Feedback, Confidence and Job Search Behavior

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Abstract

We conduct a field experiment with job seekers to investigate how feedback influences job search and labor market outcomes. Job seekers who receive feedback on their ability compared to other job seekers update their beliefs and increase their search effort. Specifically, initially underconfident individuals intensify their job search. In contrast, overconfident individuals do not adjust their behavior. Moreover, job seekers' willingness-to-pay (WTP) for feedback predicts treatment effects: only among underconfident individuals with positive WTP, we observe significant increases in both search effort and search success. We present suggestive evidence that this pattern arises from heterogeneity in how job seekers perceive the relevance of relative cognitive ability to job search returns. While the intervention appears cost-effective, job seekers' WTP remains insufficient to cover its costs.

Keywords: job search, overconfidence, feedback, willingness-to-pay, field experiment

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1 Introduction

Individuals' subjective beliefs about the world influence behavior across a wide range of contexts and decisions, and biased beliefs can lead to adverse individual and aggregated outcomes (Dizon-Ross, 2019, Cullen and Perez-Truglia, 2022, Alesina et al., 2023, Jäger et al., 2024). Beliefs about one's own skills are a case in point, as they may affect key career-related decisions, such as occupational choices (Wiswall and Zafar, 2021, Lazear, 2016), educational investments (Wiswall and Zafar, 2015, Arcidiacono et al., 2010, Bobba and Frisancho, 2020), and workplace behavior (Hoffman and Burks, 2020, Huffman et al., 2022).

Beliefs about one's skills are particularly relevant in the context of job search. In directed search models, they are a key input in job seekers' strategies, affecting where and how intensively they search for jobs (Wright et al., 2021, Baley et al., 2022). However, individuals typically hold biased beliefs about their skills (Carranza et al., 2022, Bobba and Frisancho, 2020), which can distort their search strategies (Kiss ⓡ al., 2023). These distortions are particularly consequential in developing countries such as Ethiopia — the setting of our study — where job seekers incur high search costs (Franklin, 2018, Abebe et al., 2021b).

To form more accurate beliefs, job seekers need to obtain new information about their relative skills (*feedback*, for short) — for example, how well their skills match a vacancy relative to their competitors or how far their applications progressed in the hiring process. Obtaining such feedback is costly, particularly in contexts where callbacks are rare and competitors' identities remain unknown. Individuals may differ in their willingness to seek such costly feedback due to different underlying motives. Some may avoid it to shield themselves from discouraging information (Drobner and Goerg, 2024, Karlsson et al., 2009, Dana et al., 2007). If they receive feedback, they may ignore or forget it. Others may not see it as relevant to their behavior. Both mechanisms suggest a potential link between whether feedback was demanded and its effectiveness in altering behavior.

We empirically test this idea by conducting a field experiment with 2,537 job seekers in Addis Ababa, Ethiopia — a labor market characterized by high unemployment and significant information frictions. Participants attended a skill assessment center, where they completed a cognitive ability test, identified as a central skill in the job search process[1], along with other cognitive and non-cognitive skill assessments. At the end of the assessment center, we asked job seekers how they believed they performed on the cognitive ability test, both absolutely and relative to other job seekers. As a key ingredient of our experiment, we elicited their willingness-to-pay (WTP) for feedback on their true test performance: average WTP corresponds to a median hourly wage, but almost a third of participants has a zero or even negative WTP.

Afterwards, a treatment group of participants were randomly assigned — independent of their WTP — to receive feedback on their cognitive ability test performance.[2] Feedback was provided relative to a benchmark population of job seekers applying to similar jobs. We analyze the effects of receiving feedback on belief updating, job search behavior, and outcomes up to two months after the assessment. Unlike typical feedback experiments, we incorporate two dimensions of heterogeneity: initial overconfidence or underconfidence (i.e., whether job seekers performed relatively worse or better in the cognitive test than they thought), and their demand for feedback.

Our experiment yields three sets of results. First, job seekers adjust their beliefs in response to the feedback provided. Specifically, providing feedback reduces the absolute deviation of beliefs from the provided information by 13% relative to the control mean immediately after receiving feedback. At the endline, six to eight weeks after the feedback provision, the treated job seekers exhibit an absolute deviation 7% smaller than that of the control group. The initial effects are especially pronounced among underconfident individuals. Relative to the control mean, which measures the extent to

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[1]Firms identified general intelligence as the most relevant skill assessed at the center, and most job seekers considered it a key competency for the vacancies they applied to. General intelligence correlates with baseline labor market beliefs and job search success.

[2]This approach builds on an established experimental paradigm (e.g., Kiessling et al., 2022), which randomly overrides elicited preferences for receiving information.

which beliefs differ from the true information, underconfident individuals receiving encouraging feedback adjust their beliefs more strongly than overconfident individuals.

Second, providing feedback significantly increases job search. At the endline, a composite index measure among treated job seekers is 0.08 standard deviations higher than for individuals in the control group. However, prespecified heterogeneity analysis reveals that job seekers respond asymmetrically in their job search behavior. Initially underconfident job seekers increase their job search effort by 0.2 standard deviations. This is driven by a 5 percentage point increase in conducting any search, spending 0.36 more days per week on job search, and submitting 1.31 additional applications per month upon receiving feedback. The effect on overconfident individuals is small (0.02 standard deviations) and insignificant, mirroring the asymmetric belief updating. Similarly, job seekers with positive WTP respond differently to feedback than those who do not demand the feedback, or would even pay to avoid it. We observe that individuals with a positive WTP — those who want to receive feedback — increase their job search effort by 0.11 standard deviations while individuals with a negative WTP do not alter their job search effort in response to the treatment.

Third, we analyze the joint effect of confidence and WTP by examining the interaction of these two determinants. This analysis reveals that the treatment effects on job search are concentrated among job seekers who receive encouraging information that they actively sought to acquire, leading to significant improvements in their job search success. These underconfident individuals with a positive WTP for feedback increase their search effort by 0.23 standard deviations. Moreover, they also experience a rise of 0.17 standard deviations in their job search success index, mostly driven by a 20% (4 percentage points) increase in employment and a 31% increase in earnings conditional on working. These improvements are significantly larger than the effects for other groups — overconfident individuals or underconfident individuals with a low WTP — for whom we do not observe any positive treatment effects on job search behavior or success.

We present and discuss survey evidence indicating that the heterogeneity in treatment effects may be explained by how relevant the different groups of job seekers perceive the provided information to be. Job seekers who respond with increased job search effort and success — underconfident individuals with a positive WTP — are the only group exhibiting a significant positive baseline correlation between beliefs and expected returns to job search. Consistent with this, they report to seek feedback because it guides their job search decisions. In contrast, other groups appear to be primarily motivated by ego-related considerations when requesting feedback, as indicated by their stated reasons behind their WTP. We do not find evidence for alternative mechanisms, such as differential belief updating by demand for feedback or changes in the jobs people target, that could explain the observed treatment effects.

These results have implications for the cost-effectiveness of the intervention, which may be significantly enhanced by targeting job seekers based on their willingness to pay (WTP) for feedback. Job seekers with a positive WTP are willing to pay 40.92 Birr and yield higher returns from the intervention, rendering it cost-effective for this specific group, but not for others. Targeting feedback provision only to individuals with a positive WTP could reduce the need for subsidies, though not entirely eliminate it.[3] In our setting, the WTP alone does not fully cover the intervention's costs, which may explain why there exists no market solution providing such information.

With our findings, we contribute to four strands of the literature. Our key contribution is to the literature on information frictions in labor markets. Compared to this literature, we demonstrate that low-intensity phone-based feedback about skills affects beliefs and labor market outcomes. This effect is not homogeneous: both prior beliefs and job seekers' demand for information influence the extent to which they adjust their effort and achieve improved labor market outcomes when their misaligned beliefs are corrected.

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[3]A feedback targeting strategy could be implemented through a self-selection mechanism in which individuals incur small costs (e.g., transportation or nominal participation fees) to access feedback and does not necessarily require ex-ante individual WTP measurements.

Much of the existing literature has focused on firms that are uncertain about the abilities of workers (Carranza et al., 2022, Abebe et al., 2025, Abel et al., 2020, Bassi and Nansamba, 2021, Pallais et al., 2014, Hensel et al., 2023). On the job seeker side, Mueller and Spinnewijn (2023) review the recent literature linking beliefs to job search behavior and outcomes. Experimental studies of information frictions include information about labor market condition (Jones and Santos, 2022, Altmann et al., 2018), such as knowledge about available vacancies (Belot et al., 2018, Altmann et al., 2022) or wage levels (Conlon et al., 2018, Balgova ⓡ al., 2023).[4] Related to our paper, Kiss ⓡ al. (2023) and Carranza et al. (2022) show that feedback about job seekers' comparative advantage in skills can redirect their search toward jobs that better align with their skills, leading to higher earnings. In contrast, we demonstrate that shifting beliefs about relative *skill levels* affect *search effort* and success. Another innovation of our study is that we show that treatment effects may differ based on feedback demand, i.e., unsolicited feedback can be ineffective. Our finding that an increase in search effort is associated with labor market success is in line with Vyborny et al. (2025), who document constant returns to search effort among job seekers in Pakistan.

More generally, we also contribute to the literature on active labor market interventions in developing countries (e.g. Alfonsi et al., 2017, Caria et al., 2023, Abel et al., 2019, Franklin, 2018, Banerjee and Sequeira, 2020, Kelley et al., 2024, Wheeler et al., 2022) by providing evidence on a relatively cheap and potentially scalable intervention that improves earnings for some workers. Our findings emphasize the importance and feasibility of targeting active labor market interventions by WTP for interventions to increase their (cost) effectiveness.

We also contribute to the literature on feedback interventions across di-

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[4]We also speak to theoretical literature on the role of information frictions in labor markets. Jovanovic (1979) famously studies how learning about match quality contributes to separations. Relatedly, Altonji and Pierret (2001) and Kahn and Lange (2014) study how employer learning about worker skills contributes to productivity and earnings. On the job seeker side, macro-models with imperfect information about skills can affect aggregate labor market efficiency (Guvenen et al., 2020, Lise and Postel-Vinay, 2020, Baley et al., 2022).

verse domains, including workplace settings (Blanes i Vidal and Nossol, 2011, Bradler et al., 2016) and education (Azmat and Iriberri, 2010, Tran and Zeckhauser, 2012, Azmat et al., 2019, Brade et al., 2022). These studies underscore the potential of feedback to shape motivation, performance, and decision making. However, findings are mixed and sometimes inconclusive (Villeval, 2020), with evidence that feedback can occasionally produce unexpected or unintended consequences, such as demotivation or disengagement (Azmat et al., 2019). Our findings emphasize the importance of heterogeneity in individuals' responses to feedback. Specifically, we show that the effectiveness of feedback interventions hinges on whether feedback is desired. Feedback aligned with an individual's demand yields more positive effects. In contrast, unsolicited feedback, especially when individuals cannot opt out, has no effect in this context. These findings call for more nuanced intervention designs that account for individual preferences and incorporate mechanisms to facilitate self-selection into feedback opportunities.

By demonstrating behavioral adjustments in response to updated beliefs, we also speak to the literature on demand for feedback and information avoidance in the laboratory and field. Previous studies show that individuals avoid feedback to protect their self-concept or maintain motivated beliefs in ego-relevant domains (Drobner and Goerg, 2024, Castagnetti and Schmacker, 2022, Dana et al., 2007), and in economically significant contexts such as consumer behavior (Sweeny et al., 2010), financial decision-making (Olafsson and Pagel, 2025, Karlsson et al., 2009), and health awareness (Oster et al., 2013, Thornton, 2008). Related, our study contributes to the literature on selective recall of positive information (Zimmermann, 2020, Eil and Rao, 2011) and belief-consistent information (Gödker et al., 2024, Huffman et al., 2022) by documenting a good news/bad news effect immediately after treatment, as well as selective recall concentrated among underconfident job seekers. An emerging strand of experimental research further explores heterogeneity in feedback demand, showing that demand may depend on factors such as price elasticity (Serra-Garcia and Szech, 2022), expected future utility (Ganguly and Tasoff, 2017), prior positive experiences

(Petrishcheva, 2023), and personal characteristics (Coffman and Klinowski, 2022). We contribute to this literature in two main ways. First, we provide novel field evidence of heterogeneity of avoidance of ego-relevant information in the job search context, a domain characterized by uncertainty and significant economic stakes. Second, we document a systematic link between intended information avoidance and smaller causal effects of receiving the information, thereby linking individual information avoidance to the large literature on information experiments (Haaland et al., 2023).

The remainder of this paper proceeds as follows. Section 2 provides details on the experimental design, data collection, and context. Section 3 summarizes the average and heterogeneous effects of the treatment on belief updating and job search outcomes. Section 4 explores how prior beliefs and the demand for feedback interact. Section 5 discusses the cost-effectiveness of our intervention. Section 6 discusses the implications of our results for policymakers and concludes.

2 Context and Experimental Design

This section provides an overview of the labor market context as well as the design and implementation of the field experiment.

2.1 Context, Sample, and Baseline Survey

Our study is embedded in the operations of a recruitment agency in Addis Ababa, the capital of Ethiopia. The agency screens applicants for a variety of job vacancies on behalf of employers. All applicants who apply for a job posted by the recruitment agency are invited to attend an assessment center. As part of the screening process, applicants take assessments for various cognitive and non-cognitive skills. We provide more details about the assessment center in Appendix B.1.

The experiment took place between April and December 2022. At the beginning of the experiment, unemployment rates in urban areas remained

high at close to 20%, despite strong GDP growth in the last 15 years (Ethiopian Statistics Service, 2022). Similar to the situation in other developing countries, the local labor market is characterized by frictions that affect the efficiency of labor market matching, including spatial (Franklin, 2018), liquidity (Abebe et al., 2021b), and various information frictions (e.g., about job seeker skills or offered earnings; Abebe et al., 2021a, 2025, Balgova ⓡ al., 2023). These frictions are likely to contribute to urban unemployment and, more broadly, to inefficient labor market outcomes (Donovan et al., 2023).

Our main sample consists of 2,537 job seekers in the assessment center at baseline, applying to 267 different vacancies from 201 firms.[5] These job seekers undergo two parts of the assessment center. The first part consists of a range of assessments of cognitive and non-cognitive skills — most importantly a Raven's Progressive Matrices ("Raven's"; Raven, 2003) test to measure job seekers' general intelligence. Performance in this test will serve as the basis for our feedback intervention. Other assessments include the Big 5 personality traits, grit, executive function (Stroop, 1935), and theory of mind ("Reading the Mind in the Eyes" (RME) test; Baron-Cohen et al., 2001). Job seekers know that information on their performance on these assessments will be forwarded to the firms that are recruiting, which also provides incentives to exert effort on the tests. If firms are interested in a candidate, they take over the following call back process. However, the probability of being hired for this particular vacancy is very low, as many vacancies remain unfilled.

The second part of the assessment center consists of a self-administered baseline survey measuring the socioeconomic background, preferences, beliefs about themselves, labor market prospects, and recent job search experiences.[6] To avoid strategic responses, we truthfully inform job seekers that

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[5]In addition, two auxiliary samples are collected: 430 individuals are presented an extended price list in the WTP elicitation, and 430 job seekers are assigned to an alternative "choice" treatment arm in which treated individuals may choose whether to receive information.

[6]To facilitate understanding, job seekers can choose to complete the survey in either English or Amharic. In addition, they are encouraged to ask invigilators questions about any part of the survey that they do not understand.

their responses in this part of the survey will not be forwarded to firms.

Sample description   Column 1 of Table 1 presents information on the main sample of job seekers, while Columns 2 and 3 break down this information for the treatment and control groups, respectively. On average, participants are 26 years old, and 30% are women. The sample is relatively well-educated, with 71% of job seekers having at least some post-secondary education.

At baseline, job seekers spend a large amount of time and money on job search. Yet, they only send relatively few applications and receive even fewer interview invitations in response. The average participant has spent 28 hours on a job search in the past week, sending 7.5 applications, spending 700 Birr, which is 45% of the average weekly earnings of working individuals in the control group, and receiving less than two interview invitations.[7]

The ads used to recruit job seekers to the assessment center offer relatively high-quality, early career jobs. 53% of job seekers applied to jobs that required university degrees and a similar share applied to white collar positions. The average job requires only 1.45 years of work experience and pays 6,841 Birr per month, somewhat above the average monthly earnings in Ethiopia of 5,657 Birr (Ethiopian Statistical Services, 2022).

Taken together, we observe a rather young and highly educated sample of job seekers who invest a large amount of time and resources in a costly search. Any decisions about search effort are high-stakes decisions. As a consequence, miscalibrated search effort choices might have important consequences for applicants' well-being.

