the treated alternative occupations. The cost treatment also has a positive effect on perceived similarity and training/licensing requirement, however these are noisier and not statistically significant. The displacement treatment exhibits the strongest persistence, maintaining a strong positive effect on perceived likelihood of earning more in alternative occupations.

Treatment effects on mobility intentions show remarkable persistence nine months post-intervention, as reported in Table 6. Respondents who were exposed to the costs and, even more so, the displacement treatment are still significantly more likely to search for a job in one of the treated alternative occupations —by 3.2 and 8.1 percentage points, respectively. These treatments also have a persistent "spillover" effect on the likelihood to search for a job in one of the other alternative occupations that were mentioned in the survey but were not in the treatments. The effect of the benefits treatment, instead, does not appear to be equally long-lasting: albeit positive, it is smaller and not statistically significant. Considering both the effects on beliefs and on mobility intentions, information about displacement risks shows the strongest persistence, suggesting that respondents are particularly sensitive to this kind of information or that it fills particularly important gaps in workers' mental models.

Table 6: Treatment Effects on Mobility Intentions in Follow-up Survey

	Probability of looking for a new job in			
	Same occupation	Different occupation	Treated Alternative Occ.	Untreated Alternative Occ.
Benefits T.	1.887	0.910	1.831	0.448
	(2.677)	(2.410)	(1.362)	(1.411)
Costs T.	4.291	0.785	3.195**	2.336*
	(2.641)	(2.275)	(1.317)	(1.396)
Displacement T.	-3.149	2.133	8.102***	5.753**
	(4.236)	(4.024)	(2.682)	(2.688)
Displacement x Benefits T.	1.610	0.315	-2.502	-2.532
	(6.386)	(5.977)	(3.662)	(3.654)
Displacement x Costs T.	-2.751	-2.788	-10.61***	-9.633***
	(6.109)	(5.732)	(3.385)	(3.511)
Observations	989	971	1979	1983
Control mean	35.45	25.86	14.10	16.50
Individual controls	Yes	Yes	Yes	Yes

Notes: The dependent variables are respondent's stated probability (0-100 scale) of looking for a new job in the 12 months after the followup survey in the current respondent's occupation, any different occupation, the alternative occupations mentioned in the treatments, the alternative occupations not mentioned in the treatment. The regressors include dummies for each treatment received in the main survey and interactions terms for the Displacement + Benefits and Displacement + Costs treatments. Controls include gender, education, age. Observations are at the respondent level in columns 1 and 2, and at the respondent x occupation level in columns 3 and 4. Respondents who were not eligible for any treatment were excluded.

7 Conclusions

This paper provides comprehensive evidence on workers' knowledge about opportunities for occupational mobility and demonstrates that information provision can meaningfully shift beliefs and mobility intentions. We document substantial information frictions: workers systematically underestimate how similar alternative occupations are to their current roles, overestimate barriers to entry, and underestimate potential wage gains from occupational transitions. These beliefs strongly correlate with stated willingness to change occupations, suggesting information constraints genuinely affect mobility decisions.

Randomized information treatments successfully update beliefs and increase mobility intentions, with effects persisting nine months post-treatment. Information about displacement risks from automation and green transition proves particularly effective, suggesting this type of information fills especially important gaps in workers' mental models. Treatment effects extend beyond the specific occupations featured, indicating that information provision triggers broader reconsideration of occupational mobility options.

These findings contribute to our understanding of labor market frictions and have im-

portant implications for policy. As structural transformations reshape occupational demand, workers' ability to navigate occupational transitions becomes increasingly important for maintaining employment and earnings. Information frictions may impede such transitions, leading to inefficient labor allocation and elevated displacement risk for workers in declining occupations.

Our results suggest that relatively low-cost information interventions can meaningfully improve workers' knowledge and increase their consideration of occupational mobility. Such interventions may complement other policies supporting labor market adjustment to structural change.

References

Acemoglu, Daron, and Pascual Restrepo. 2020. "Robots and Jobs: Evidence from US Labor Markets." *Journal of Political Economy*, 128(6): 2188–2244.

Altmann, Steffen, Anita Glenny, Robert Mahlstedt, and Alexander Sebald. 2022. "The direct and indirect effects of online job search advice." *WP*.

Behaghel, Luc, Sofia Dromundo, Marc Gurgand, Yagan Hazard, and Thomas Zuber. 2024. "The potential of recommender systems for directing job search: A large scale experiment." *IZA Discussion Paper*, No. 16781.

Belot, Michèle, Bart K de Koning, Didier Fouarge, Philipp Kircher, Paul Muller, and Sandra Phlippen. 2025. "Advising Job Seekers in Occupations with Poor Prospects: A Field Experiment." NBER WP 33819.

Belot, Michèle, Philipp Kircher, and Paul Muller. 2019. "Providing Advice to Jobseekers at Low Cost: An Experimental Study on Online Advice." *Review of Economic Studies*, 86(4): 1411–1447.

Blossfeld, Hans-Peter. 1985. "Berufseintritt und Berufsverlauf." *Mitteilungen aus der Arbeitsmarkt-und Berufsforschung*, 18(2): 177–197.

Bluedorn, John, Niels-Jakob Hansen, Diaa Noureldin, Ippei Shibata, and Marina M Tavares. 2023. "Transitioning to a greener labor market: Cross-country evidence from microdata." *Energy Economics*, 126: 106836.

Caldwell, Sydnee, Ingrid Haegele, and Jörg Heining. 2025. "Why workers stay: Pay, beliefs, and attachment." NBER WP 33445.

Caldwell, Sydnee, Ingrid Haegele, and Jörg Heining. 2026. "Bargaining and inequality in the labor market." *The Quarterly Journal of Economics*, 141(1): 315–371.

Conlon, John J., Laura Pilossoph, Matthew Wiswall, and Basit Zafar. 2018. "Labor Market Search With Imperfect Information and Learning." National Bureau of Economic Research NBER Working Paper 24988.