General intelligence   Feedback provision and belief elicitation of this experiment center around a test of general intelligence.

We measure job seekers' general intelligence via a Raven's Progressive Matrices test ("Raven's", Raven (2003)). The Raven's score has been widely

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[7]The low return to applications remains true after the start of the experiment. On average, in the control group the ratio of offers to applications over 30 days is less than three percent.

applied in research settings close to ours (Carranza et al., 2022, Abebe et al., 2021b), but is also popular among practitioners in real hiring settings (Chamorro-Premuzic and Furnham, 2010, De Kock and Schlechter, 2009). The test consists of 20 items, and the job seekers have 15 minutes to complete it. Appendix Figure A.2 displays an example Raven's matrix of intermediate difficulty.

We focus on general intelligence for three reasons. First, firms consider it the most relevant skill among those assessed in the center. When asked to select the two most relevant skills for their vacancies from a list of seven[8], 57% of the firms chose general intelligence (Hensel et al. (2023) report a similar number in a different sample of firms in Addis Abeba). Second, job seekers share this belief about general intelligence being important, with 61% reporting general intelligence as one of the two most relevant skills for the vacancy they applied for. Finally, general intelligence correlates with baseline labor market beliefs and success (Appendix Table A.1). It has also been shown to correlate with labor market success in other contexts (Ozawa et al., 2022, Case and Paxson, 2008).

Despite its perceived importance, job seekers may have substantial misperceptions about their level of general intelligence, in particular, relative to their competitors. This might be explained by the fact that the job search process is inherently individual, offering few opportunities to compare abilities against others. In addition, employers rarely provide callbacks or feedback to candidates they do not intend to interview. As a result, job seekers often lack clear signals about their relative standing, leaving them uncertain about their comparative abilities.

Elicitation and descriptions of beliefs about (relative) ability   After completion, we ask job seekers to self-assess their performance on the Raven's test by estimating the number of items they solved correctly. In addition, job seekers are asked to indicate how many out of ten job seekers applying

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[8]General intelligence, emotional intelligence, language skills in Amharic and English, grit, reliability, emotional stability, and focus

to similar jobs would perform worse, providing a decile rank. We provide details on the elicitation of beliefs in Appendix B.2.

As a benchmark for feedback provision, we compare beliefs against the actual relative ability in a comparison population. This comparison population consists of job seekers who took the same test under very similar conditions. The data was collected by Hensel et al. (2023). We standardize the ability within categories of job types (white, blue, pink, or gray collar). The distributions of test performance are very similar. However, the current population had marginally lower Raven's scores, with the median current job seeker scoring only at the 46th percentile of the reference distribution (Appendix Figure A.3).

Table 1 describes the test performance and beliefs about the test performance. On average, job seekers scored 8 out of 20 possible points on the Raven's Progressive Matrices test. They exhibit substantial misperceptions about their performance: in absolute terms, their beliefs deviate, on average, by 3.67 questions from their actual number of correctly answered questions. Similarly, job seekers misjudged their relative performance on the assessment, over- or underestimating their position by an average of 3.55 decile ranks, with 68% overestimating their position.[9]

Elicitation of Willingness-to-Pay   As a key ingredient of the experiment, we elicit the participants' demand for the feedback we provide. We measure applicants' incentivized WTP for information about their relative performance in the general intelligence assessment. To stress the relevance of this information for participants, we truthfully provide the information that "managers are very interested in learning how applicants perform on this

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[9]Appendix Table A.2 show the correlates of misperceptions. Both absolute belief bias and an indicator of overconfidence are mechanically correlated with performance on the general intelligence assessment (as there is less scope for being overconfident for job seekers with higher scores, and less scope for underconfidence for job seekers with lower scores). We observe a small, insignificant gender gap in overconfidence broadly in line with the existing literature. (Bandiera et al., 2022). Most covariates are not predictive of overconfidence, except personality traits of agreeableness and neuroticism are negatively predicting overconfidence.

Table 1: Descriptive Statistics and Balance

	All	Control	Treatment	Difference (3)-(2)
Demography				
Female	0.30	0.31	0.29	0.01
	(0.46)	(0.46)	(0.46)	[0.68]
Age	26.02	26.14	25.90	0.24
	(4.19)	(4.38)	(3.99)	[1.44]
Post-secondary education	0.71	0.71	0.70	0.00
	(0.46)	(0.46)	(0.46)	[0.18]
Search behavior and outcomes				
Search Time(Hours)	28.04	27.95	28.12	-0.17
	(31.52)	(31.49)	(31.57)	[-0.13]
Number of Applications	7.46	7.40	7.52	-0.12
	(9.12)	(9.17)	(9.07)	[-0.34]
Job Search Expenditure	700.61	698.44	702.80	-4.36
	(925.97)	(925.31)	(927.00)	[-0.12]
Interview invitations	1.87	1.90	1.85	0.05
	(2.32)	(2.39)	(2.25)	[0.51]
Vacancy characteristics				
Offered salary	6,840.70	6,795.01	6,886.79	-91.79
	(4,608.06)	(4,626.29)	(4,590.96)	[-0.50]
Requires degree	0.53	0.52	0.53	-0.02
	(0.50)	(0.50)	(0.50)	[-0.87]
Minimum years of exp.	1.45	1.44	1.46	-0.02
	(1.72)	(1.74)	(1.71)	[-0.28]
White collar	0.53	0.53	0.54	-0.02
	(0.50)	(0.50)	(0.50)	[-0.95]
Pink collar	0.15	0.15	0.14	0.01
	(0.36)	(0.36)	(0.35)	[0.63]
Performance				
Raven Scores	8.14	8.09	8.20	-0.12
	(5.45)	(5.46)	(5.44)	[-0.54]
True rank	4.59	4.56	4.61	-0.05
	(3.08)	(3.08)	(3.08)	[-0.43]
Ability/Beliefs				
Pre-treatment belief	6.80	6.85	6.74	0.10
	(2.61)	(2.61)	(2.60)	[1.01]
Absolute bias, baseline	3.67	3.69	3.65	0.04
	(2.58)	(2.57)	(2.58)	[0.43]
Overconfident baseline belief	0.68	0.68	0.67	0.01
	(0.47)	(0.47)	(0.47)	[0.41]
WTP For Feedback (Birr)	23.08	23.36	22.79	0.57
	(33.47)	(33.16)	(33.78)	[0.43]
Observations	2,537	1,274	1,263	2,537

Note: Table 1 displays baseline means and standard deviations (in parentheses) of covariates for the sample of job seekers who participated in the experiment and in the endline survey. The last column displays the difference between treatment and control and shows t-statistics in square brackets. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

test." We then elicit the WTP in the spirit of Marschak et al. (1964) by having respondents choose between not receiving or receiving feedback on their relative performance for a monotonically decreasing price. The first choice is between (i) not receiving the feedback or (ii) receiving the feedback and paying 50 Birr, corresponding to approximately 1 USD or about 3% of the average weekly earnings of working individuals. If a respondent chooses not to receive the feedback, we gradually reduce the cost of the feedback: first to 25 Birr, then 10 Birr, 5 Birr and finally 0 Birr (which corresponds to receiving feedback for free). The procedure is stopped when participants switch from not wanting to receive feedback on their relative assessment performance to wanting to receive feedback.[10] If respondents still prefer not to receive feedback, even at a price of 0 Birr, we reverse the offer: subjects would receive an additional payment (first 5 Birr, then 10 Birr, and finally 25 Birr) along with feedback. We therefore measure the price level at which participants would rather give up money than receive feedback. To incentivize the truthful revelation of WTP, we inform the subjects that the elicited purchase price for feedback will be implemented for a subset of individuals.[11] Further details on the elicitation and translation of instructions are provided in the Appendix B.3.

Figure 1 shows the elicited demand for feedback. We see that demand is generally high but elastic. On average, job seekers are willing to pay 23 Birr for feedback. However, there is substantial heterogeneity between job seekers. About 71% of job seekers have a positive WTP, while 29% are not willing to pay for performance feedback, with 15% even having a negative WTP, so they have to be paid to receive feedback.[12]

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[10]As a substantial part of the sample demanded feedback even at the highest price, we adjusted the price list for a subsample to start with 200 Birr.

[11]Payout is implemented by adjusting each individual's lump-sum payment based on their willingness to pay (WTP) for feedback. If they had a positive WTP, we deduct that amount. If they had a negative WTP, we add that amount.

[12]In Appendix Table A.3, we explore the correlates of demand for feedback. We find that sociodemographic characteristics, including gender, personality traits, and skills beliefs, are associated with the demand for information in our context. Uncertainty about one's own relative ability is not associated with demand for feedback.

Figure 1: Demand for Feedback
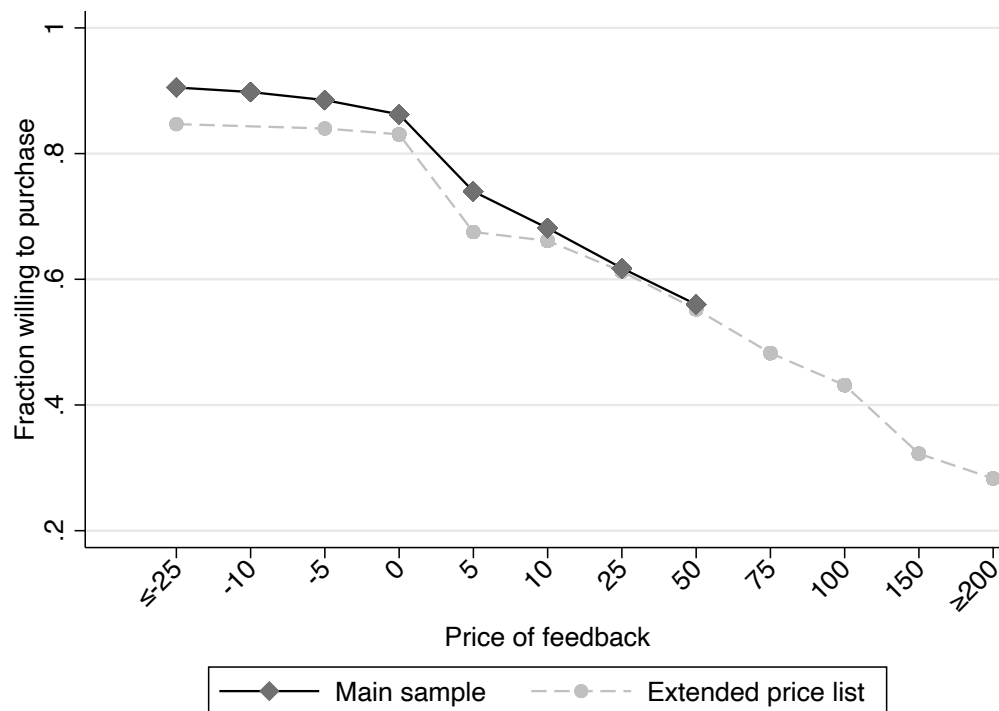
Notes: **Figure 1 displays the elicited demand for feedback .** The y-axis indicates the fraction of individuals demanding feedback about their relative performance on an assessment of general intelligence at a given price in Ethiopian Birr. The main sample consists of all baseline individuals. The auxiliary sample measured willingness-to-pay for feedback in the same population with an extended price list (N=431).

We validate the elicited WTP as a meaningful measure of demand for feedback by showing its predictive validity in the field in two ways. First, in an auxiliary sample of 437 participants, individuals were given the opportunity to actively take up the feedback or to deny it instead of being provided with it. In this "choice" sample, the elicited WTP is positively correlated with the actual take-up of feedback, thus being predictive for revealed behavior (Appendix Table B.1). Moreover, WTP is positively correlated with the INCOM measure, a psychometric tool that captures social comparison tendencies (Gibbons and Buunk, 1999).

Figure 2: Overview of Experimental Design
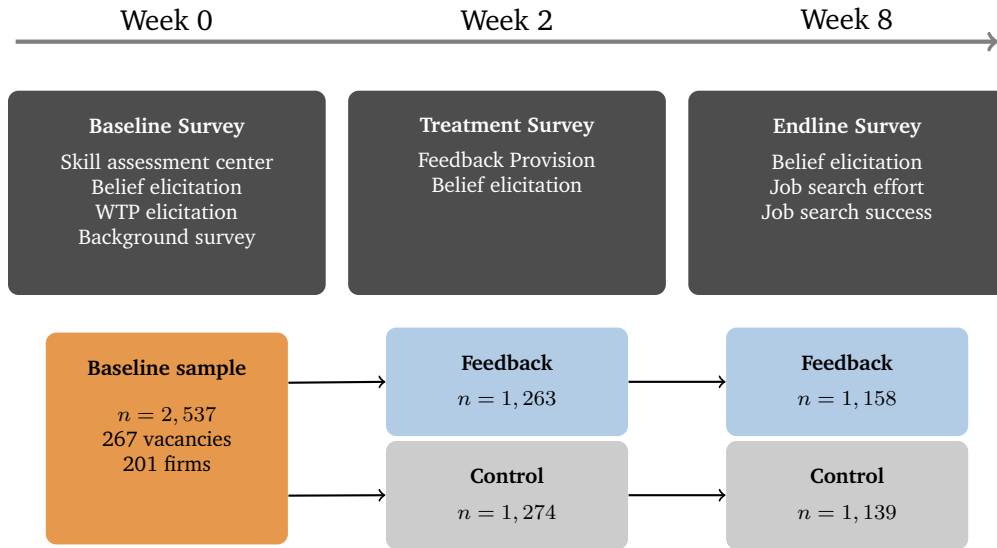
Notes: **Figure 2 displays the study timeline and sample sizes.**

2.2 Experimental Design

We use the elicited ability, beliefs, and WTP to examine the heterogeneous effect of experimentally varying feedback on the relative ability. Figure 2 displays the timeline of the field experiment. We re-contact participants by telephone approximately two weeks after they participated in the assessment center. As part of this *treatment survey*, we conduct our intervention which provides feedback to a random subgroup of individuals. Approximately 8 weeks after the initial screening, we contact the subjects for the second time by telephone to measure beliefs and job search behavior in the *endline survey*. In the following, we describe in more detail the data collected in each of the surveys, as well as the treatment that is provided in the second survey.

2.2.1 Treatments and Treatment Survey

About two weeks after the initial assessment center, job seekers are contacted for the treatment survey. For this survey, we randomly assign participants to a treatment and a control group using a weekly batch randomization strat-

egy.[13]

Job seekers in the treatment group receive information about their relative ability compared to other job seekers and whether their relative performance was better or worse than their expected relative performance, using their self-assessed beliefs from the baseline as a reference. Job seekers in the control group do not receive feedback. We provide feedback to the treatment group using the following script:

> *"[X] out of 10 people were as good as you or performed better than you in the same test on general intelligence. In other words, [10 - X] out of 10 people performed worse than you on the same test. This means that you performed [WORSE/SAME/BETTER] than you expected on this test."*

To ensure that the information is understood and to alleviate the concern that subjects might avoid the information by not listening to the enumerator, we ask participants to repeat the information about how many out of the 10 individuals in the comparison population performed worse. If any participant cannot state the information correctly, the information is explained again by the enumerator.

After the treatment module, we elicit job search plans and expectations for all participants. At the end of the survey, we also obtain measures of their beliefs about their ability relative to current job seekers.

2.2.2 Endline Survey

Approximately six weeks after the treatment survey, we contact all participants by phone, including both treatment and control groups. This survey again focuses on questions about job search, labor market expectations, and employment outcomes. We use these measures to construct our main outcomes of search effort and success indices. In addition, we elicit recall of the

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[13]We stratify the sample in weekly batches by baseline overconfidence and sign of WTP to improve balance across key heterogeneity dimensions that we aim to study.

provided information in the treatment group. For this purpose, we incentive job seekers to recall the exact relative decile rank they were informed about in the treatment survey. More details are provided in Appendix B.5.

Attrition   The level of attrition in our sample is low. Of the 2,537 individuals in our baseline sample, we managed to contact 2,297 individuals at endline, which leads to an attrition rate of 9% (Appendix Table A.4). There are no significant differences in attrition for any of the subgroups considered in the study.

3   The Effects of Feedback Provision

In this section, we present the results of providing feedback on job seekers' beliefs and behavior. More specifically, we study three pre-specified questions. First, we study the average effect of feedback provision on beliefs, job search behavior, and job search outcomes. From a classical economic perspective, feedback should unilaterally increase individuals' accuracy of beliefs about their own ability, allowing people to make better-informed decisions. For instance, in the context of job search, this could mean adjusting individuals' search effort by changing the number of applications they submit.

Second, we study how job seekers who are initially overconfident about their assessment results react differently to the provided feedback than job seekers who are initially underconfident. Overconfident individuals receive information to which they are expected to update their beliefs negatively. In addition, the information may be emotionally discouraging. Underconfident individuals receive information to which they are expected to update their beliefs positively. In addition, the information may be perceived as encouraging. Based on previous evidence, we may expect asymmetric responses to "good news" among the underconfident and "bad news" among the overconfident (Eil and Rao, 2011, Zimmermann, 2020).

Third, we study how job seekers who report a positive WTP for feedback react differently to feedback than job seekers who report a zero or negative WTP. The effect direction is ambiguous a priori. Higher WTP may reflect a greater perceived usefulness of the information for job search decisions, leading to stronger reactions. Conversely, negative WTP may indicate a perceived threat, such as to motivated beliefs, suggesting strong reactions when the information is provided regardless. Finally, WTP may also reflect non-labor market-related factors, such as the expected ego-based utility derived from encouraging or discouraging information. In this case, WTP may interact with overconfidence in moderating the effect of feedback, which we will analyze in Section 4.

We investigate job seekers' reactions to the provided information across three separate outcome families. First, we examine how information provision affects subjective beliefs about relative ability, both shortly after treatment and at endline, considering heterogeneous recall as a potential mechanism. Next, we assess the effects of the treatment on job search effort and job search success during the endline survey.

3.1 Empirical Strategy

We estimate the average effect of our feedback treatment using the following regression equation:

$$y_i = \alpha_0 + \alpha_1 T_i + \delta X_i + \rho_v + \varepsilon_i \tag{1}$$

The coefficient α_1 estimates the average treatment effect of receiving feedback on one's relative ability, denoted by T_i. We report effects on different types of outcomes y_i: (immediate and persistent) absolute biases in beliefs, job search effort, and job search success. We select the baseline control variables X_i using the post-double selection method proposed by Belloni et al. (2014).[14]

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[14]Belloni et al. (2014) applies LASSO regression in two stages: first, to select controls that predict the outcome, and second, to select controls that predict the treatment. The final

By default, we include the deciles of relative ability (as measured by the Raven's score) and fixed effects on the level of randomization strata ρ_v, defined by the week of data collection, overconfident baseline beliefs, and WTP for feedback.[15]

To examine how initially overconfident or underconfident job seekers respond differently to feedback, we estimate the following equation.

$$y_i = \beta_0 + \beta_1 \left(T_i \times I_{underconfident}\right) + \beta_2 \left(T_i \times I_{overconfident}\right) + \delta X_i + \tau_v + \varepsilon \quad (2)$$

$I_{overconfident}$ denotes a binary indicator of overconfident baseline beliefs. The indicator takes a value of one for overconfident job seekers who overestimate their true position by at least one decile rank and takes a value of zero for job seekers with accurate beliefs or who underestimate their rank. The indicator $I_{underconfident}$ measures the inverse, taking the value of one for job seekers who underestimate their rank, and zero for overconfident job seekers. To rely on a binary measure for simplicity, we additionally code job seekers with accurate beliefs as underconfident.[16] Remaining terms and fixed effects are defined as in equation 1.

Finally, to examine how job seekers with positive WTP for feedback react differently to feedback compared to those with zero or negative WTP, we estimate the following equation:

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regression includes the union of these selected controls. We select covariates from a comprehensive set of controls, including demographic variables (age, gender, post-secondary education), personality traits (Big 5, grit, Stroop score, Reading the Mind in The Eyes test, and competitiveness), previous feedback reception, baseline search behavior (hours, applications, and reservation wage), and baseline labor market beliefs (wage expectations, beliefs about the likelihood of being hired for an applied vacancy, and beliefs about the returns to job search).

[15]We pre-specified including strata fixed effects and LASSO-selected covariates. As a robustness check, we conduct a regression excluding control variables but retaining strata fixed effects for identification. These analyses confirm our results in sign, magnitude, and statistical significance. The results are presented in Appendix Tables A.5 to A.8.

[16]Correct beliefs account for just 9% of the sample. Our results are robust to excluding individuals whose beliefs align with the assessment results (Appendix Tables A.9 to A.11).

$$y_i = \gamma_0 + \gamma_1 \left(T_i \times I_{WTP>0} \right) + \gamma_2 \left(T_i \times I_{WTP \leq 0} \right) + \delta X_i + \phi_v + \varepsilon \qquad (3)$$

$I_{WTP>0}$ denotes a binary indicator of having a positive WTP for feedback. The indicator $I_{WTP \leq 0}$ again measures the inverse, taking the value of one for individuals who have a non-positive WTP for feedback. Remaining terms and fixed effects are defined as in equation 1.

3.2   Belief Updating and Recall

Belief Updating   We first examine how individuals update their beliefs about their relative ability in response to the treatment. Specifically, we analyze the effects of feedback on the absolute bias in beliefs during the treatment and endline surveys. We examine average effects (Equation 1), as well as heterogeneity by overconfidence (Equation 2), and WTP (Equation 3).

Columns 1 and 2 of Table 2 show that individuals who receive feedback about their relative ability update their beliefs, making them more consistent with the provided information compared to the control group. Immediately after receiving the information during the treatment survey, treated job seekers reduce their absolute deviation of beliefs from the assessment result by 0.51 deciles ($se = 0.07$, Column 1), corresponding to a reduction of approximately 13% relative to the control group mean.[17]

The effect size becomes smaller in the endline survey (Column 2), about 6 weeks after information provision, but remains significant at about 0.29 deciles or around 7% relative to the control group mean ($se = 0.07$). Thus, while the impact of receiving information about relative ability persists, the

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[17]Similar to Zimmermann (2020), we observe conservative updating, with individuals not entirely aligning their beliefs with the information provided. This conservative updating can be explained by several factors. First, even under perfect Bayesian updating, beliefs would only shift in the signal's direction, with the magnitude depending on the precision of prior beliefs and the signal. In addition, we elicit post-treatment beliefs relative to current job seekers, whereas feedback is provided relative to past job seekers. Despite the strong correlation between the two (Appendix Figure A.3), respondents may perceive treatment information as distinct.

Table 2: Beliefs and Feedback

| Timing: | Absolute deviation of beliefs | | | | | |
	Treat. (1)	Endline (2)	Treat. (3)	Endline (4)	Treat. (5)	Endline (6)
Feedback	-0.51*** (0.07)	-0.29*** (0.07)				
Underconfident × Feedback			-0.51*** (0.12)	-0.24** (0.12)		
Overconfident × Feedback			-0.50*** (0.09)	-0.31*** (0.09)		
WTP > 0 × Feedback					-0.48*** (0.09)	-0.20** (0.09)
WTP ≤ 0 × Feedback					-0.57*** (0.14)	-0.51*** (0.13)
Control Mean	3.91	4.22				
— Underconfident			2.25	2.27		
— Overconfident			4.69	5.15		
— WTP>0					3.88	4.20
— WTP≤0					3.99	4.27
Δ effect			0.017 (0.151)	-0.071 (0.150)	-0.085 (0.167)	-0.307** (0.156)
Δ rel. effect			0.122** (0.056)	0.045 (0.055)	-0.018 (0.042)	-0.071* (0.037)
N	2,537	2,297	2,537	2,297	2,537	2,297

Notes: **Table 2 shows treatment effects on the absolute deviation of belief deciles from the assessed skill level.** Columns 1, 3, and 5 show effects on beliefs elicited in the treatment survey after treatment administration. Columns 2, 4, and 6 show effects on the same measures at endline four to six weeks after treatment. Columns 1 and 2 show average treatment effects. Columns 3 and 4 show effect heterogeneity by baseline confidence. Columns 5 and 6 show effect heterogeneity by whether individuals report a positive WTP for feedback. Specifications include control variables selected using LASSO and stratification fixed effects. Robust standard errors are shown in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

extent to which beliefs are adjusted in response to the information diminishes over time.[18]

We observe similar reductions in the absolute deviation in both treatment and endline survey for initially overconfident and underconfident individuals (Columns 3 and 4). For underconfident individuals, this leads to an upward revision of their perceived ability, whereas overconfident individuals adjust their perceived ability downward.

Although the absolute effects are similar, the relative effects differ significantly. At baseline, the belief deviation is smaller among underconfident individuals, as overconfident individuals tend to overestimate their ability more strongly than underconfident individuals underestimate theirs. Consequently, the relative treatment effect is about twice as large for the initially underconfident individuals compared to initially overconfident individuals. This difference in relative treatment effects is statistically significant ($\Delta = 12\%$, $se = 6\%$). However, by the endline survey, this difference decreases to an statistically insignificant 4% ($se = 6\%$).[19] Appendix Figure A.4 visualizes the differential response of overconfident and underconfident individuals to the treatment non-parametrically.

With respect to WTP, we observe that feedback provision led to a correction of belief deviations for both WTP groups (Columns 5 and 6). Immediately after treatment, individuals with positive and negative WTP updated their beliefs to a similar extent, both in absolute terms ($\Delta = -0.085$, $se = 0.167$) and relative terms ($\Delta = -1.8\%$, $se = 4.2\%$). However, by the endline survey, we find a significantly stronger adjustment among individuals with a negative WTP, both in in absolute terms ($\Delta = 0.308$, $se = 0.156$) and relative terms ($\Delta = 7.1\%$, $se = 3.7\%$), suggesting greater persistence of belief updating among those who initially sought to avoid the information.

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[18]We cannot rule out that persistent effects are confounded by differential search patterns and labor market experiences among the treated and untreated, as described in Section 3.3.

[19]In a robustness check, we exclude individuals whose prior beliefs perfectly align with the provided information, and thus cannot further reduce their belief deviation. We find a more pronounced difference of 14% ($se = 7\%$) (Appendix Table A.9). However, we still do not observe discernible differences at the endline.

Figure 3: Incentivized Recall

Recall of Information   We further investigate to what extent potentially selective recall can account for the heterogeneous and diminishing effects of feedback on belief updating. Individuals may simply forget the information over time. However, this forgetting may or may not be selective, thereby systematically serving the formation of beliefs.

To examine such heterogeneity, we obtained incentivized recall measures of the treatment information during the follow-up survey for the treatment group. Panel A of Figure 3 shows the distribution of recall error for overconfident and underconfident individuals in the treatment group. While a substantial number of participants in both groups correctly recall the information, underconfident individuals demonstrate higher recall accuracy. Specifically, 58% of underconfident individuals accurately remember the provided information, compared to only 40% of initially overconfident individuals. This difference is statistically significant (Appendix Table A.6), but becomes insignificant when it is conditioned on observable variables, including skill levels (Column 2).

We provide additional evidence on recall heterogeneity by WTP in Panel

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B of Figure 3. Consistent with the more persistent belief updating observed among individuals with a negative WTP, we find that these individuals have higher recall accuracy. The likelihood of correctly recalling the information increases from 42 percentage points for individuals with a positive WTP to 53 percentage points among individuals with a negative WTP ($p < 0.01$; Appendix Table A.6). This difference remains statistically significant even when controlling for vacancy fixed effects and other controls (Columns 4, 6, and 8).

Discussion   Taken together, we observe strong evidence that individuals update their beliefs about their relative ability in response to our intervention. This effect is relatively stronger for underconfident individuals and belief changes are more persistent for those with a non-positive WTP.

The observed patterns in belief updating and recall align with a 'good news, bad news' effect driven by the selective recall of provided information. Our results provide field evidence that complements earlier findings from laboratory experiments: individuals who receive positive information about themselves are more likely to persistently incorporate this information into their beliefs (Eil and Rao, 2011). The higher rates of correct recall observed among underconfident individuals suggest that selective recall may serve as a mechanism to maintain unrealistic self-assessments of ability. Zimmermann (2020) demonstrates in a laboratory setting that the effects of negative feedback, unlike positive feedback, are substantially mitigated over time, a discrepancy explained by significantly lower precision in recalling negative feedback. Similarly, recent findings by Huffman et al. (2022) show that managers have asymmetric memories regarding past performance.

The analysis of heterogeneity by WTP reveals a surprising result: while individuals show similar immediate belief updates, those with a non-positive WTP update their beliefs more persistently at the endline and recall the information more accurately. This speaks against WTP mainly reflecting the informational value of feedback. Instead, we further observe a higher certainty about their beliefs among those with a positive WTP (Appendix Table

A.3, $p = 0.13$ and $p = 0.24$ without and with controls, respectively). Taken together, these findings may suggest an alternative explanation: individuals try to avoid feedback because they struggle to forget information. In a way, they are sophisticated about their lack of the ability to engage in selective recall to forget information that might threaten their motivated beliefs.

3.3   Job Search Behavior and Success

In this section, we examine the effects of our intervention on job search behavior. Specifically, we analyze effects on indicators of job search effort and job search success built on information from the endline survey. Again, we examine average effects (1), as well as heterogeneity by overconfidence equation 2), and WTP (equation 3).

Search effort   We start by analyzing the effects of information provision on job search effort. For this purpose, we construct a job search effort index following Anderson (2008), which comprises four components: whether the respondent searched for a job, the number of days spent searching, job search expenditures (all elicited for the last seven days), and the number of job applications submitted since the treatment survey. Columns 1 to 3 of Table 3 display the results. Treated individuals experience a 0.08 standard deviation increase in their effort index ($se = 0.04$).[20]

This positive effect is predominantly driven by underconfident individuals, who exhibit a significant increase of 0.20 standard deviations ($se = 0.08$) in search effort (Column 2). Overconfident individuals display a small and statistically insignificant change in their search effort, with a point estimate of 0.02 standard deviations ($se = 0.05$). The difference in effects between the two groups is statistically significant ($\Delta = 0.18$, $se = 0.09$). These results

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[20]With these effects on search effort we differ from related findings by Kiss ⓡ al. (2023) who find effects of skill information on horizontal targeting but not search effort. The difference between our findings may be due to differences in dimensionality: while Kiss ⓡ al. (2023) simultaneously provide information about several skill dimensions, we focus on one single skill dimension of cognitive ability, which makes the overall skill level more salient and does not necessarily give rise to considerations of comparative skill advantages.

Table 3: Job Search Behavior and Success

	Search effort index			Search success index		
	ATE	Conf. het.	WTP het.	ATE	Conf. het.	WTP het.
	(1)	(2)	(3)	(4)	(5)	(6)
Feedback	0.08*			-0.02		
	(0.04)			(0.04)		
Underconfident × Feedback		0.20***			0.09	
		(0.08)			(0.07)	
Overconfident × Feedback		0.02			-0.07	
		(0.05)			(0.05)	
WTP > 0 × Feedback			0.11**			0.00
			(0.05)			(0.05)
WTP ≤ 0 × Feedback			0.01			-0.06
			(0.08)			(0.08)
Δ effect		0.18**	0.10		0.16*	0.06
		(0.09)	(0.09)		(0.09)	(0.09)
Mean outcome	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
N	2,297	2,297	2,297	2,297	2,297	2,297

Notes: **Table 3 displays treatment effects on search behavior and outcomes at endline.** Columns 1 to 3 show treatment effects on an Anderson (2008) search effort index of four components: any search in the last 7 days (dummy), number of days searched in the last 7 days, expenditures on job search in the last 7 days, and the number of job applications submitted since the treatment survey. Columns 4 to 6 show effects on an Anderson (2008) labor market success index of four components: number of job offers since treatment survey, a work in the last 7 days dummy, hours worked in the last 7 days, and earnings in the last 7 days. Columns 1 and 4 display average treatment effects. Columns 2 and 5 display effects by prior beliefs. Columns 3 and 6 display effects by whether individuals report a positive WTP for feedback. Specifications include control variables selected using LASSO and stratification fixed effects. Robust standard errors are shown in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

suggest that our intervention has the potential to benefit initially undercon-
fident individuals without demotivating initially overconfident ones. In ad-
dition, the pattern in effects on search effort is consistent with the stronger
relative effects observed in the reduction of biased beliefs for initially under-
confident individuals.

Column 3 shows heterogeneity by WTP for feedback. We find a positive
effect for job seekers with a positive WTP ($\gamma_1 = 0.11sd$, $se = 0.05$), while
there is no effect on those with a non-positive WTP ($\gamma_2 = 0.01sd$, $se = 0.08$). The difference between the two groups is not significant ($\Delta = 0.10$
standard deviations, $se = 0.09$), but the magnitude is sizable. Different
from the heterogeneity by overconfidence, this pattern does not reflect the
respective patterns of belief updating (Column 5, Table 2). We will revisit
this discrepancy in Section 4, where we examine how WTP interacts with
initial levels of overconfidence to create these patterns.[21]

Labor market success   To examine the extent to which changes in search
effort translate into increased job search success, we construct a job search
success index following Anderson (2008). This index includes the number
of job offers (since the treatment survey), a binary indicator for employment
status, and earnings (winsorized at the 99th percentile) and hours worked
(all measured over the last seven days).