Curtis, E Mark, Layla O'Kane, and R Jisung Park. 2024. "Workers and the green-energy transition: Evidence from 300 million job transitions." *Environmental and Energy Policy and the Economy*, 5(1): 127–161.

Dengler, Katharina, Britta Matthes, and Wiebke Paulus. 2014. "Occupational tasks in the German labour market." *FDZ Methodenreport*, 12: 1–36.

Grienberger, Katharina, Markus Janser, and Florian Lehmer. 2023. "The Occupational Panel for Germany." *Jahrbücher für Nationalökonomie und Statistik*, 243(6): 711–724.

Hvidberg, Kristoffer B., Claus Kreiner, and Stefanie Stantcheva. 2023. "Social Position and Fairness Views." *Review of Economic Studies*, 90(6): 3083–3118.

Jäger, Simon, Christopher Roth, Nina Roussille, and Benjamin Schoefer. 2024. "Worker Beliefs About Outside Options." *Quarterly Journal of Economics*, 139(3): 1505–1556.

Jarosch, Gregor. 2023. "Searching for Job Security and the Consequences of Job Loss." *Econometrica*, 91(3): 903–942.

Le Barbanchon, Thomas, Lena Hensvik, and Roland Rathelot. 2023. "How can AI improve search and matching? Evidence from 59 million personalized job recommendations." WP.

Miano, Armando. 2023. "Search Costs, Outside Options, and On-the-Job Search." Working Paper.

Morris, Carl N. 1983. "Parametric empirical Bayes inference: theory and applications." *Journal of the American statistical Association*, 78(381): 47–55.

Mueller, Andreas I., and Johannes Spinnewijn. 2021. "Expectations Data, Labor Market, and Job Search." In *Handbook of Economic Expectations*. , ed. Rüdiger Bachmann, Giorgio Topa and Wilbert van der Klaauw, 677–713. Academic Press.

Mueller, Andreas I., Johannes Spinnewijn, and Giorgio Topa. 2021. "Job Seekers' Perceptions and Employment Prospects: Heterogeneity, Duration Dependence, and Bias." *American Economic Review*, 111(1): 324–363.

Neal, Derek. 1999. "The Complexity of Job Mobility among Young Men." *Journal of Labor Economics*, 17(2): 237–261.

Schmieder, Johannes F, Till Von Wachter, and Jörg Heining. 2023. "The costs of job displacement over the business cycle and its sources: evidence from Germany." *American Economic Review*, 113(5): 1208–1254.

Spinnewijn, Johannes. 2015. "Unemployed but Optimistic: Optimal Insurance Design with Biased Beliefs." *Journal of the European Economic Association*, 13(1): 130–167.

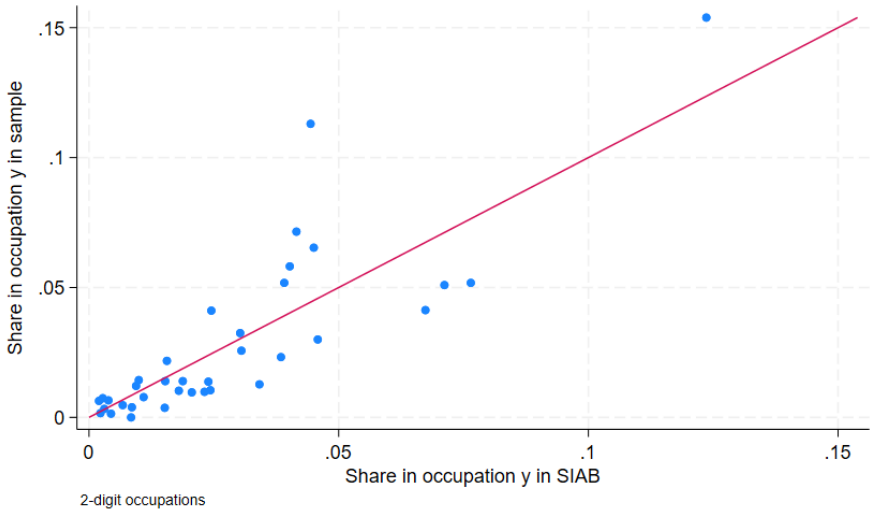
Topel, Robert H, and Michael P Ward. 1992. "Job mobility and the careers of young men." *The Quarterly Journal of Economics*, 107(2): 439–479.