Qualitatively, we find similar patterns in job search success as we found
for job search effort, yet these remain insignificnant. We observe a positive
effect on job search success for underconfident individuals, which remains
statistically insignificant ($\beta_1 = 0.09$, $se = 0.07$), but substantially larger than
the impact on overconfident job seekers ($\beta_2 = -0.07$, $se = 0.05$). The dif-

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[21]Appendix Table A.12 presents the effects on each component of the search effort index.
We find that the positive effects on the search index are not driven by increased monetary
expenses but rather by more time spent and more job applications submitted. In particular,
our results show that the intervention, on average, increased the number of applications by
0.61 ($se = 0.27$), with increases of 1.31 ($se = 0.43$) for underconfident individuals and 0.64
($se = 0.35$) for job seekers with positive WTP, respectively. We also observe an increase
in the number of days spent searching and, specifically for the underconfident group, a 5
percentage point increase in the fraction of individuals engaged in job searching.

ference of 0.16 standard deviation is statistically significant at the 10% level ($se = 0.09$).

For heterogeneity by WTP, we qualitatively observe a similar difference as for job search, with a zero effect for individuals with a positive WTP and a negative effect on job search success for individuals with a negative WTP. However, point estimates and the difference of 0.06 standard deviations ($se = 0.09$) remain insignificant.[22]

Discussion Taken together, the average effects on job search effort and success, as well as the observed heterogeneity by initial overconfidence, reflect the effects on belief updating. A small but significant increase in effort among treated individuals is primarily driven by those who were initially underconfident, supporting an interpretation consistent with a "good news/bad news" pattern: underconfident individuals who receive encouraging feedback update their beliefs more substantially and, in turn, increase their effort, which also increases success. Similar differential responses to good versus bad news have been documented in various field settings (e.g., Karlsson et al., 2009, Sweeny et al., 2010, Oster et al., 2013), though not specifically for labor market behavior. The effects of the treatment on job search success exhibit a qualitatively similar pattern but remain insignificant, possibly due to the limited time that elapsed between the treatment and the endline survey. We find little evidence on systematic heterogeneity by WTP, with stronger effects for individuals with positive WTP, which we will re-examine in the following section.

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[22]Appendix Table A.13 presents results on each component of the success indicator. The positive effects for underconfident individuals are primarily driven by an increase in earnings. Underconfident individuals experience an increase in earnings of 127 Birr ($se = 72$), which is significantly higher compared to overconfident individuals ($\Delta = 185$, $se = 86$). Furthermore, the treatment impact on earnings differs also between individuals with positive and non-positive WTP, with a difference of 139 Birr ($se = 82$) in earnings. The effects on other components are smaller and not statistically significant, though the differences between groups are generally positive and sizable relative to the control mean.

Further heterogeneity We find limited evidence of further heterogeneity in treatment effects on search effort or success. Appendix Table A.14 shows that the treatment effects do not differ significantly by sex, age, or education level. None of the observed differences are statistically significant, most are small in magnitude, and the signs are inconsistent across outcomes. Although younger individuals increase their search effort by 0.11 standard deviations ($se = 0.05$), suggesting that the information may be more beneficial for less experienced individuals, this increase does not translate into improved labor market success.

4   Treatment Effects by Demand for Feedback and Confidence

The previous section provided evidence that both overconfidence and job seekers' WTP for feedback separately predict treatment effects on search behavior and, to a lesser extent, success.

We now explore in how far confidence and WTP *interact* in shaping individual responses to the provided information. Whether a job seeker is initially over- or underconfident is endogenous in our context, and may be partially determined by selective information acquisition. The combination of baseline beliefs and willingness to pay may thus be indicative of different types of job seekers differing in specific motives behind feedback-seeking. They might, for example, differ in how much they perceive the offered information as relevant for their job search decisions, or whether they might perceive information as being ego-relevant. These different motives might lead to different responses to the information.

For our analysis, we categorize job seekers into four distinct groups based on the heterogeneity dimensions examined in the previous section: their initial confidence (underconfident vs. overconfident) and their WTP for feedback (positive WTP vs. negative WTP). Appendix Table A.15 provides an overview of these four groups. Almost a quarter of the sample (23%) exhibits

underconfident beliefs and a positive WTP, meaning that feedback would be potentially encouraging for this group. In contrast, 19% show overconfident beliefs and a negative or zero WTP, which means they would avoid discouraging information. The largest group (49%) combines overconfidence with a positive WTP, reflecting the sample's high average WTP and overall overconfidence. Finally, a small group (10%) exhibits underconfident beliefs and a negative WTP.

Empirical specification We estimate separate treatment effects according to a combined version of equations 2 and 3, further distinguishing both overconfident and underconfident individuals by their WTP:

$$y_i = \phi_1 \left(\mathbf{T_i} \times I_{overconfident}^{WTP>0} \right) + \phi_2 \left(\mathbf{T_i} \times I_{underconfident}^{WTP>0} \right) + \phi_3 \left(\mathbf{T_i} \times I_{overconfident}^{WTP<=0} \right)$$
$$+ \phi_4 \left(\mathbf{T_i} \times I_{underconfident}^{WTP<=0} \right) + \delta\, X_i + \gamma I + \rho_v + \varepsilon$$

$$(4)$$

The coefficients ϕ represent estimates of the effects of the treatment in the respective subgroups.[23] Although not prespecified, this analysis naturally extends our prespecified heterogeneity analysis along both WTP and initial confidence levels.

4.1   Treatment effects

We start with directly presenting treatment effects on search effort and success, delegating results on belief updating as a potential mechanism to the discussion section. Heterogeneous effects by both initial overconfidence and willingness to pay reveal that the impact of the treatment on search effort is exclusively driven by initially underconfident individuals who show a posi-

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[23]Appendix Table A.15 displays the four groups that we use for the analysis with their corresponding sample sizes and shares. As demonstrated in Appendix Table A.3, there is only a weak positive correlation between overconfidence and WTP for feedback. That means that our subgroup analysis is reasonably powered, with the possible exception of the underconfident, non-positive WTP group which only consists of 224 individuals. Hence, we interpret the results for this group with caution.

tive willingness to pay for feedback (Column 1, Table 4). Individuals exhibit a 0.23 standard deviation increase in search effort ($se = 0.09$) in response to the information, while treatment effect estimates in the other three groups remain small (ranging from -0.06 to 0.04 standard deviations) and statistically insignificant. The treatment effect for underconfident individuals with positive WTP further exceeds the pooled treatment effect for the other three groups by 0.20sd ($se = 0.10$). This pattern also holds for nonbinary measures of confidence: Appendix Figure A.5 shows that the treatment effect increases in the degree of underconfidence of the individuals. However, there is no relationship between the baseline bias of beliefs and the size of the search effort treatment effect among the overconfident. Underconfident individuals with a high WTP also show the strongest effects in most components of the effort index (Appendix Table A.16).

The treatment effects on job search success (Column 2, Table 4) are also driven by initially underconfident individuals with a positive WTP, aligning with the effects on effort. We observe a positive treatment effect on search success of 0.17 standard deviations in this group ($se = 0.08$), whereas treatment effect estimates for the other groups are negative but insignificant throughout, ranging from -0.03 to -0.16 standard deviations. Consequently, the treatment effect for underconfident individuals with a positive WTP is 0.23 standard deviations higher than the combined treatment effect in the other groups ($se = 0.10$).

The analysis of the individual components of the search success index (Appendix Table A.17) reveals that these positive effects among underconfident individuals with a positive WTP are driven by both a 4 percentage point increase in offers and employment ($se = 0.03$ for both) and a substantial increase of 174 Birr in earnings ($se = 97$). The relative effect sizes for those measures are large, ranging from 20% of the control mean for employment to 57% for unconditional earnings. This earnings effect remains substantial at 31% of the control when conditioning on individuals who work (497 Birr, $se = 402$, Column 2 of Appendix Table A.18), indicating that treated individuals are moving to better-paid jobs rather than merely increasing em-

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Table 4: Main Treatment Effects by WTP and Confidence

	Search effort index	Success index
	(1)	(2)
UC & pos WTP	0.23**	0.17**
	(0.09)	(0.08)
UC & non-pos WTP	-0.06	-0.16
	(0.14)	(0.14)
OC & pos WTP	0.04	-0.03
	(0.06)	(0.06)
OC & non-pos WTP	0.03	-0.08
	(0.09)	(0.10)
UC & pos WTP - Other	0.20**	0.23**
	(0.10)	(0.10)
N	2,297	2,297

Notes: **Table 4 shows that positive treatment effects on search effort and success are driven by underconfident individuals with positive WTP for feedback.** Rows display treatment effect estimates obtained using equation 4. "UC & pos WTP - Other" displays the difference in treatment effect between underconfident individuals with positive WTP for feedback and the rest of the sample. Column 1 shows effects on a search effort index described in Table 3. Column 2 shows effects on a search success index also described in Table 3. Specifications include control variables selected using LASSO and stratification fixed effects. Robust standard errors are shown in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

ployment at the extensive margin. Appendix Figure A.6 shows that this effect is driven by increases in the top quartile of the earnings distribution, but not by outliers.

The earnings effect seems to some extent be driven by an increase in the number of days worked, though imprecise estimates make this analysis more speculative. We observe an unconditional increase in the number of work days by 0.15 days (15% of the control mean, $se = 0.17$, Column 3 of Appendix Table A.17), and earnings per day worked increase by 39 Birr (10% of the control mean, $se = 118$, Column 3 of Appendix Table A.18).

While the earnings effects are large, they are only slightly above those found in Carranza et al. (2022) and Kiss ⓡ al. (2023), who report increases

in earnings of 16 ihs-points and 26% of the control mean, respectively.

We also find suggestive evidence that overconfident individuals with a non-positive WTP exhibit negative effects on earnings, both conditional and unconditional on working. Unconditionally, they earn 147 Birr less ($se = 89$), and conditionally on working, the negative effect increases to 591 Birr ($se = 355$). We caution against overinterpreting these results due to small sample sizes and the lack of significant index effects; however, this pattern suggests that feedback on skills in principle may negatively impact certain individuals, particularly those with a non-positive WTP.

Search effort and earnings The findings reveal that for underconfident individuals with a positive WTP the search effort as well as earnings increase. The fact that earnings also increase can potentially be explained by two mechanisms. First, job seekers receive more job offers due to their increased job search effort, for example, they increase the number of applications sent. This increase in offers allows them to be more selective in the jobs that they accept. Second, they might target higher-paying jobs in line with their updated beliefs about their relative skill. To shed further light on this, we analyze the returns to applications and targeting of applications and find suggestive evidence in favor of the first but not the second explanation.

Column 1 of Appendix Table A.19 shows that, for underconfident individuals with positive WTP, the returns to each application remain relatively unchanged ($\alpha_1 = 0.003$; $se = 0.008$). However, we observe an increase in the fraction of individuals who reject a job offer by 2 percentage points ($se = 1.9$; Column 2).[24] This is a sizable increase of 53% relative to the control mean of 0.038, but it is not statistically significant. Yet, this provides suggestive evidence that underconfident individuals with positive WTP were more selective in deciding which jobs they accepted.

We find no evidence for the second explanation of jobs being differen-

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[24]This measure is imputed, as we do not directly observe the number of rejected job offers. Specifically, employed individuals are coded as having rejected an offer if they have received two or more job offers. In contrast, non-working individuals are coded as having rejected an offer if they have received at least one job offer.

tially targeted. During the treatment survey, we asked individuals about the level of general intelligence required for the jobs that they plan to apply for on a five-point Likert scale. Column 7 of Appendix Table A.19 shows no effect on this targeting measure ($\alpha_1 = 0.001$sd; $se = 0.089$) . We also find insignificant impacts that are small relative to the control mean on wage expectations ($\alpha_1 = -289.5$ Birr; $se = 432$; control mean 9223; Column 4) and reservation wages ($\alpha_1 = -118$ Birr; $se = 214$; control mean 5723; Column 8). Overall, these results suggest that the positive effect observed for underconfident individuals with a positive WTP is more likely due to receiving more job offers and subsequently rejecting some, rather than a result of differential targeting of jobs.[25]

4.2 Drivers of Heterogeneity

The above results reveal that average effects on job search behavior and success mask substantial heterogeneity between groups. Specifically, positive treatment effects are concentrated among initially underconfident individuals who exhibit a positive WTP for feedback. This group receives encouraging information about their abilities, which leads them to increase their effort in terms of days spent searching and the number of applications sent. As a result, they are more likely to secure employment, often in better-paid jobs. In contrast, neither initially overconfident individuals (irrespective of WTP) nor the small subset of underconfident individuals with negative WTP display changes in job search behavior or outcomes.

To explore why underconfident individuals with a negative WTP do not respond to similar feedback and why overconfident individuals maintain their effort levels regardless of feedback, we propose two potential explanations. First, given that neither overconfidence nor WTP was experimentally manipulated, the observed heterogeneity may stem from pre-existing group

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[25]We also observe some changes in wage expectations and reservation wages and offer rejection for underconfident individuals with a negative WTP, which do not translate into employment effects. However, we are careful in interpreting these results due to the small cell size ($N = 224$) and the imprecise nature of our results.

differences that influence the effectiveness of the belief manipulation. Second, differences in the mechanisms activated by the feedback intervention may contribute to the divergent behavioral responses across groups.

Baseline differences across groups We start by examining how beliefs and WTP are explicitly and implicitly related to individuals' perceived usefulness of skill feedback for job search at baseline. To this end, we document differences in self-reported reasons for positive or negative WTP for feedback as elicited during the baseline assessment. For positive WTP, we asked whether it was motivated by informational motives — linking beliefs about ability directly to job search behavior — or by ego-related motives, which reflect an inherent utility from simply knowing one's relative standing in the population. For negative WTP, we asked whether individuals were already confident in their ability (also signaling ego-related motives) or perceived the feedback as unreliable or unnecessary.

Table 5 shows that whether positive WTP for feedback signals informational value differs by initial confidence. Among individuals with a positive WTP, the initially underconfident — the group driving our results — are 7 percentage points more likely to mention informational motives than overconfident individuals. In other words, they are more likely to seek feedback to inform their job search decisions. Among individuals with a non-positive WTP, we instead observe that the initially underconfident are less likely to mention informational motives. We do not observe differences in ego-related reasons by initial overconfidence, regardless of the level of WTP. These results suggest that the subgroup driving our findings — those who are underconfident but have a positive willingness to pay — distinctively perceive the provided information as particularly informative for their job search decisions.

To further explore heterogeneity in the relevance of information, we investigate the extent to which baseline beliefs about relative ability — the belief dimension directly influenced by feedback — differentially predict expected returns to job search across groups defined by willingness to pay and

Table 5: Stated Reasons for WTP

	WTP > 0		WTP $<= 0$	
	(1)	(2)	(3)	(4)
	Ego	Information	Ego	Information
Underconfident	0.008	0.070***	-0.039	-0.062**
	(0.020)	(0.025)	(0.026)	(0.028)
N	1,808	1,808	729	729

Notes: **Table 5 shows that underconfident individuals with positive WTP are more likely to state that the informational value of feedback drives their WTP.** It shows the coefficients of regressions of a dummy indicating whether any ego-related motives (Columns 1 and 3) or informational motives (columns 2 and 4) were mentioned, regressed on an underconfidence dummy. The coefficients capture the difference between underconfident and overconfident individuals in each subsample. Columns 1 and 2 show results in the subsample of job seekers with positive WTP for feedback. Columns 3 and 4 show results in the subsample of job seekers with a non-positive WTP for feedback. Ego-related motives in Column 1 are "wanting to know how smart I am" and "want to know whether I am better than I thought." Informational motives in Column 2 comprise "want to know how many jobs to apply for" and "want to know which jobs to apply for". The ego-related motive in Column 3 is "might learn that I am worse than I thought." The informational motives in Column 4 are "I already know how smart I am" and "the information might be unreliable." All motives are elicited after the WTP elicitation using a select multiple question. Robust standard errors are shown in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 6: Correlation between Skill Beliefs and Expected Return to Effort

	Expected returns to effort		
	Index (inversed) (1)	# apps per interview (2)	# apps per offer (3)
UC & pos WTP × *Pre-Beliefs*	0.04***	-2.98***	-2.10***
	(0.01)	(0.86)	(0.69)
UC & non-pos WTP × *Pre-Beliefs*	0.02	-0.92	-1.48
	(0.02)	(1.05)	(1.27)
OC & pos WTP × *Pre-Beliefs*	-0.00	0.59	-0.10
	(0.02)	(1.36)	(1.60)
OC & non-pos WTP × *Pre-Beliefs*	-0.01	1.76**	-1.17
	(0.01)	(0.72)	(1.73)
UC & pos WTP - Other	2,537	2,537	2,537

Notes: **Table 6 shows that, only for underconfident individuals with positive WTP, baseline beliefs about skills are positively correlated with expected returns to search effort.** Row display the regression coefficient in each group without additional control variables. Column 1 shows correlations with an index of expected returns to sending applications (higher values indicating higher returns to effort). Columns 2 and 3 show correlations with the two index components: number of applications required per interview invitation and per job offer. Robust standard errors are shown in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

initial overconfidence. To this end, we assess whether the previously discussed differences in self-reported motivations are mirrored in mental models of the job search process. Specifically, we analyze the extent to which baseline beliefs are correlated with indicators of expected returns to search effort (Table 6). Confirming heterogeneity in self-stated reasons, we observe significant positive correlations between beliefs and expected returns to search, measured as the number of applications to secure an interview and to receive an offer, as well as an inverted index of both, only among underconfident individuals with a positive WTP for feedback. This finding aligns with this group's stated informational motives, suggesting that they view feedback as pertinent to their job search strategy and success.

Taken together, the observed heterogeneity in treatment effects, and the closely related heterogeneity in perceived information relevance are in line with a simple theoretical framework in which job seekers determine their search effort based on their expected returns to this effort. Some initially underconfident individuals perceive the offered information as highly relevant for their job search, and thus display a high positive WTP. These individuals receive positive information about their skills and revise in their beliefs about relative ability and, as a consequence, also their beliefs regarding the returns to job search. This belief adjustment motivates them to increase their search effort — such as by submitting more applications — which, in turn, improves their likelihood of securing job offers and achieving success in the labor market. In contrast, the remaining groups may still shift their beliefs about relative ability, but these beliefs are not central to their job search decisions. As a result, belief changes do not translate into behavioral adjustments for these individuals. This distinction aligns with recent theoretical work by Yang (2024), which formalizes heterogeneity in the incorporation of belief changes into subsequent actions, highlighting the conditions under which belief updates lead to significant behavioral responses.

Asymmetric Belief Updating   As alternative explanation for the observed heterogeneity in treatment effects, we test whether underconfident individ-

Table 7: Belief Treatment Effects by WTP and Confidence

	Abs deviation of belief	
	Treatment survey	Endline
	(1)	(2)
UC & pos WTP	-0.452***	-0.145
	(0.141)	(0.144)
UC & non-pos WTP	-0.675***	-0.473**
	(0.219)	(0.204)
OC & pos WTP	-0.498***	-0.222**
	(0.110)	(0.108)
OC & non-pos WTP	-0.533***	-0.528***
	(0.183)	(0.167)
UC & pos WTP - Other	0.072	0.204
	(0.165)	(0.166)
Control mean	3.912	4.219
N	2537	2301

Notes: **Table 7 show immediate and endline belief updating by WTP and beliefs.** Rows display treatment effect estimates obtained using equation 4. "UC & pos WTP - Other" displays the difference in treatment effect between underconfident individuals with positive WTP for feedback and the rest of the sample. Column 1 shows effects on the absolute deviation of post-treatment skill beliefs in the treatment survey from the measured skill decile. Column 2 shows effects on the absolute deviation of post-treatment skill beliefs at endline from the measured skill decile. Specifications include control variables selected using LASSO and stratification fixed effects. Robust standard errors are shown in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

uals with positive WTP exhibit a stronger belief updating of their relative ability than other groups, in line with documented findings on asymmetric belief updating towards favorable information (e.g., Eil and Rao, 2011, Zimmermann, 2020).

Results indicate that differences in belief updating by overconfidence, as documented in Section 3, do not differ by level of WTP immediately after information provision (Table 7). Moreover, in the endline survey, we observe a *weaker* persistence among the underconfident with positive WTP. Thus, simple differences in the degree of belief updating are unlikely to explain

the heterogeneity in treatment effects.

Additionally, we do not find meaningful heterogeneity in treatment effects on wage expectations or reservation wages across groups (Columns 4 and 8 of Appendix Table A.19) that could explain their increased job search effort and success, despite some evidence of a statistically significant effect on reservation wages for underconfident individuals with non-positive WTP. Together, these findings suggest that differences in how individuals update their wage beliefs are an unlikely explanation for the observed treatment effect heterogeneity.

5   Implications for Cost Efficiency and Targeting of Interventions

A unique feature of our setup is the elicitation of individual demand for feedback before it is given. Such a setup would, in principle, allow for targeted information provision only to those individuals who have a positive WTP for it. In the following, we demonstrate that such targeting may have implications for cost-effectiveness considerations. We also show that a targeted feedback provision would reduce, but not eliminate, the need for subsidies to scale the intervention to all job seekers with positive demand for feedback.

Overall, our current randomized implementation of the feedback intervention is not cost effective. The total average variable costs of 514.5 Birr per participant are not offset by the very small estimated average increase in weekly earnings of only 3 Birr. The total average intervention costs consist of average intervention costs of 428 Birr, of which 191 Birr accrue for screening and 237 Birr for feedback provision, primarily driven by rent and personnel costs.[26] These estimates are conservative, as the screening surveys also covered content unrelated to the intervention. Furthermore, we also in-

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[26]We exclude the fixed costs of screening the reference population to obtain the skill distribution from this calculation. These fixed costs will be negligible relative to the cost of implementing the intervention at scale. Moreover, policymakers could use pre-existing data to avoid having to collect new benchmark data.

clude in the total average intervention costs the private transportation costs of job seekers (50 Birr for the round-trip bus fare) and their opportunity cost of time (36.5 Birr, based on half-day earnings from the control group).

However, incorporating the respondents' WTP allows us to focus on an alternative, policy-relevant estimate: by considering heterogeneous demand for feedback, the intervention could be offered exclusively to individuals with a positive WTP. We examine the cost-efficiency implications of such WTP-targeted interventions under two scenarios.

First, we examine a scenario in which all individuals with positive WTP receive feedback. Among these individuals, the average effect of treatment on weekly earnings is 44 Birr (equivalent to 189 Birr per month) (Appendix Table A.13), which corresponds to 37% of the total average cost of the intervention. Such targeting does not necessarily have to rely on an ex-ante measurement of WTP. Alternatively, it can be achieved through a self-selection mechanism, where only those individuals with a positive WTP actively seek out information. Self-selection can be easily facilitated if accessing feedback requires individuals to take an active step that also involves costs (such as paying for transportation to a screening center or covering a nominal fee for participation). These individual-level costs act as a natural screening mechanism, effectively inducing the selection of those who value feedback the most.

Second, we consider a scenario in which policymakers can specifically target underconfident individuals with a positive WTP, thus targeting the particular subgroup benefiting the most from the intervention. Such a mechanism requires active ex-ante screening with respect to overconfidence and WTP, that is all job seekers with a positive WTP would participate in the screening survey. In this case, the intervention would be most cost-effective: the average variable cost per 'fully' treated individual would be (191+86.5)/0.23 + 237 = 1,443 Birr (where 0.23 is the share of underconfident individuals among the population of individuals with positive WTP (Appendix Table A.15)), as costs for feedback provision are only incurred for underconfident individuals. The impact on weekly earnings of 173 Birr makes up 48% of the

one-off cost of the intervention (Appendix Table A.17).

Our results thus provide proof of concept that the intervention becomes more cost-effective the more targeted it is, with limited need for additional screening. Once we take into account individuals' demand for information, our benefit-cost ratios align closely with estimates from similar interventions documented in the literature. Caria and Lessing (2019) report monthly earnings increases between 36% and 56% of the one-off cost, and Kiss ⓡ al. (2023) document a ratio of 61%.

In addition to enabling a more targeted analysis of cost effectiveness, the WTP measure also helps determine whether job seekers are willing to bear the intervention cost, a key factor in assessing the feasibility of private market provision. On average, job seekers with a positive WTP are willing to pay 40.92 Birr for the feedback provision. However, this amount covers only about 10% of the intervention's total average variable costs.

This gap suggests that, while individuals value the feedback, their willingness to pay falls short of the intervention's actual costs, which may explain why private market actors do not provide such services. This misalignment between individual valuations of the intervention and the cost of provision highlights the additional need for subsidies or publicly funded initiatives to address this market failure. However, while job seekers' willingness to pay is insufficient to cover the total provision cost, it almost covers the private cost of attending the screening center. Thus, the subsidies required to incentivize people to attend the screening survey would be moderate.

6   Conclusion

In this study, we document that returns to providing ability feedback are not uniform, but strongly depend on initial levels of confidence, and information demand. We conduct a field experiment among seekers in Addis Ababa, Ethiopia, in which we provide feedback about relative cognitive ability after we elicit the willingness to pay for the provided information. We document that job seekers adjust their beliefs about relative ability towards competitors

in response to the feedback provided, with asymmetric responses favoring encouraging feedback to initially underconfident job seekers. Feedback provision leads to significant increases in job search effort, with stronger effects among the underconfident and those with positive willingness to pay for the provided information. Notably, treatment effects are concentrated among initially underconfident individuals who actively desired the provided information. For this subgroup, information provision leads to higher job search effort and increased job search success. We provide suggestive evidence that the heterogeneity in treatment effects is driven by pre-existing differences in the perceived relevance of the provided information.

The result patterns we observe imply that elicited willingness to pay for information may signal different motives for information demand. Information is desired as it is perceived relevant for the job search decision, or because one may expect direct ego-utility out of it. Accounting for heterogeneity in these motives is important: If individuals demand information because they perceive the information as relevant to their job search behavior, they are more likely to adjust their behavior upon receiving the information. However, if non-instrumental motives, such as ego-related ones, drive observed WTP, providing information may not cause desired behavioral adjustments. By highlighting this relationship, we contribute to a growing literature studying the relevance of beliefs for decision-making processes (Enke et al., 2024, Charles et al., 2024, Yang, 2024). Our results suggest that future work should more explicitly explore mental models underlying information demand (similar to Andre et al., 2022, for the case of inflation expectations and economic behavior).

Our results further inform the practical design of feedback and information interventions from a policy perspective. Our findings suggest that targeting and personalizing interventions by taking into account individual demand may help to increase cost-effectiveness. In this regard, our findings help to explain a puzzle in the literature: if information interventions are highly cost-effective, why are they not offered by the private sector? We find that the job seekers' WTP for the intervention is insufficient to cover its cost.

Future work could explore why job seekers' WTP is relatively low, for example, by considering whether the low perceived information relevance may be a target parameter on its own, similar to interventions informing about the effectiveness of a treatment to shift demand (Roth et al., 2024).

Finally, our results highlight the importance of accounting for individual information demand to avoid potential negative effects on those who prefer not to receive the information. Information provision has been shown to have the potential for severe unintended consequences (Ciancio et al., 2025). Switching the default from automatically providing information to offering it for voluntary take-up may effectively leverage cost-efficient and scalable interventions while minimizing these unintended negative consequences for individuals who do not actively seek the information.

Will the effects we observe persist if skill feedback targeted at underconfident individuals with positive WTP is scaled up? Our results suggest that improved labor market outcomes are driven by increased search effort. With constant labor demand and no unfilled vacancies, this could merely redistribute job offers without raising overall employment. However, greater search effort may improve match quality by expanding the applicant pool, consistent with the observed earnings gains for underconfident individuals with positive WTP. Additionally, Hensel et al. (2023) show that many firms in Addis Ababa receive few applications, leaving vacancies unfilled. In this context, increased search effort could yield positive aggregate effects by raising the number of successful matches and enhancing match quality.

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Appendix – For Online Publication

A Exhibits

This Appendix Section contains additional exhibits referred to in the main text. Section A.1 contains additional figures. Figure A.1 shows that firms in Addis Ababa value general intelligence as a skill. Figure A.3 shows that the choice reference group does not influence the rank measure very much. Figure 3 shows the distribution of recalled information at endline by overconfidence and WTP. Figure A.5 shows how treatment effects among individuals with a positive WTP vary by confidence. Figure A.6 shows the distribution of endline earnings among underconfident individuals with a positive WTP.

Section A.2 contains additional tables mentioned in the main text. Table A.1 shows correlations of standardized Raven's scores with baseline labor market beliefs and outcomes. Table A.2 displays the correlates of overconfidence. Table A.3 displays the correlates of having a positive WTP for feedback. Table A.4 displays the treatment effects and correlates of attrition. Tables A.5 to A.8 show main treatment effects without control variables. Tables A.9 to A.11 show main treatment effects excluding individuals with initially aligned skill beliefs. Table A.12 shows the main effects on the search effort index components. Table A.13 shows the main effects on the search success index components. Table A.14 shows additional heterogeneity by gender, age, and education level. Table A.15 displays the number and share of individuals in each confidence-WTP bin. Table A.16 shows treatment effects on the search effort index components by WTP and confidence. Table A.17 shows treatment effects on the search success index components by WTP and confidence. Table A.18 shows treatment effects on the work quality conditional on working by WTP and confidence. Table A.19 shows treatment effects on additional outcomes exploring mechanisms by WTP and confidence. Table B.1 provides evidence on the validity of the WTP elicitation. Table C.1 shows treatment effect heterogeneity by updating potential, a non-binary measure of confidence.

A.1 Appendix Figures

Figure A.1: Demand for Skills

Highest ranked skill by firm
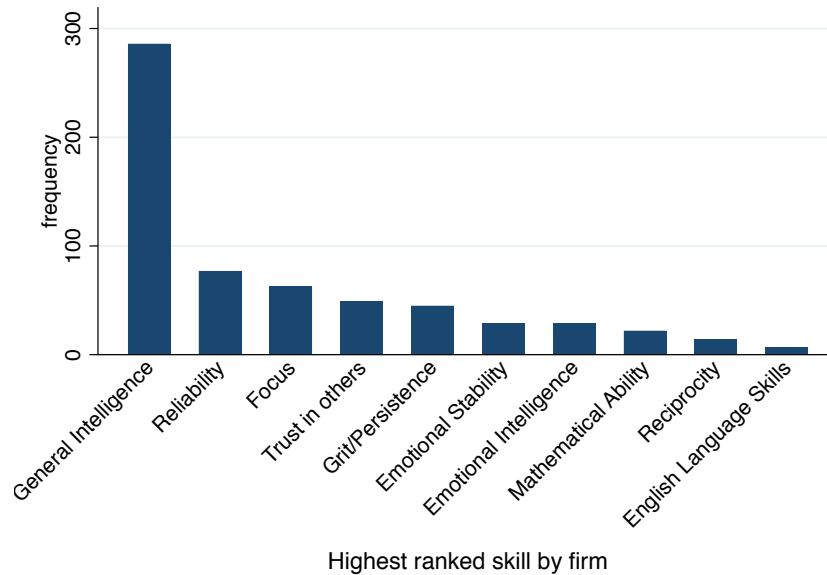
Notes: **Figure A.1 shows the ranking of cognitive and non-cognitive skills in a sample of small- and medium firms based in Addis Ababa recruited in 2019 recruited by Hensel et al. (2023)**. The sample is geographically spread out and represents both manufacturing, trade, and service sector firms. Firms are selected to have between 5 and 50 employees and to be interested in using a subsidy for formal vacancy posting (Hensel et al., 2023).