Appendix

A Additional Figures and Tables

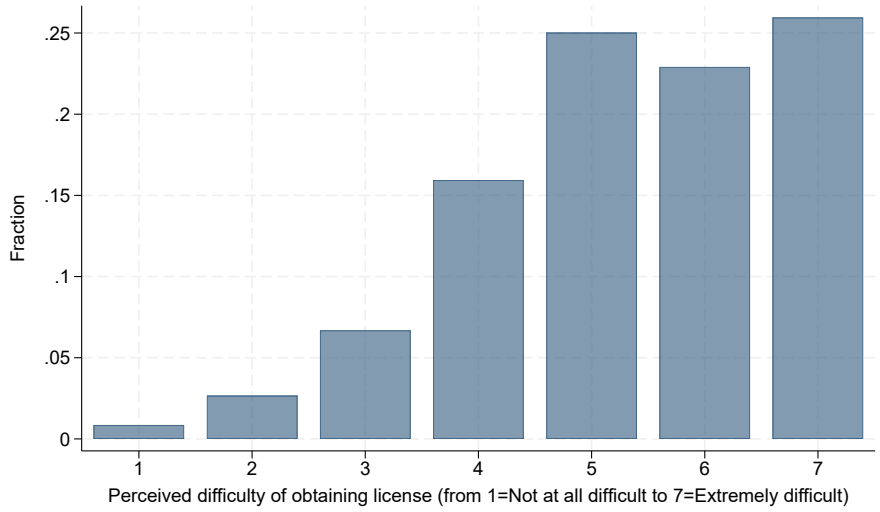
A Additional Figures

Figure A1: Occupation Composition in Survey vs. Population



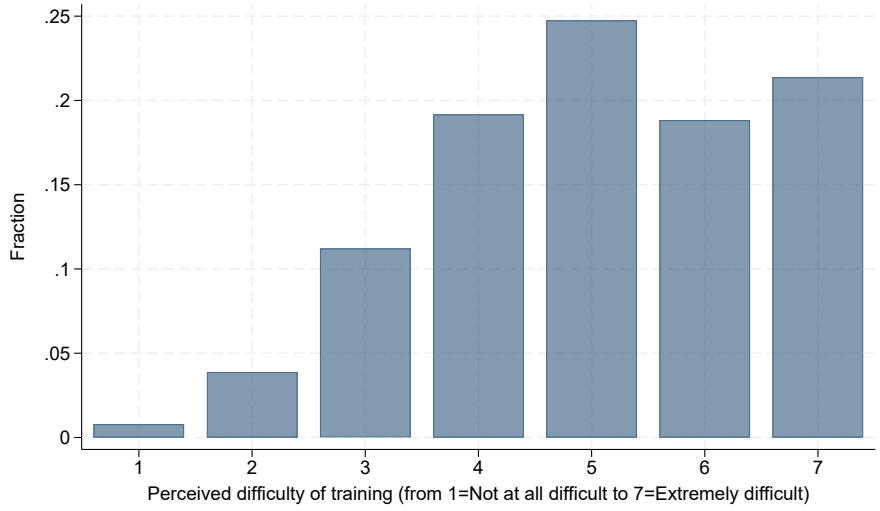
Notes: This figure plots the share of respondents by 2-digit SOC occupation group in the Sample of Integrated Employment Biographies (SIAB) against the share of respondents by 2-digit SOC occupation group in the main survey sample. The SIAB is restricted to full-time wage and salaried workers between 20 and 50 years old.

Figure A2: Perceived Effort Required to Obtain a License to Work in Alternative Occupation



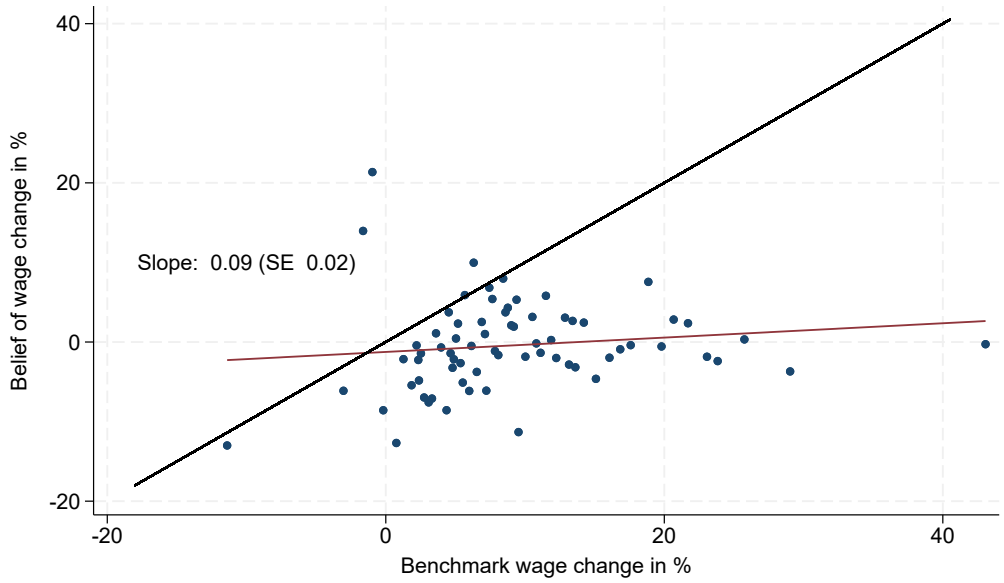
Notes: The figure shows the distribution of the perceived effort required to obtain a license to work in alternative occupations.

Figure A3: Perceived Effort Required to Retrain in order to Work in Alternative Occupation



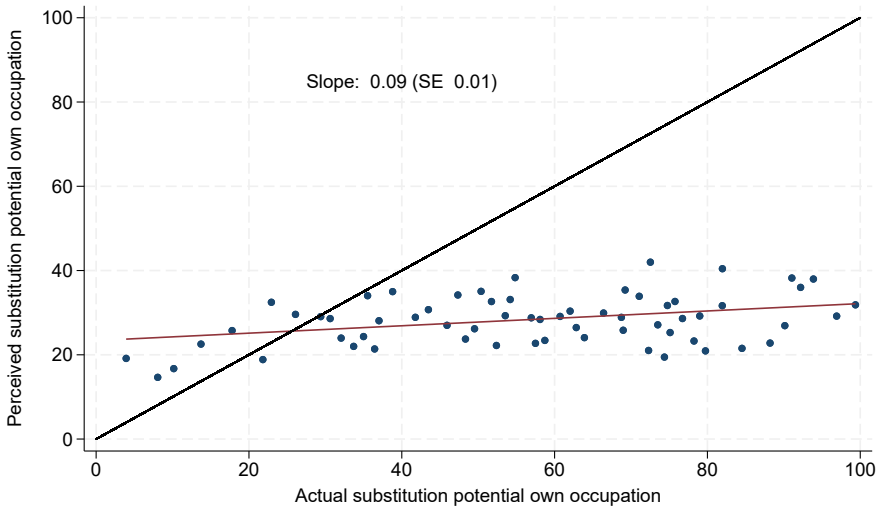
Notes: The figure shows the distribution of the perceived effort required to retrain to work in alternative occupations.