Figure A.2: Example Matrix from Raven's Progressive Matrices Test
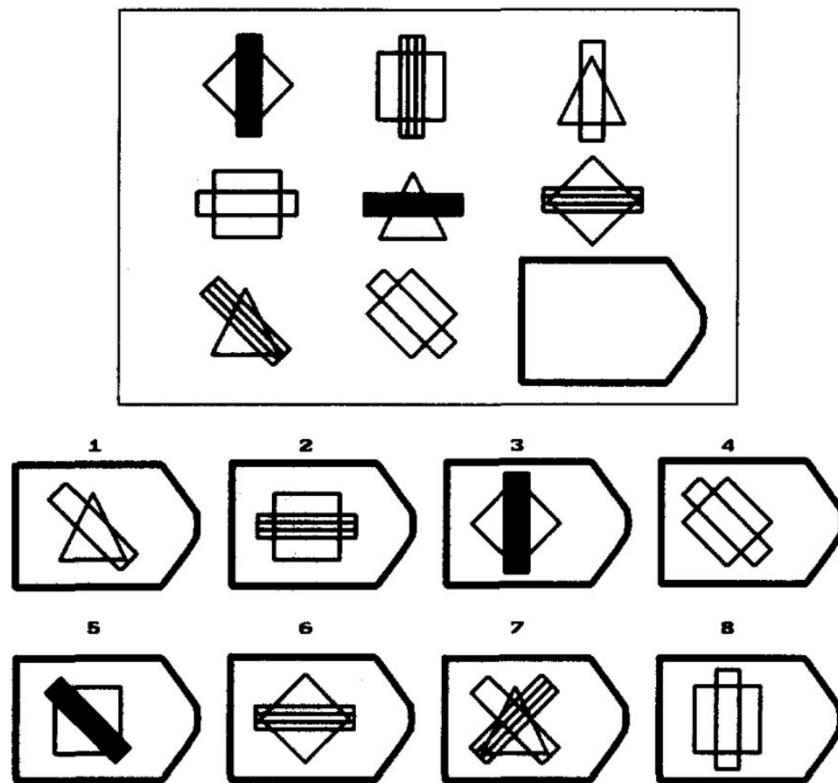
Notes: **Figure A.2** illustrates a sample problem from Raven's Progressive Matrices, a nonverbal intelligence test. The task requires identifying the missing piece that completes the pattern in the top grid from the options provided below.

Figure A.3: Ranks Among Experimental and Comparison Population

(a) Distribution
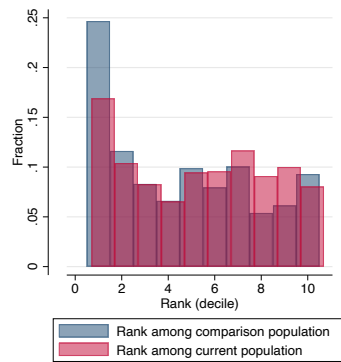
(b) Correlation
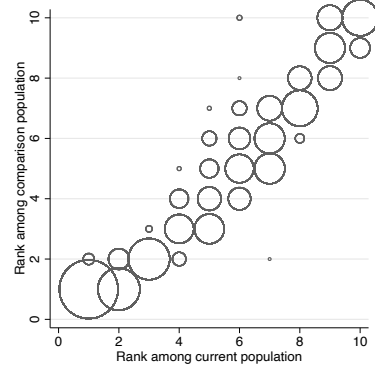
Notes: **Figure A.3 shows that decile ranks relative to our comparison sample are strongly correlated with decile ranks in our experimental sample .** Figure A.3(a) compares ranks relative to our comparison sample to ranks in the experimental sample. Figure A.3(b) shows the correlation between ranks relative to our comparison sample and ranks relative to the experimental sample. The comparison sample is based on the sample of job seekers used in Hensel et al. (2023).

Figure A.4: Non-Parametric Treatment Effects on Beliefs about Relative Ability
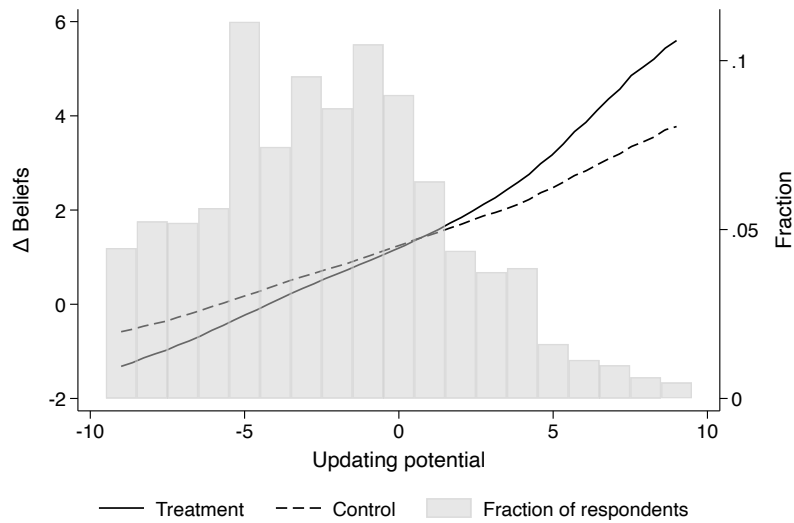
Notes: **Figure A.4 shows that treatment effects on the difference between treatment survey and baseline skill beliefs vary by updating potential.** It shows local polynomial regressions of the difference between treatment beliefs about skill decile relative to current job seekers and baseline beliefs about skill decile relative to a pre-experimental group of job seekers by treatment group. Updating potential is defined as pre-treatment beliefs about skill decile minus assessed decile. Positive values indicate underconfidence. Local polynomial regression uses an Epanechnikov kernel with a bandwidth of 2.5.

Figure A.5: Non-Parametric Treatment Effects among Individuals with Positive WTP

(a) Search effort index

(b) Search success index
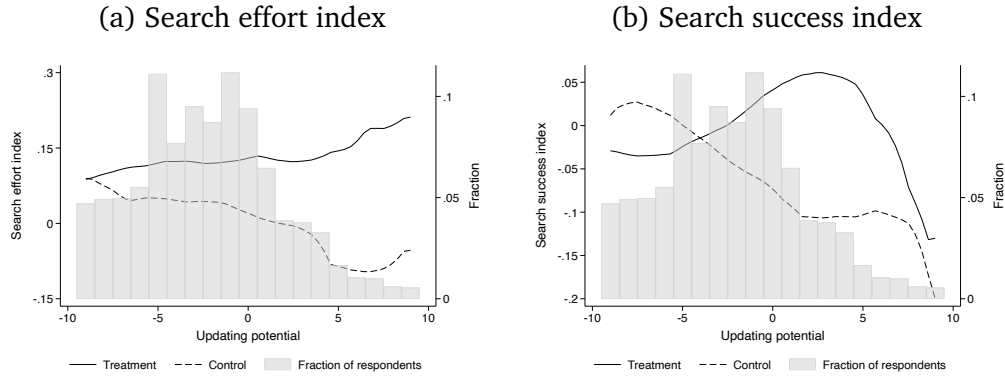
Notes: **Figure A.5 shows that treatment effects increase the degree of underconfidence among individuals with positive WTP.** It shows local polynomial regressions of search effort and success on updating potential by treatment group. Updating potential is defined as pre-treatment beliefs about skill decile minus assessed decile. Positive values indicate underconfidence. Local polynomial regression uses an Epanechnikov kernel with a bandwidth of 2.5. Figure A.5 (a) show results for the search effort index. Figure A.5 (b) shows results for the search success index.

Figure A.6: Earnings Conditional on Working Among the Underconfident with Positive WTP

(a) Cumulative distribution function

(b) Probability density function
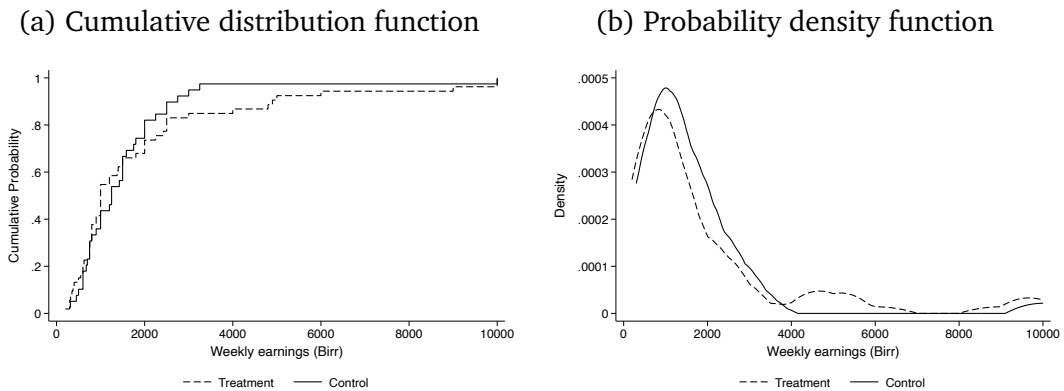
Notes: **Figure A.6 shows that positive treatment effects on earnings conditional on working among the underconfident with positive WTP are not driven by the lower and middle part of the earnings distribution.** Sample restricted to the underconfident with positive WTP who worked in the last 7 days. Figure A.6 (a) shows the cumulative distribution function of earnings in the last 7 days. Figure A.6 (b) shows the probability density function of earnings in the last 7 days.

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A.2 Appendix Tables

Table A.1: Correlates of Raven's Scores at Baseline

	Return to Effort Index		Expected wage		Reservation wage		Month ft work exp.	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Raven Score (std)	0.09***	0.06***	304.18***	256.25***	273.69***	201.47**	1.27***	1.24**
	(0.02)	(0.02)	(89.52)	(95.42)	(81.54)	(87.26)	(0.45)	(0.49)
Vacancy FE	No	Yes	No	Yes	No	Yes	No	Yes
Mean	0.00	0.00	7389.42	7389.42	6797.66	6797.66	13.58	13.58
N	2537	2459	2537	2459	2537	2459	2537	2459

Notes: **Table A.1 shows that standardized Raven's scores correlate with baseline labor market beliefs and outcomes.** Columns 1 to 2 show correlations with an Anderson (2008) index of beliefs about the returns to search effort. This index consists of beliefs about the number of required applications per interview and job offer (reverse coded). Columns 3 and 4 show correlations with expected monthly wages conditional on working. Columns 5 and 6 show correlations with reservation wages. Columns 7 and 8 show correlations with months of full-time work experience. Even columns control for vacancy fixed effects. Robust standard errors in parenthesis. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.2: Correlates of Deviation in Beliefs

	Bias in Beliefs				Overconfidence
	(1)	(2)	(3)	(4)	(5)
Ability/Beliefs					
Raven Score	-0.518***			-0.540***	-0.056***
	(0.010)			(0.011)	(0.001)
Demography					
Female		0.147		-0.150	-0.016
		(0.172)		(0.121)	(0.016)
Age (std)		0.182**		0.081	0.005
		(0.079)		(0.055)	(0.007)
Post-secondary education		-0.639***		0.263**	0.010
		(0.172)		(0.121)	(0.016)
Personality					
Openness (std.)			0.393***	0.105	0.014
			(0.107)	(0.075)	(0.010)
Conscientiousness (std.)			-0.217*	-0.034	-0.011
			(0.118)	(0.083)	(0.011)
Extraversion (std.)			-0.102	0.063	-0.003
			(0.081)	(0.057)	(0.008)
Agreeableness (std.)			-0.529***	-0.231***	-0.017
			(0.109)	(0.077)	(0.010)
Neuroticism (std.)			-0.204*	-0.212***	-0.016
			(0.105)	(0.074)	(0.010)
Grit (std)			0.092	0.151**	0.019**
			(0.098)	(0.069)	(0.009)
Stroop score (std)			-0.544***	0.040	-0.001
			(0.077)	(0.055)	(0.007)
RME score (std)			-0.438***	0.100	0.009
			(0.087)	(0.063)	(0.009)
Competetivesness (std)			-0.001	0.211***	0.014*
			(0.085)	(0.060)	(0.008)
Feedback type					
Ever searched for feedback				0.060	0.025
				(0.141)	(0.019)
Ever received feedback				0.031	-0.009
				(0.137)	(0.018)
Mean Outcome	2.21	2.21	2.21	2.21	0.68
R-Squared	0.52	0.01	0.05	0.54	0.42
N	2,537	2,537	2,537	2,537	2,537

Notes: **Table A.2 shows the predictors of the deviation of baseline beliefs from the assessment result.** Columns 1 to 4 show predictors of the absolute deviation of beliefs from the assessment result. Column 5 shows the predictors of a a dummy indicating overconfidence. Robust standard errors in parenthesis. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.3: Correlates of Positive WTP for Feedback

	(1)	(2)	(3)	(4)
Raven Score (std)	-0.006			0.021
	(0.012)			(0.013)
Overconfident baseline belief	0.027			0.048*
	(0.025)			(0.025)
Update Potential (abs.)	-0.007*			-0.007*
	(0.004)			(0.004)
Belief Certainty	0.009			0.007
	(0.006)			(0.006)
Demography				
Female		-0.082***		-0.070***
		(0.020)		(0.020)
Age (std)		-0.016*		-0.003
		(0.009)		(0.009)
Post-secondary education		0.002		0.009
		(0.020)		(0.020)
Personality				
Openness (std.)			-0.027**	-0.027**
			(0.012)	(0.012)
Conscientiousness (std.)			-0.006	-0.013
			(0.014)	(0.014)
Extraversion (std.)			0.003	0.002
			(0.009)	(0.009)
Agreeableness (std.)			0.012	0.017
			(0.013)	(0.013)
Neuroticism (std.)			0.040***	0.041***
			(0.012)	(0.012)
Grit (std)			-0.026**	-0.029***
			(0.011)	(0.011)
Stroop score (std)			0.020**	0.015*
			(0.009)	(0.009)
RME score (std)			-0.046***	-0.043***
			(0.010)	(0.010)
Competetivesness (std)			-0.008	-0.012
			(0.010)	(0.010)
Feedback type				
Ever searched for feedback				-0.006
				(0.023)
Ever received feedback				0.041*
				(0.023)
Mean Outcome	0.71	0.71	0.71	0.71
R-Squared	0.00	0.01	0.05	0.06
N	2,537	2,537	2,537	2,537

Notes: **Table A.3 shows the predictors of having a positive WTP for information about skills.** Columns 1 to 4 include different set of control variables. Sample consists of all baseline individuals, regardless of whether they were included in the experimental study. Robust standard errors in parenthesis. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.4: Treatment Effects on Attrition

	Attritted	
	(1)	(2)
UC & pos WTP	-0.02	-0.02
	(0.02)	(0.02)
UC & non-pos WTP	-0.04	-0.04
	(0.04)	(0.04)
OC & pos WTP	-0.03	-0.03
	(0.02)	(0.02)
OC & non-pos WTP	-0.01	-0.01
	(0.02)	(0.03)
UC & pos WTP - Other	0.00	0.00
	(0.03)	(0.03)
Control mean	0.09	0.09
Controls	No	Yes
N	2,537	2,537

Notes: **Table A.4 shows that differences in attrition between treatment groups are small and insignificant for all considered sub groups.** Outcome is a dummy indicating attrition between treatment survey and endline. Robust standard errors in parenthesis. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.5: Beliefs and Feedback without Controls

Timing:	Absolute deviation of beliefs			
	Treat. (1)	Endline (2)	Treat. (3)	Endline (4)
Feedback	-0.503***	-0.260***		
	(0.091)	(0.100)		
Underconfident × Feedback			-0.570***	-0.269*
			(0.133)	(0.150)
Overconfident × Feedback			-0.473***	-0.269**
			(0.119)	(0.129)
Control Mean	3.91	4.22		
— Underconfident			2.25	2.27
— Overconfident			4.69	5.15
Δ effect			0.096	0.000
			(0.178)	(0.200)
Δ rel. effect			0.152**	0.066
			(0.064)	(0.071)
N	2,537	2,297	2,537	2,297

Notes: **Table A.5 shows treatment effects on the absolute deviation of belief deciles from the assessed skill level not including control variables.** Columns 1 and 3 show effects on beliefs elicited in the treatment survey after treatment administration. Columns 2 and 4 show effects on the same measures are endline four to six weeks after treatment. Columns 1 and 2 show average treatment effects. Columns 3 and 4 show heterogeneity by baseline confidence. Specifications include stratification fixed effects. Robust standard errors are shown in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.6: Determinants of Recall Accuracy

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Overconfident	-0.182***	-0.009			-0.178***	-0.003	-0.155***	0.031
	(0.031)	(0.049)			(0.031)	(0.049)	(0.038)	(0.053)
WTP $\leq$ 0			0.112***	0.102***	0.105***	0.102***	0.154***	0.181***
			(0.032)	(0.034)	(0.032)	(0.034)	(0.053)	(0.056)
Overconfident $\times$ WTP $\leq$ 0							-0.074	-0.120*
							(0.066)	(0.069)
Left Out Mean Outcome	0.58	0.58	0.42	0.42	0.53	0.53	0.53	0.53
N	1,126	1,055	1,126	1,055	1,126	1,055	1,126	1,055
Vacancy FE	No	Yes	No	Yes	No	Yes	No	Yes
Controls	No	Yes	No	Yes	No	Yes	No	Yes

Notes: **Table A.6 shows differences in the likelihood of correctly recalling the provided information among the treated individuals at endline.** The outcome equals one if the information is recalled correctly and zero otherwise. Controls include Gender, Age, Education and dummies for each information category that individuals have received. Robust standard errors are shown in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.7: Job Search Behavior and Success without Controls