Figure A4: Expected *vs* Empirical Bayes Benchmark Wage Changes if Moving to Alternative Occupations



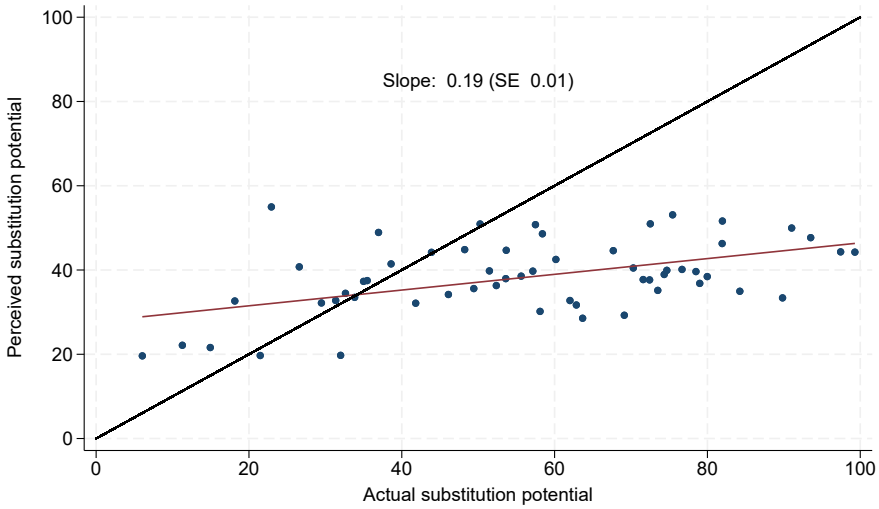
Notes: This figure plots a binned scatterplot of expected wage change over the benchmark actual wage change if moving to the alternative occupation. Benchmark wage changes are average wage changes observed in the administrative data when workers transition from each respondent's occupation to each alternative occupation over the period 2018-2024. The averages are corrected with an empirical Bayes (EB) correction that "shirks" imprecisely estimated averages to the sample mean.

Figure A5: Perceived vs. Actual Substitution Potential Own Occupation



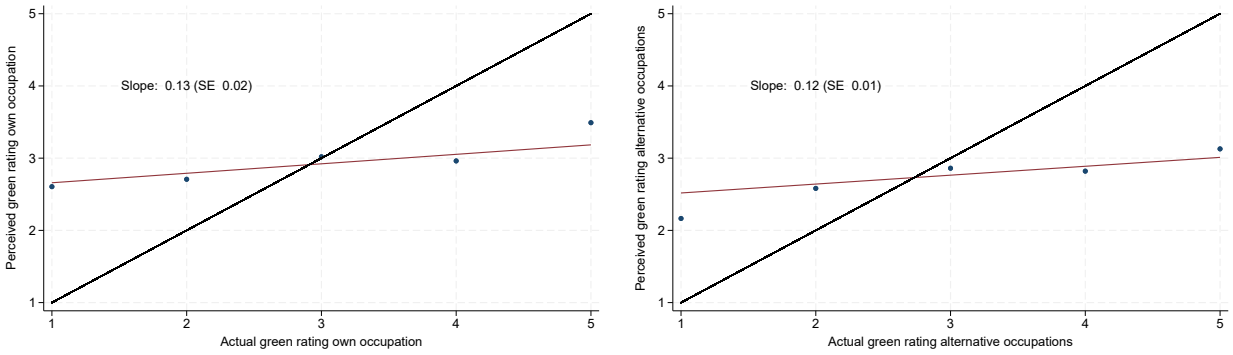
Notes: The figure shows the correlation between the perceived and the actual share of tasks in respondent's occupation that can be automated.

Figure A6: Perceived vs. Actual Substitution Potential Alternative Occupations



Notes: The figure shows the correlation between the perceived and the actual share of tasks in alternative occupations that can be automated.

Figure A7: Perceived vs. Actual Green Rating



Notes: The figure shows the correlation between the perceived and the actual green rating of own (left panel) and alternative occupations (right panel).

B Additional Tables

Table A1: Treatment Groups

	Not eligible for any treatment	Eligible for Benefits/Costs T. only	Eligible for all treatments
Control	723	866	188
Benefits T.	0	877	193
Costs T.	0	812	205
Displacement T.	0	0	218
Displacement + Benefits T.	0	0	214
Displacement + Costs T.	0	0	210
Tot Observations	723	2555	1228

Notes: This table reports the breakdown of respondents across treatment and potential treatment groups.

Table A2: Summary Statistics: Beliefs about Current Occupation

	Mean	SD	P25	Median	P75	N
Panel A: Beliefs						
Perceived skill transferability	4.194	1.585	3.000	4.000	6.000	4506
Share of automatable tasks	28.247	20.953	12.000	25.000	41.000	4379
Green rating	2.948	1.054	2.000	3.000	4.000	4506
Panel B: Misperceptions						
Share of automatable tasks	-27.180	29.882	-49.025	-27.023	-6.938	4379
Green rating	-0.249	1.259	-1.000	0.000	1.000	4506

Notes: This table reports summary statistics for beliefs and misperceptiosn about respondents' current occupation. Misperceptions are defined as belief – actual benchmark.

Table A3: Summary Statistics: Beliefs about Alternative Occupations

	Mean	SD	P25	Median	P75	N
Panel A: Beliefs						
Task similarity	2.996	1.799	1.000	3.000	4.000	18024
Retraining needed	0.559	0.497	0.000	1.000	1.000	18024
Prob. receiving a job offer	33.052	31.098	0.000	25.000	54.000	17186
Wage change if moving (in pp)	-0.605	22.383	-13.000	0.000	8.000	18024
Median wage	5332.226	2965.345	3500.000	4500.000	6000.000	18024
Share of automatable tasks	37.854	24.896	20.000	36.000	52.000	17517
Green rating	2.790	0.924	2.000	3.000	3.000	18024
Panel B: Misperceptions						
Task similarity	-0.637	2.315	-2.000	-1.000	1.000	18024
Believes retraining is needed when it is not	0.201	0.401	0.000	0.000	0.000	18024
Believes license is needed when it is not	0.252	0.434	0.000	0.000	1.000	18000
Wage change if moving (in pp)	-6.525	22.550	-18.486	-7.094	3.187	17178
Median wage (in pp)	8.606	53.851	-21.186	-3.890	20.070	18000
Share of automatable tasks	-16.264	30.417	-36.529	-16.597	3.472	17494
Green rating	-0.410	1.165	-1.000	0.000	0.000	18000

Notes: This table reports summary statistics for beliefs and misperceptiosn about alternative occupations. Misperceptions are defined as belief – actual benchmark.