	Search effort index			Search success index		
	ATE	Conf. het.	WTP het.	ATE	Conf. het.	WTP het.
	(1)	(2)	(3)	(4)	(5)	(6)
Feedback	0.08*			-0.01		
	(0.04)			(0.04)		
Underconfident × Feedback		0.16**			0.11	
		(0.07)			(0.07)	
Overconfident × Feedback		0.03			-0.06	
		(0.05)			(0.05)	
WTP > 0 × Feedback			0.11**			0.02
			(0.05)			(0.05)
WTP ≤ 0 × Feedback			0.00			-0.07
			(0.08)			(0.08)
Δ effect		0.13	0.10		0.17**	0.09
		(0.09)	(0.09)		(0.09)	(0.09)
Mean outcome	-0.00	-0.00	-0.00	0.00	0.00	0.00
N	2,292	2,292	2,292	2,292	2,292	2,292

Notes: **Table A.7 displays treatment effects on search behavior and outcomes at endline not including control variables.** Columns 1 to 3 show treatment effects on an Anderson (2008) search effort index of four components: a any search dummy in the last 7 days, number of days searched in the last 7 days, expenditures on job search in the last 7 days, and the number of applications submitted since the treatment survey. Columns 4 to 6 show effects on an Anderson (2008) labor market success index of four components: number of job offers since treatment survey, a work in the last 7 days dummy, hours worked in the last 7 days, and earnings in the last 7 days. Columns 1 and 4 display average treatment effects. Columns 2 and 5 display effects by prior beliefs. Columns 3 and 6 display effects by whether individuals report a positive WTP for feedback. Specifications include stratification fixed effects. Robust standard errors are shown in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.8: Main Treatment Effects by WTP and Confidence without Controls

	Search effort index	Success index
	(1)	(2)
UC & pos WTP	0.23***	0.20**
	(0.09)	(0.08)
UC & non-pos WTP	-0.04	-0.17
	(0.14)	(0.14)
OC & pos WTP	0.03	-0.02
	(0.07)	(0.06)
OC & non-pos WTP	0.03	-0.09
	(0.09)	(0.10)
UC & pos WTP - Other	0.21**	0.26***
	(0.10)	(0.10)
N	2,297	2,297

Notes: **Table A.8 shows that positive treatment effects on search effort and success are driven by underconfident individuals with positive WTP for feedback even when not including control variables.** Rows display treatment effect estimates obtained using equation 4. "UC & pos WTP - Other" displays the difference in treatment effect between underconfident individuals with positive WTP for feedback and the rest of the sample. Columns 1 shows effects on a search effort index described in Table 3. Column 2 shows effects on a search success index also described in Table 3. Specifications include stratification fixed effects. Robust standard errors are shown in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.9: Beliefs and Feedback without Aligned Individuals

Timing:	Absolute deviation of beliefs					
	Treat. (1)	Endline (2)	Treat. (3)	Endline (4)	Treat. (5)	Endline (6)
Feedback	-0.54*** (0.08)	-0.28*** (0.08)				
Underconfident × Feedback			-0.64*** (0.14)	-0.18 (0.13)		
Overconfident × Feedback			-0.50*** (0.09)	-0.31*** (0.09)		
WTP > 0 × Feedback					-0.51*** (0.09)	-0.17* (0.09)
WTP ≤ 0 × Feedback					-0.61*** (0.15)	-0.54*** (0.14)
Control Mean	4.09	4.39				
— Underconfident			2.31	2.17		
— Overconfident			4.69	5.15		
— WTP>0					4.08	4.38
— WTP≤0					4.12	4.40
Δ effect			0.141 (0.168)	-0.130 (0.163)	-0.103 (0.175)	-0.368** (0.166)
Δ rel. effect			0.171*** (0.063)	0.024 (0.064)	-0.024 (0.043)	-0.083** (0.038)
N	2,309	2,088	2,309	2,088	2,309	2,088

Notes: **Table A.9 shows treatment effects on the absolute deviation of belief deciles from the assessed skill level dropping individuals whose baseline beliefs align with the assessment..** Columns 1, 3, and 5 show effects on beliefs elicited in the treatment survey after treatment administration. Columns 2, 4, and 6 show effects on the same measures are endline four to six weeks after treatment. Columns 1 and 2 show average treatment effects. Columns 3 and 4 show heterogeneity by baseline confidence. Columns 5 and 6 show heterogeneity by WTP for feedback. Specifications include control variables selected using LASSO and stratification fixed effects. Robust standard errors are shown in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.10: Job Search Behavior and Success without Aligned Individuals

	Search effort index			Search success index		
	ATE	Conf. het.	WTP het.	ATE	Conf. het.	WTP het.
	(1)	(2)	(3)	(4)	(5)	(6)
Feedback	0.04			-0.02		
	(0.05)			(0.04)		
Underconfident × Feedback		0.15			0.07	
		(0.10)			(0.09)	
Overconfident × Feedback		0.00			-0.06	
		(0.06)			(0.05)	
WTP > 0 × Feedback			0.07			0.01
			(0.06)			(0.05)
WTP ≤ 0 × Feedback			-0.01			-0.09
			(0.08)			(0.08)
Δ effect		0.15	0.08		0.13	0.10
		(0.11)	(0.10)		(0.10)	(0.10)
Mean outcome	0.01	0.01	0.01	0.01	0.01	0.01
N	1,983	1,983	1,983	1,983	1,983	1,983

Notes: **Table A.10 displays treatment effects on search behavior and outcomes at end-line dropping individuals whose baseline beliefs align with the assessment.** Columns 1 to 3 show treatment effects on an Anderson (2008) search effort index of four components: a any search dummy in the last 7 days, number of days searched in the last 7 days, expenditures on job search in the last 7 days, and the number of applications submitted since the treatment survey. Columns 4 to 6 show effects on an Anderson (2008) labor market success index of four components: number of job offers since treatment survey, a work in the last 7 days dummy, hours worked in the last 7 days, and earnings in the last 7 days (winsorized at the 99th percentile). Columns 1 and 4 display average treatment effects. Columns 2 and 5 display effects by prior beliefs. Columns 3 and 6 display effects by whether individual report a positive WTP for feedback. Specifications include control variables selected using LASSO and stratification fixed effects. Robust standard errors are shown in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.11: Main Treatment Effects by WTP and Confidence without Aligned Individuals

	Search effort index	Success index
	(1)	(2)
UC & pos WTP	0.22*	0.19*
	(0.11)	(0.10)
UC & non-pos WTP	0.03	-0.19
	(0.17)	(0.16)
OC & pos WTP	0.01	-0.06
	(0.07)	(0.06)
OC & non-pos WTP	-0.02	-0.06
	(0.10)	(0.10)
UC & pos WTP - Other	0.20	0.26**
	(0.12)	(0.11)
N	1,983	1,983

Notes: **Table A.11 shows that positive treatment effects on search effort and success are driven by underconfident individuals with positive WTP for feedback even when dropping individuals whose baseline beliefs align with the assessment.** Rows display treatment effect estimates obtained using equation 4. "UC & pos WTP - Other" displays the difference in treatment effect between underconfident individuals with positive WTP for feedback and the rest of the sample. Column 1 shows effects on a search effort index described in Table 3. Column 2 shows effects on a search success index also described in Table 3. Specifications include control variables selected using LASSO and stratification fixed effects. Robust standard errors are shown in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.12: Search Effort Index Components

	Any search			Days searched			# applications			Search expenditure		
	ATE	Conf. het.	WTP het.	ATE	Conf. het.	WTP het.	ATE	Conf. het.	WTP het.	ATE	Conf. het.	WTP het.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Feedback	0.01			0.16*			0.61**			-2.14		
	(0.01)			(0.10)			(0.27)			(14.90)		
Underconfident × Feedback		0.05**			0.36**			1.31***			-30.04	
		(0.02)			(0.18)			(0.43)			(24.39)	
Overconfident × Feedback		-0.01			0.07			0.26			11.09	
		(0.02)			(0.11)			(0.34)			(18.88)	
WTP > 0 × Feedback			0.02			0.27**			0.64*			1.50
			(0.02)			(0.11)			(0.35)			(17.42)
WTP ≤ 0 × Feedback			-0.01			-0.08			0.52			-9.35
			(0.03)			(0.18)			(0.38)			(26.72)
Δ effect		0.06**	0.03		0.29	0.35		1.05*	0.12		-41.13	10.85
		(0.03)	(0.03)		(0.21)	(0.22)		(0.55)	(0.52)		(31.15)	(31.23)
Mean outcome	0.88	0.88	0.88	3.81	3.81	3.81	5.29	5.29	5.29	230.36	230.36	230.36
N	2,297	2,297	2,297	2,297	2,297	2,297	2,297	2,297	2,297	2,297	2,297	2,297

Notes: **Table A.12 shows that positive treatment effects on the search effort index are driven by non-monetary domains of search effort.** Columns 1 to 3 show effects on a dummy indicating any search in the last seven days. Columns 4 to 6 show effects on the number of days searched in the last seven days. Columns 7 to 9 show effects on the number of applications sent since treatment. Columns 10 to 12 show effects on job search expenditure in the last seven days. Columns 1, 4, 7, and 10 display average treatment effects. Columns 2, 5, 8, and 11 show treatment effect heterogeneity by confidence level. Columns 3, 6, 9, and 12 show treatment effect heterogeneity by WTP. Specifications include control variables selected using LASSO and stratification fixed effects. Robust standard errors are shown in parentheses. $* p < 0.10$, $** p < 0.05$, $*** p < 0.01$.

Table A.13: Labor Market Success Index Components

	# offers			Any work			# days worked			Earnings		
	ATE	Conf. het.	WTP het.	ATE	Conf. het.	WTP het.	ATE	Conf. het.	WTP het.	ATE	Conf. het.	WTP het.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Feedback	0.00			-0.01			-0.03			3.44		
	(0.01)			(0.02)			(0.09)			(40.64)		
Underconfident × Feedback		0.00			0.02			0.06			127.32*	
		(0.02)			(0.03)			(0.15)			(71.80)	
Overconfident × Feedback		0.00			-0.03			-0.07			-57.81	
		(0.02)			(0.02)			(0.11)			(48.77)	
WTP > 0 × Feedback			0.01			-0.00			0.06			44.45
			(0.02)			(0.02)			(0.10)			(50.45)
WTP ≤ 0 × Feedback			-0.01			-0.03			-0.24			-94.97
			(0.03)			(0.03)			(0.17)			(64.87)
Δ effect		0.00	0.02		0.05	0.03		0.13	0.30		185.13**	139.42*
		(0.03)	(0.03)		(0.03)	(0.04)		(0.18)	(0.20)		(86.36)	(81.66)
Mean outcome	0.09	0.09	0.09	0.19	0.19	0.19	0.98	0.98	0.98	306.86	306.86	306.86
N	2,297	2,297	2,297	2,278	2,278	2,278	2,297	2,297	2,297	2,278	2,278	2,278

Notes: **Table A.13 shows treatment effects on the components of the labor market success index.** Columns 1 to 3 show effects on the number of job offers since treatment. Columns 4 to 6 show effects on a dummy indicating any work for pay in the last 7 days. Columns 7 to 9 show effects on the hours worked in the last 7 days. Columns 10 to 12 show effects on job earnings in the last 7 days (winsorized at the 99th percentile). Columns 1, 4, 7, and 10 display average treatment effects. Columns 2, 5, 8, and 11 show treatment effect heterogeneity by confidence level. Columns 3, 6, 9, and 12 show treatment effect heterogeneity by WTP. Specifications include control variables selected using LASSO and stratification fixed effects. Robust standard errors are shown in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.14: Heterogeneous Effects on Search Behavior and Success

	Abs. dev. of beliefs			Search effort index			Search success index		
	Gender	Age	Educ	Gender	Age	Educ	Gender	Age	Educ
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Female=0 × Feedback	-0.52***			0.08			-0.04		
	(0.09)			(0.05)			(0.05)		
Female=1 × Feedback	-0.48***			0.05			0.08		
	(0.14)			(0.07)			(0.07)		
Above med. age=0 × Feedback		-0.44***			0.11**			-0.02	
		(0.10)			(0.05)			(0.05)	
Above med. age=1 × Feedback		-0.59***			0.00			0.04	
		(0.11)			(0.08)			(0.07)	
Post-secondary education=0 × Feedback			-0.43***			0.11			-0.14*
			(0.14)			(0.08)			(0.07)
Post-secondary education=1 × Feedback			-0.54***			0.06			0.05
			(0.09)			(0.05)			(0.05)
Δ effect	-0.04	0.15	0.12	0.03	0.11	0.05	-0.11	-0.06	-0.19**
	(0.17)	(0.15)	(0.16)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)
Mean outcome	3.91	3.91	3.91	0.00	0.00	0.00	0.00	0.00	0.00
N	2,537	2,537	2,537	2,297	2,297	2,297	2,297	2,297	2,297

Notes: **Table A.14 displays treatment effect heterogeneity by gender, age, and education levels.** Columns 1 to 3 show treatment effects on the absolute deviation of skill beliefs from the assessed decile. Columns 4 to 6 show effects on an Anderson (2008) search effort index with four components: a any search dummy in the last 7 days, number of days searched in the last 7 days, expenditures on job search in the last 7 days, and the number of applications submitted since the treatment survey. Columns 7 to 9 show effects on an Anderson (2008) labor market success index with four components: number of job offers since treatment survey, a work in the last 7 days dummy, hours worked in the last 7 days, and earnings in the last 7 days. Columns 1, 4, and 7 report heterogeneity by gender. Columns 2, 5, and 8 report heterogeneity by having below median age. Columns 3, 6, and 9 report heterogeneity by having some post-secondary education. Specifications include control variables selected using LASSO and stratification fixed effects. Robust standard errors are shown in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.15: Number of People in Each Heterogeneity Group

Initial Confidence	WTP for Feedback	N	Share
Overconfident, receives discouraging news	WTP> 0 Want to receive information	1236	49 %
	WTP≤ 0 Does not want to receive information	483	19%
Underconfident, receives encouraging news	WTP> 0 Wants to receive information	572	23 %
	WTP≤ 0 Does not want to receive information	246	10 %

Notes: **Table A.15 shows the joint distribution of skill belief overconfidence and WTP for feedback.** The underconfident category includes individuals with aligned skills beliefs. Percentages do not add to 100 because of rounding.

Table A.16: Search Effort Treatment Effects by WTP and Confidence

	Index components			
	Any	Days searched	# Applications	Search expenditure
	(1)	(2)	(3)	(4)
UC & pos WTP	0.06**	0.38*	1.61***	2.57
	(0.03)	(0.21)	(0.56)	(24.42)
UC & non-pos WTP	0.03	0.28	0.56	-108.81**
	(0.05)	(0.33)	(0.63)	(51.03)
OC & pos WTP	-0.00	0.21	0.15	-0.01
	(0.02)	(0.13)	(0.44)	(22.96)
OC & non-pos WTP	-0.02	-0.26	0.51	41.42
	(0.03)	(0.22)	(0.48)	(32.95)
UC & pos WTP - Other	0.07**	0.29	1.32**	5.35
	(0.03)	(0.24)	(0.63)	(29.40)
Control mean	0.88	3.81	5.29	230.36
N	2297	2297	2297	2297

Notes: **Table A.16 shows that positive treatment effects on search effort among underconfident individuals with positive WTP for feedback are not driven by three of the four search effort measures.** Rows display treatment effect estimates obtained using equation 4. "UC & pos WTP - Other" displays the difference in treatment effect between underconfident individuals with positive WTP for feedback and the rest of the sample. Column 1 shows effects on a dummy of job search in the last 7 days. Column 2 shows effects on the days of job search in the last seven days. Column 3 shows effects on the number of applications since the treatment survey. Column 4 shows impacts on job search expenditure. Specifications include control variables selected using LASSO and stratification fixed effects. Robust standard errors are shown in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.17: Treatment Effects on Search Success by WTP and Confidence

	Index components			
	# offers	Any work	# days worked	Earnings
	(1)	(2)	(3)	(4)
UC & pos WTP	0.04	0.04	0.15	173.63*
	(0.03)	(0.03)	(0.17)	(96.83)
UC & non-pos WTP	-0.08	-0.01	-0.19	15.41
	(0.05)	(0.06)	(0.30)	(80.08)
OC & pos WTP	-0.01	-0.01	0.01	-19.86
	(0.02)	(0.02)	(0.12)	(58.05)
OC & non-pos WTP	0.02	-0.05	-0.28	-146.76*
	(0.04)	(0.04)	(0.21)	(89.15)
UC & pos WTP - Other	0.05	0.06	0.24	224.50**
	(0.03)	(0.04)	(0.20)	(105.49)
Control mean	0.09	0.20	0.98	306.86
N	2297	2297	2297	2278

Notes: **Table A.17 shows that positive treatment effects on search success among underconfident individuals with positive WTP for feedback is mostly driven by the number of offers and earnings.** Rows display treatment effect estimates obtained using equation 3. "UC & pos WTP - Other" displays the difference in treatment effect between underconfident individuals with positive WTP for feedback and the rest of the sample. Column 1 shows effects on the number of job offers since the treatment survey. Column 2 shows effects on a dummy indicating any work for pay. Column 3 show the impact on the number of days worked in the last seven days. Column 4 shows effects on earnings in the last 7 days in Birr (winsorized at the 99th percentile). Specifications include control variables selected using LASSO and stratification fixed effects. Robust standard errors are shown in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.18: Treatment Effects on Work Quality by WTP and Confidence

	Work quality (conditional on working)		
	# days worked	Earnings	Daily earnings
	(1)	(2)	(3)
UC & pos WTP	0.07	497.09	38.61
	(0.40)	(401.92)	(117.65)
UC & non-pos WTP	-0.52	-31.77	41.17
	(0.48)	(268.23)	(67.82)
OC & pos WTP	0.40*	77.43	-48.34
	(0.23)	(268.44)	(93.03)
OC & non-pos WTP	0.01	-590.99*	-83.90
	(0.34)	(355.03)	(77.68)
UC & pos WTP - Other	-0.11	646.42	96.44
	(0.44)	(433.75)	(132.07)
Control mean	4.90	1584.76	379.53
N	439	439	434

Notes: **Table A.18 shows that positive treatment effects on earnings conditional on working remain positive.** Rows display treatment effect estimates obtained using equation 3. "UC & pos WTP - Other" displays the difference in treatment effect between underconfident individuals with positive WTP for feedback and the rest of the sample. Column 1 shows effects on the number of days worked. Column 2 shows effects on earnings in the last seven days (winsorized at the 99th percentile). Column 3 shows effects on average daily wages. Specifications include control variables selected using LASSO and stratification fixed effects. Robust standard errors are shown in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.19: Additional Outcomes by WTP and Confidence

	Search outcomes		Beliefs		Aspirations		Targeting	Reservation
	Offers per app (1)	Any rejection (2)	E[Off/app] (3)	E[Earnings] (4)	Earnings (5)	Perm. job (6)	gen. int. (std) (7)	Earnings (8)
UC & pos WTP	0.003	0.020	0.009	-289.524	-3844.040	0.037	0.001	-118.483
	(0.008)	(0.019)	(0.022)	(432.278)	(6827.956)	(0.044)	(0.088)	(214.212)
UC & non-pos WTP	-0.010	-0.055**	-0.034	522.655	-6512.229	0.085	0.233*	575.743**
	(0.016)	(0.026)	(0.034)	(565.694)	(7565.605)	(0.067)	(0.123)	(264.805)
OC & pos WTP	-0.005	-0.000	-0.004	-147.020	-469.598	0.001	0.012	82.184
	(0.005)	(0.010)	(0.014)	(235.768)	(4445.834)	(0.030)	(0.057)	(131.769)
OC & non-pos WTP	0.004	0.015	-0.085***	-445.704	-8968.109	0.052	-0.020	-146.332
	(0.010)	(0.021)	(0.023)	(459.118)	(7900.899)	(0.047)	(0.085)	(203.636)
UC & pos WTP - Other	0.007	0.022	0.039	-145.191	300.427	0.008	-0.027	-198.136
	(0.009)	(0.021)	(0.024)	(475.403)	(7759.620)	(0.050)	(0.098)	(237.867)
Control mean	0.023	0.038	0.444	9222.606	47266.286	0.474	-0.000	5723.126
N	2296	2297	2537	2537	2297	2297	2478	2537
Survey	Endline	Endline	Treat.	Treat.	Endline	Endline	Treat.	Treat.

Notes: **Table A.19 provides evidence on the mechanisms driving treatment effects on labor market success.** Rows display treatment effect estimates obtained using equation 3. "UC & pos WTP - Other" displays the difference in treatment effect between underconfident individuals with positive WTP for feedback and the rest of the sample. Column 1 shows effects on the number of offers per application in the last 30 days at endline. Column 2 shows effects on a dummy indicating an imputed offer rejection in the last thirty days. For working individuals, we define any rejection as having received at least 2 offers in the last 30 days. For non-working individuals, we define any rejection as having received at least one offer in the last 30 days. Column 3 shows effects on the ratio of expected offers to planned applications. Column 4 shows effects on expected wages. Columns 5 and 6 shows effects on aspirations. Column 7 shows effects on a standardized measure of planning to target jobs with high general intelligence requirements (both measured in the treatment survey) and column 8 shows effects on reservation wages (both measured in the treatment survey). Specifications include control variables selected using LASSO and stratification fixed effects. Robust standard errors are shown in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

B Context and Experimental Design

B.1 Details on the Assessment Center

The recruitment agency involved in this experiment runs a job seeker assessment center. The setup is part of a larger research and policy project, called the "Addis Ababa Labor Market Project". This project represents a collaboration between researchers and policy makers at the Policy Studies Institute in Addis Ababa and private sector firms, dedicated to understanding and improving labor market dynamics in Ethiopia's largest city.

Located in the center of Addis Ababa, the assessment center plays a key role in the selection of job seekers on behalf of potential employers. This screening process involves a range of cognitive and non-cognitive skills assessments, providing a comprehensive profile of a job seeker's abilities and potential fit for various job vacancies.

In the assessment center, all assessments are completed individually by job seekers using tablets, under the careful supervision of the center's team, which is comprised of research managers and enumerators. At this stage of the screening process, no hiring firm staff members are involved. This helps ensure a level of objectivity and standardization between all applicants, which is crucial to the robustness of the research experiment.

Participants usually attend the assessment center only once. However, in cases where an individual may return for another assessment, the experimental design accounts for this by ensuring that the individual is included in the feedback intervention just once, using the person's first assessment.

A separate research paper (Balgova ⓡ al., 2023) uses the Addis Ababa Labor Market Project to understand what characteristics of job advertisements induce job seekers to apply to a vacancy. Specifically, the paper studies the effect of randomly revealing wage information in vacancies on the selection of applicants. All applicants in the assessment center have been recruited through that study's research design. Balgova ⓡ al. (2023) ends with the recruitment of applicants to the assessment center. This is where the present

paper begins, taking the sample of recruited job seekers as its given baseline sample and then implementing a new field experiment, independent from and orthogonal to the prior selection experiment.

B.2 Belief Elicitation

Eliciting beliefs in baseline   During the initial data collection, participants are asked to compare their performance on the Raven's test to that of a previous group of job seekers:

> *Think of 10 job seekers in Addis Ababa who applied to similar positions and took the same test in a previous study. How many of these 10 applicants would perform worse than you on this general intelligence test?*

Eliciting beliefs in Treatment Survey and Endline   Beliefs in treatment and endline survey are elicited asking participants to compare themselves with the current population.

> ***Treatment Survey*** *Think about job seekers in Addis Ababa who are currently looking for similar jobs as you do. Out of 10 current job seekers: How many of these 10 job seekers would perform worse than you on a similar test of general intelligence?*

> ***Endline Survey*** *Think back to your visit in our test center a few weeks ago. You came to our test center as you applied for a position as Jobtitle. In the test center, you took a test of general intelligence. Now, think about job seekers in Addis Ababa who look for similar jobs as you did when you came to our test center. Out of 10 job seekers currently searching for similar jobs than you did back then: How many of these 10 job seekers would perform worse than you on a similar test of general intelligence?*

B.3 Details of WTP Elicitation

We elicit job seekers' WTP for feedback using the following question:

> *Think of 10 job seekers in Addis Ababa who applied to similar positions and took the same test in a previous study. Would you like to know how many of these 10 job seekers performed worse than you on this general intelligence test? In the following, we present you with several choices that give you the opportunity to receive this information. Your choices allow us to understand how valuable this information is to you. At the end of our study, we randomly select ten people and offer them a bonus of 50 Birr. If you are selected, the choice you make now determines the total bonus you receive and if you receive information about your performance on the test. You can use the bonus to pay for the information or even receive an extra bonus. We will implement one of the choices for real. You should think carefully about your choice, as they can have real consequences.*

We then ask applicants whether they would prefer i) to receive no information about their performance on the general intelligence test or ii) to receive information about their performance on the test and pay [X] Birr. As soon as the respondent chooses the latter 'paying for the information option, the WTP elicitation stops. Otherwise, if the respondent chooses the former 'no-information option, the elicitation continues with a lower value for [X], i.e., a lower price.

We start with $X = 50$ Birr. If the respondent prefers not receiving the information, we continue with $X = 25$ Birr; if the respondent still prefers not receiving the information, we use $X = 10$ Birr, then $X = 5$ Birr, and then $X = 0$ Birr (i.e., not receiving the information vs. receiving the information for free).[1] If, at this point, the respondent still prefers not receiving the information, the 'price becomes negative, i.e., a payment towards the respondent.

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[1] For an auxiliary sample of 229 individuals, we use an extended price list that starts at 200 Birr, then 150 Birr, 100 Birr, 75 Birr, before continuing as previously with 50 Birr.

We then phrase the two alternatives as i) receiving no information about the performance on the 'test of general intelligence' vs. ii) receiving information about the performance on the test and receiving an extra bonus of [X] Birr. We start with a bonus of $X = 5$ Birr, and if the respondent still prefers no information, we continue with $X = 10$ Birr and finally $X = 25$ Birr.[2]

Validation   We randomized an additional small subset of individuals who participated in the assessment center into a 'choice treatment' arm, which allowed them to self-select whether to receive feedback about their relative ability. In particular, during the treatment survey, subjects were reminded whether they indicated a high or low WTP, and then were offered to receive 10 Birr but not the information, or to not receive the 10 Birr but the information. Columns 1 to 3 of Appendix Table B.1 present the results. WTP correlates positively with the take-up of the information. Having a positive WTP is associated with an 11.3 percentage points higher likelihood of choosing the information ($p < 0.1$). A one standard deviation increase in the categorical (Birr) measure of WTP is associated with a 3.8 (3.7) percentage points increase in the likelihood of taking up the information. Furthermore, Columns 5 and 6 show evidence that the non-binary measure of WTP correlates with a measure of an individual's tendency toward social comparisons in the control group (INCOM scale, Gibbons and Buunk (1999)).

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[2]Several weeks after the assessment center and all subsequent surveys are concluded, we randomly select the ten respondents whose WTP we implement, after endowing them with 50 Birr. This is to ensure that none of the young job seekers directly has to send money to the research team and instead gets their WTP deducted from the endowment.

Table B.1: WTP, information take-up and the desire to compare

	Information take-up		INCOM scale (only control)			
	(1)	(2)	(3)	(4)	(5)	(6)
WTP > 0	0.113*			0.064		
	(0.060)			(0.080)		
Categorical WTP (std)		0.038*			0.057**	
		(0.021)			(0.027)	
Birr WTP (std)			0.037*			0.059**
			(0.021)			(0.027)
R-Squared	0.01	0.01	0.01	0.00	0.00	0.00
N	437	437	437	1,147	1,147	1,147

Notes: **Table B.1 provides evidence on the validity of the WTP elicitation.** Columns 1 and 2 depict the correlation of the WTP and the actual choice behavior in an additional 'Choice Treatment'. For this purpose, we randomized a small subset of participants into a 'Choice Treatment,' allowing them to decide whether to receive feedback about their relative abilities. Participants were reminded of their previously indicated WTP for receiving this feedback. They were then given a choice: receive a compensation of 10 Birr and forego the feedback, or forfeit the 10 Birr in exchange for receiving information about their relative ability. The outcome in Columns 1 to 3 is a binary outcome indicating if they chose to receive the information. Columns 4 to 6 depict the correlation of the WTP and the INCOM scale. The INCOM scale was only assessed during the endline survey. We, therefore, restrict this analysis to the control group. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

B.4 Details Information Treatment

During the treatment survey, we provided respondents in the treatment group with true information about their relative performance.

A translation of the wording is given below:

> *During the screening session in which you participated last week, you took a test of general intelligence. After the test, we asked you how you compared to other job seekers who applied to similar positions and took the test in a previous study.*
>
> *You believed that [rank prior minus 10] out of 10 people were as good as you or did better than you in the same test.*
>
> *In other words, you believed that [rank prior] out of 10 people performed worse than you in the same test.*

Today we would like to give you feedback about how you actually compared to other job seekers in the same test on general intelligence.

[Decile rank minus 10] out of 10 people were as good as you or did better than you in the same test on general intelligence. In other words, [decile rank] out of 10 people performed worse than you in the same test. That means you performed [better than / worse than / the same as] expected on this test.

B.5 Details Recall of Information

In the endline survey, we ask individuals who received feedback to recall the information provided to them. To motivate accurate recall, we offer a reward of 10 Ethiopian Birr for correctly recalling the information. This reward represents approximately one third of the total appreciation token for participating in the entire call and is roughly equivalent to 50% of the median hourly wage in Addis Ababa, making it a significant incentive for most participants.

The recall task requires participants to remember how many people out of 10, who had applied for similar positions and completed the same test, performed as well as or better than they did. We validate their responses against our records to determine the accuracy of their recall. Those who accurately remember the information receive the incentive.

A translation of the wording is given below:

> *Finally, we would like to ask you if you remember how you performed in our test center on [screening date]. We want to know if you remember how you compared to other job seekers in the same general intelligence test. We told you this information when we called you briefly at [call date]. If you remember the information correctly, we will transfer you an additional 10 Birr (in addition to the 30 Birr you will get for participating in this call). How many job seekers out of 10 performed worse than you on the general intelligence test in a previous study?*

C Deviations from the pre-analysis plan

We pre-registered this study at AEA RCT registry (AEARCTR-0009698). We follow the spirit of the pre-analysis plan throughout this paper and show all but one pre-specified specifications in the main text or the appendix. However, our main results deviate from the pre-analysis plan in our heterogeneity in the following major ways.

1. We focus our belief heterogeneity analysis on the over- and underconfident margin, a dichotomization of the pre-specified update potential. The prespecified heterogeneity by updating potential can be found in Tables C.1 and shows suggestive evidence of heterogeneity, consistent with the main result. The pre-specified heterogeneity by prior belief is hard to interpret theoretically, as the level of confidence simultaneously depends on the level of assessed skills and on the level of prior beliefs. Hence, we decided to not show this analysis.

2. Section 4 analyzes the two-way heterogeneity by demand for feedback and confidence, which is not separately pre-specified but naturally follows from the pre-specified analysis of each separate heterogeneity dimension. We acknowledge that this analysis is exploratory but we provide suggestive evidence on the underlying mechanisms behind the observed heterogeneity.

3. We add heterogeneity analysis by age and education in addition to the pre-specified gender analysis in Table A.14. None of these heterogeneity analyses are significant.

4. We show outcomes for all pre-specified outcome families. We divide the pre-specified family of "Job search effort and intensity" into job search effort (as proxied by our index of job search effort) and other job search outcomes displayed in Table A.19. Table A.19 also contains the outcomes related to "career expectations and aspirations" and "beliefs about the labor market".

Table C.1: Treatment Effects by Updating Potential

	$\triangle$ Skill belief		Search effort index		Search success index	
	(1)	(2)	(3)	(4)	(5)	(6)
Feedback	0.205*	0.190**	0.106**	0.095*	0.042	0.026
	(0.115)	(0.093)	(0.049)	(0.049)	(0.045)	(0.045)
Feedback $\times$ Update potential, baseline	0.155***	0.154***	0.015	0.012	0.018*	0.014
	(0.025)	(0.022)	(0.011)	(0.011)	(0.010)	(0.010)
Update potential, baseline	0.340***	0.677***	-0.015	-0.010	-0.014	-0.018
	(0.026)	(0.026)	(0.011)	(0.012)	(0.010)	(0.011)
Mean outcome	0.80	0.80	0.00	0.00	0.00	0.00
Controls	No	Yes	No	Yes	No	Yes
N	2,537	2,537	2,297	2,297	2,297	2,297

Notes: **Table C.1 shows treatment effects vary by respondents' degree of confidence.** The table shows treatment effect heterogeneity by updating potential. Updating potential is defined as pre-treatment beliefs minus assessed decile. Positive values indicate underconfidence. Columns 1 and 2 show effects on the difference between baseline and treatment survey skill belief deciles. Columns 3 and 4 show effects on the search effort index. Columns 5 and 6 show effects on the search success index. Columns 2, 4, and 6 include control variables selected using LASSO and stratification fixed effects. Robust standard errors are shown in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.