Table A4: Heterogeneity in Beliefs about Alternative Occupations

	Task similarity Misp. (1)	Retraining needed Misp. (2)	License needed Misp. (3)	Wage change Misp. (5)	Substitution potential Misp. (7)
Male	0.0358**	-0.00507	-0.0183***	-0.0296*	-0.0370**
	(0.0165)	(0.00665)	(0.00703)	(0.0165)	(0.0155)
College	0.0332*	0.00253	-0.0754***	-0.130***	0.0337**
	(0.0182)	(0.00733)	(0.00781)	(0.0185)	(0.0171)
Age 20-29	-0.0231	0.00820	0.00265	0.113***	0.0276
	(0.0212)	(0.00853)	(0.00919)	(0.0208)	(0.0204)
Age 30-39	-0.0235	-0.000318	0.00892	0.0400**	0.0290*
	(0.0172)	(0.00682)	(0.00729)	(0.0176)	(0.0163)
Above-median tenure current job	0.00830	0.00299	-0.0311***	-0.0575***	-0.0424***
	(0.0154)	(0.00615)	(0.00659)	(0.0154)	(0.0147)
Blue-collar occupation	-0.0352	0.0615***	0.0528***	-0.151***	-0.245***
	(0.0253)	(0.00997)	(0.0116)	(0.0254)	(0.0255)
White-collar occupation	-0.0115	0.0440***	-0.0120	-0.160***	0.172***
	(0.0187)	(0.00752)	(0.00781)	(0.0194)	(0.0175)
Services occupation	-0.106***	0.0637***	0.0947***	0.0554	0.227***
	(0.0335)	(0.0129)	(0.0150)	(0.0345)	(0.0343)
Low skill requirement	-0.0826***	-0.0464***	0.0177*	-0.429***	-0.420***
	(0.0211)	(0.00792)	(0.00921)	(0.0209)	(0.0208)
Observations	18028	18028	18004	17506	17510

Notes: This tables reports the coefficients obtained regressing the beliefs about alternative occupations listed on the top on the dummies for personal and occupational characteristics listed on the left. All the dependent variables in the regression are standardized so they have mean zero and standard deviations one.

Table A5: Heterogeneity in Beliefs bout Own Current Occupation

	Skill transferability	Sub potential Misp.	Green rating Misp.	Positive impact of Automation-AI
	(1)	(2)	(3)	(4)
Male	-0.0268	-0.0440	-0.0276	0.258***
	(0.0330)	(0.0273)	(0.0314)	(0.0319)
College	0.0677*	0.118***	0.0703**	-0.00821
	(0.0352)	(0.0294)	(0.0337)	(0.0354)
Age 20-29	-0.107**	0.0911***	-0.00961	0.229***
	(0.0422)	(0.0349)	(0.0417)	(0.0418)
Age 30-39	-0.0327	0.0751***	0.0288	0.160***
	(0.0339)	(0.0280)	(0.0335)	(0.0338)
Above-median tenure current job	-0.105***	-0.0942***	-0.0604**	0.0323
	(0.0304)	(0.0250)	(0.0302)	(0.0304)
Blue-collar occupation	-0.243***	-0.241***	-0.0113	-0.0344
	(0.0530)	(0.0419)	(0.0551)	(0.0513)
White-collar occupation	-0.156***	0.152***	0.260***	0.0140
	(0.0361)	(0.0298)	(0.0379)	(0.0379)
Services occupation	-0.235***	0.101*	-0.183***	-0.180***
	(0.0670)	(0.0583)	(0.0633)	(0.0620)
Low skill requirement	-0.0554	-0.112***	-0.0952**	-0.133***
	(0.0424)	(0.0345)	(0.0408)	(0.0402)
Observations	4507	4383	4507	4507

Notes: This tables reports the coefficients obtained regressing the beliefs about alternative occupations listed on the top on the dummies for personal and occupational characteristics listed on the left. All the dependent variables in the regression are standardized so they have mean zero and standard deviations one.

Table A6: Treatment Effects on Beliefs about Alternative Occupations – Heterogeneity by Pre-Treatment Beliefs

	Similarity	Earn more or less	Training or license necessary
Benefits T. x Med wage under	0.0782*	0.385***	0.0249**
	(0.0452)	(0.0373)	(0.0112)
Benefits T. x Med wage over	0.0401	-0.165***	0.00571
	(0.0538)	(0.0470)	(0.0151)
Med wage under	-0.0435	-0.362***	0.00234
	(0.0380)	(0.0311)	(0.0111)
Costs T. x Costs under	0.241*	-0.0104	-0.0584
	(0.146)	(0.121)	(0.0485)
Costs T. x Costs over	0.192***	0.0544*	-0.0895***
	(0.0387)	(0.0314)	(0.0116)
Costs under	0.335***	-0.188***	-0.0195
	(0.0877)	(0.0701)	(0.0227)
Displacement T. x Own displacement under	0.0985	0.172***	0.0215
	(0.0689)	(0.0552)	(0.0166)
Displacement T. x Own displacement over	-0.500	-0.122	-0.0944
	(0.397)	(0.460)	(0.143)
Own displacement under	-0.0402	-0.0758**	-0.0299***
	(0.0381)	(0.0314)	(0.0102)
Observations	6470	6470	6470
Control mean	3.51	3.09	0.89
Individual controls	Yes	Yes	Yes
Prior beliefs	Yes	Yes	Yes

Notes: The dependent variables are post-treatment beliefs about skill similarity (1-5 scale) likelihood of earning more or less if moving to the alternative occupation (1-5 scale) and need of acquiring a license or retraining (0-1) for the alternative occupation. The regressors include dummies for each treatment interacted with dummies for respondents who underestimate or overestimate the median wage in alternative occupations, the need for retraining and acquiring a license to work in alternative occupations, and the substitution potential of alternative occupations. Controls include gender, education, age, and the corresponding pre-treatment belief. Observations are at the respondent $\times$ alternative occupation level. Respondents who were not eligible for any treatment nd those who received the greening treatment are excluded.

Table A7: Treatment Effects on Mobility Intentions – Heterogeneity by Pre-Treatment Beliefs

	Probability of looking for a new job in	
	Treated Alternative Occ.	Untreated Alternative Occ.
Benefits T. x Med. wage under	4.863***	2.986***
	(0.850)	(0.963)
Benefits T. x Med. wage over	1.521	1.523
	(1.074)	(0.953)
Med. wage under	-4.045***	-3.201***
	(0.727)	(0.707)
Costs T. x Costs under	0.647	1.047
	(2.929)	(1.330)
Costs T. x Costs over	3.577***	2.244***
	(0.712)	(0.810)
Costs under	3.716**	7.066***
	(1.726)	(0.809)
Displacement T. x Own displacement under	6.183***	3.530***
	(1.367)	(1.296)
Displacement T. x Own displacement over	11.81	-4.826
	(17.68)	(13.66)
Own displacement under	-5.074***	-3.689***
	(0.749)	(0.787)
Observations	6129	6099
Control mean	14.30	15.89
Individual controls	Yes	Yes

Notes: The dependent variables are respondent's stated probability (0-100 scale) of looking for a new job in the 12 months following the survey in the alternative occupations mentioned in the treatments, or the alternative occupations not mentioned in the treatment. The regressors include dummies for each treatment interacted with dummies for respondents who underestimate or overestimate the median wage in alternative occupations, the need for retraining and acquiring a license to work in alternative occupations, and the substitution potential of their current occupation alternative occupations. Controls include gender, education, age. Observations are at the occupation x respondent level. Respondents who were not eligible for any treatment and those who received the greening treatment are excluded.

Table A8: Treatment Effects on Beliefs about Alternative Occupations in Follow-up Survey

	Similarity	Earn more or less	Training or license necessary
Benefits T.	-0.0823	0.132**	0.0184
	(0.0811)	(0.0551)	(0.0163)
Costs T.	0.0224	0.0289	-0.0173
	(0.0799)	(0.0541)	(0.0174)
Displacement T.	-0.0374	0.178**	0.00424
	(0.140)	(0.0869)	(0.0270)
Displacement x Benefits T.	0.222	-0.187	-0.0416
	(0.191)	(0.121)	(0.0386)
Displacement x Costs T.	-0.236	-0.167	0.0391
	(0.196)	(0.125)	(0.0378)
Observations	2028	2028	2028
Control mean		3.12	0.90
Individual controls	Yes	Yes	Yes
Prior beliefs	Yes	Yes	Yes

Notes: The dependent variables are beliefs about skill similarity (1-5 scale) likelihood of earning more or less (1-5 scale) and need of acquiring a license or retraining (0-1) for the alternative occupation measured in the follow-up survey. The regressors include dummies for each treatment received in the main survey and interactions terms for the Displacement + Benefits and Displacement + Costs treatments. Controls include gender, education, age, and the corresponding pre-treatment belief. Observations are at the respondent $\times$ alternative occupation level.

C Invitation Letter

Figure A8: Invitation Letter (Translated in English)

AD:APT
Karriere & Beschäftigung

IAB INSTITUT FÜR ARBEITSMARKT- UND BERUFSFORSCHUNG
Die Forschungseinrichtung der Bundesagentur für Arbeit

Institute for Employment Research,
Regensburger Str. 104, 90478 Nuremberg

"Woman"
"First name Last Name"
«Street_HN»
"Zip Code Residential Address"

Nuremberg, October 2024

Dear Mrs. [Last Name],

The *Institute for Employment Research (IAB)* is currently conducting the scientific study **"Career and Employment"** to understand how you assess the current challenges in the German labor market. The survey focuses specifically on your career decisions and experiences in the job market. We therefore cordially invite you to participate in the survey.

By participating, you will provide crucial support to the IAB in advising political decision-makers and thus improving economic and social policy in Germany.

In short – we will survey you online

The entire survey takes **only 15 minutes.** You can start the online survey by scanning the QR code or entering the link into your internet browser:
https://umfragen.iab.de/goto/karriere

Your personal password for participation is: **«password»**
You can answer the questionnaire **up to and including December 15, 2024 .**

Participation pays off

As a small thank you, after completing this and all subsequent surveys you will receive a **shopping voucher worth €5 for various providers.**

Your information is safe with us.

Participation in the survey is, of course, voluntary. Your responses will be treated confidentially, evaluated anonymously, and no personal data will be processed further without your explicit consent. Further information on data protection can be found in the enclosed data protection sheet or on our website at https://iab.de/adapt. For further questions, please contact us at IAB.ADAPT@iab.de.

We would like to thank you most sincerely for your support!

Best regards

Prof. Bernd Fitzenberger, PhD
Director of the Institute for Employment Research (IAB)

B Screenshots of Selected Questions and Treatments

Figure A9: Measuring Perceived Transferability of Own Skills

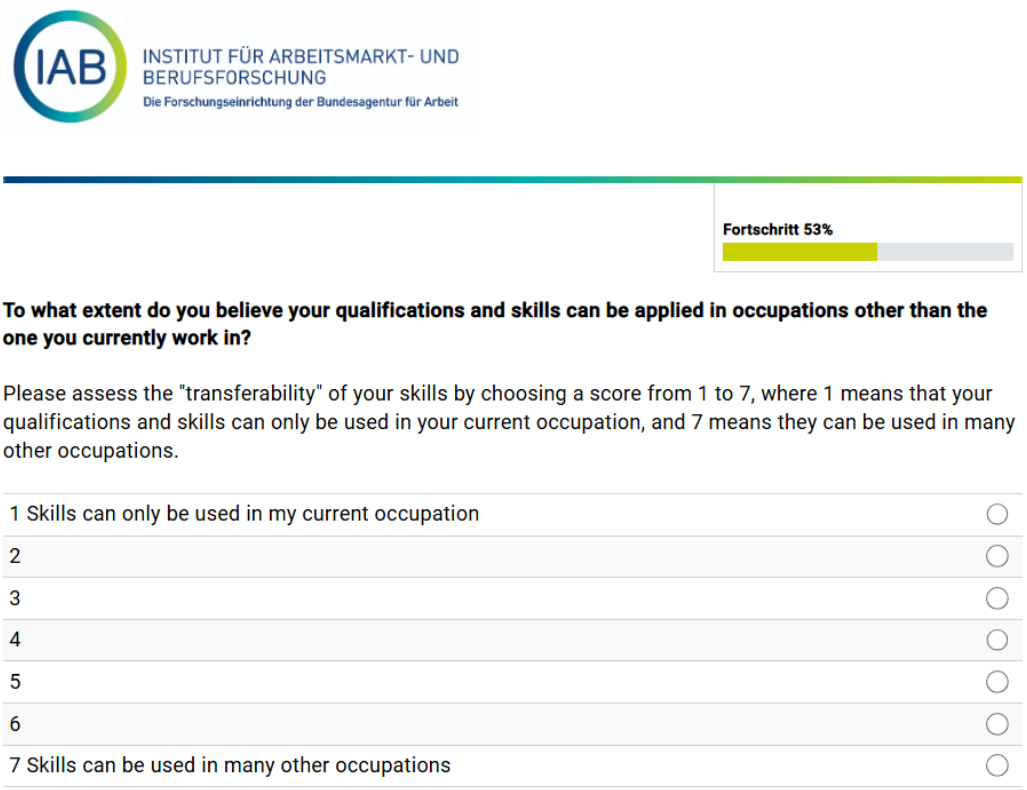
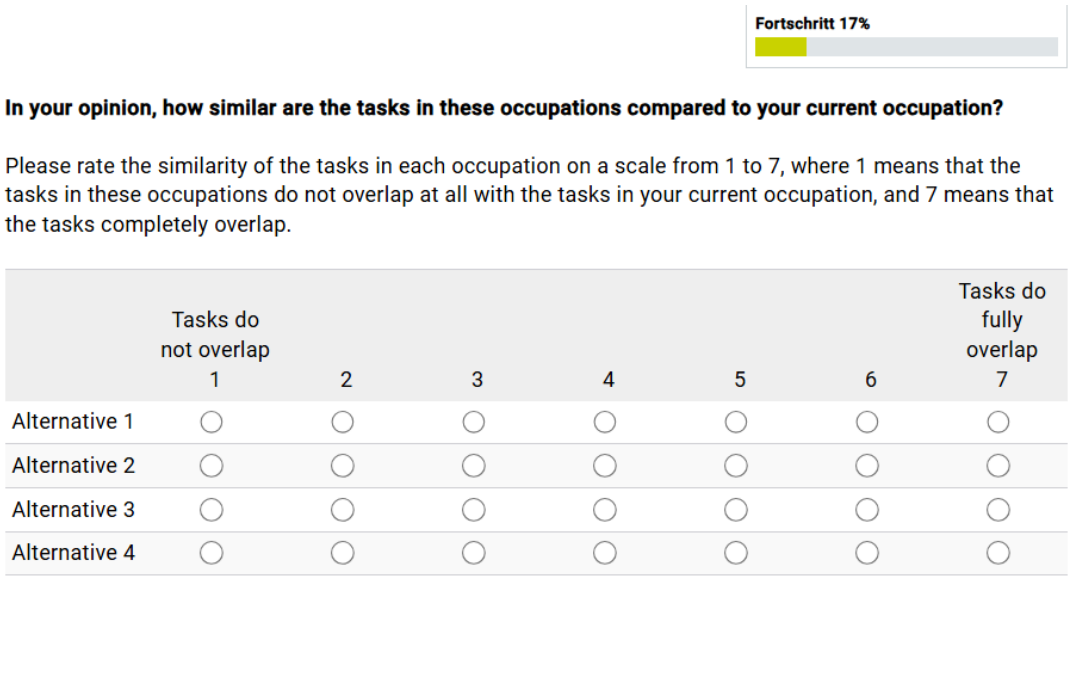


Figure A10: Measuring Perceived Task Similarity of Alternative Occupations



Fortschritt 17%

In your opinion, how similar are the tasks in these occupations compared to your current occupation?

Please rate the similarity of the tasks in each occupation on a scale from 1 to 7, where 1 means that the tasks in these occupations do not overlap at all with the tasks in your current occupation, and 7 means that the tasks completely overlap.

	Tasks do not overlap 1	2	3	4	5	6	Tasks do fully overlap 7
Alternative 1	○	○	○	○	○	○	○
Alternative 2	○	○	○	○	○	○	○
Alternative 3	○	○	○	○	○	○	○
Alternative 4	○	○	○	○	○	○	○

Figure A11: Treatments Intro (common to all treatments)



Fortschritt 47%

Employees with your skills profile may not only consider jobs in your current profession, but potentially in other professions as well.

Two of these occupations have requirements that match the qualifications and skills you have acquired in your current occupation:

Occupations	
Alternative 1	Example job in alternative 1
Alternative 2	Example job in alternative 2

... zurück | weiter ...

Figure A12: Benefits Treatment

INSTITUT FÜR ARBEITSMARKT- UND BERUFSFORSCHUNG
Die Forschungseinrichtung der Bundesagentur für Arbeit

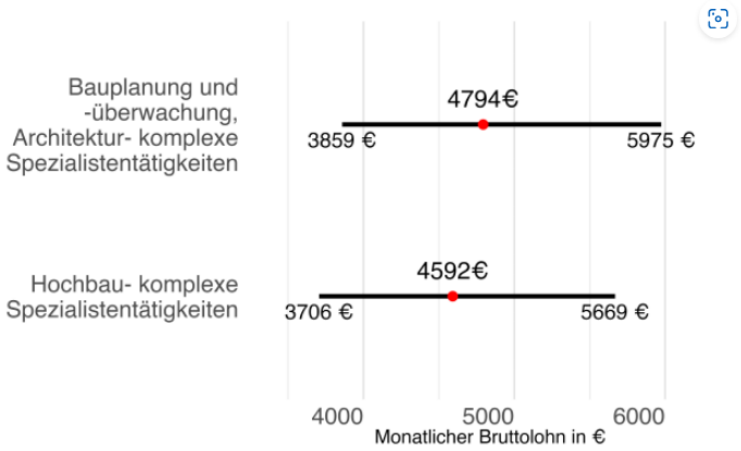
Fortschritt 64%

When employees consider switching to another profession, many of them think primarily of the earnings and employment prospects.

In the following, we would like to show you how much someone like you [without degree / with training degree / with university degree] earns in the two alternative occupations and how many jobs are currently available in these occupations.

... zurück | weiter ...

The following figure shows how much employees like you [without degree / with training degree / with university degree] normally earn in the two alternative occupations.*



* Note: The red dot represents the average income (median) in the respective occupation. The bar shows how much the middle 50% of employees earn (25th percentile to 75th percentile). Wages above €7000 are probably higher than shown due to the capping at the income threshold. The data comes from the Institute for Employment Research.

Figure A13: Costs Treatment

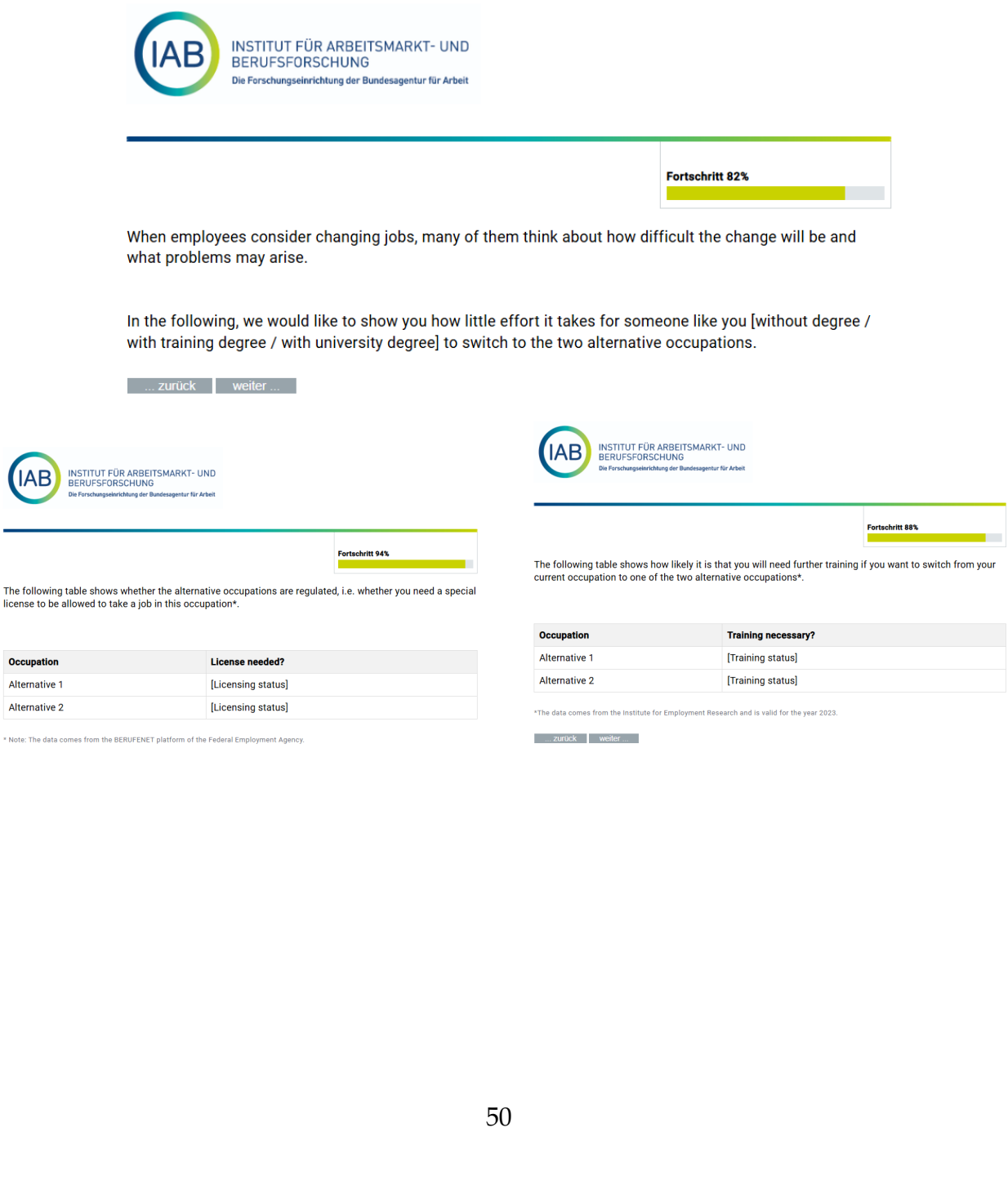


Figure A14: Displacement Treatment

