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Information, reflection, and successful job search: A labor market policy experiment

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Abstract

Jobseekers, especially young people with little experience on the job market, face several challenges. They need to know which jobs are suited for them, where to find them, how to apply, and they need resilience in the face of repeated rejections. Previous research has shown that receiving information and reflecting on how to search for a job enhance self-efficacy and search motivation, thereby reducing the duration of unemployment spells. Following up on these results, we conducted an experiment in cooperation with the Austrian Ministry of Social Affairs which combines an "information nudge" in the form of a short video-clip with what we call "reflection nudge" in the form of an online survey. We find that a treatment combining reflection and information reduces job search duration of young unemployed people with a low level of formal education. Considering the low costs of the intervention, efficiency is very high.

KEYWORDS
active labor market policy, experiment, job search, nudging

1 | INTRODUCTION

Job search is typically conceptualized as an *information* problem. Receiving information and training on how to search for a suitable job has been found to reduce the length of unemployment spells (Liu et al., 2014), especially among individuals with a low level of education (Weber & Hofer, 2003). In a recent experimental study, Altmann

et al. (2018) showed that information transmission can be effective even in the form of a small nudge. However, information needs to be processed in order to translate into long-term effects (cf. John, 2018). Hence, in addition to information, *self-reflection* is crucial for developing successful job search strategies, dealing with negative emotions, and staying motivated (Wanberg et al., 2012). In line with the "nudge plus"-framework (Banerjee & John, 2019; John & Stoker, 2019), we therefore developed an information nudge in combination with a nudge designed to stimulate self-reflection, which we call "reflection nudge."

We created a short information video-clip and a short online survey. In the video-clip, we provide information about job search, with an emphasis on the importance of social networks (Granovetter, 1973; Ramia et al., 2020). The survey covers the same topics, but stimulates reflection by asking respondents about their own approaches to and experiences with job search. The effects of the treatments were tested in an experiment among unemployed young adults in Austria. In cooperation with the public employment service and the Austrian Ministry of Social Affairs, emails with links to the treatments were sent out to a random sample of young unemployed individuals. Six months later, we used register data to compare unemployment duration between the treatment groups and the control group. We found substantial positive nudging effects for those at high risk of long-term unemployment: the subgroup of young unemployed people with a low level of formal education.

Our results indicate that a combination of reflection and information in the form of a nudge can foster reemployment. Considering the low costs of this intervention, its efficiency is very high. We therefore argue that such "light-touch" interventions warrant further exploration and evaluation in the context of active labor market policies (ALMPs), especially in times of high unemployment, budget deficits, and digitalization of services (cf. Greener & Greve, 2013). Moreover, our novel approach to stimulating reflection using an online survey could be extended far beyond ALMPs and prove useful in other application areas of nudging strategies.

The remainder of the article proceeds as follows. In the next section, we present previous findings regarding the effects of job search interventions. Afterwards, we discuss the potential of nudging to provide job seekers with information and stimulate reflection. Then, we describe our experimental design, followed by a section detailing the results of the experiment. The concluding section offers some recommendations for future studies.

2 | JOB SEARCH INTERVENTIONS IN ALMPs

Looking for work is a difficult task. Job seekers need to be informed about job openings and application processes. They need to be aware of their own preferences and skills, know which employers might value these attributes and be able to evaluate which jobs would constitute a good match (Altmann et al., 2018). Moreover, job search requires stamina to uphold motivation despite repeated setbacks and mental stress (Jahoda, 1982; Price et al., 1992). To assist unemployed individuals in dealing with these obstacles and finding a new job, various forms of job search assistance programs have been introduced as part of ALMPs. In contrast to general or job-specific skills training programs, which aim at increasing the employability of unemployed individuals in the long run, job search assistance programs aim at increasing the efficiency of job search and are thus supposed to produce immediate effects.

In Austria, where our experiment took place, job search assistance programs were introduced on a large scale in 1999/2000, following the guidelines of the European Employment Strategy. Despite the fact that these programs are often portrayed as "useless"[i] in public debate, evaluation studies have found positive effects of such interventions on unemployment duration (Weber & Hofer, 2003). The Austrian results are mirrored in program evaluations in other countries. For example, Blundell et al. (2004) found that a mandatory job search program in the United Kingdom increased reemployment rates by 20%. Positive effects of job search programs were also found in the U.S. (e.g., Ashenfelter et al., 2005; Michaelides & Mueser, 2018), Denmark (e.g., Graversen & van Ours, 2008; Rosholm, 2008), Germany (Bernhard & Wolff, 2008), the Netherlands (De Jong et al., 2011), and Sweden (Hägglund, 2009), to name just a few studies. Meta analyses of program evaluations (e.g., Card et al., 2017; Kluve, 2010; Liu et al., 2014) report significant and positive effects of job search programs in the overwhelming majority of studies.[ii]

Meta-analyses also report a high level of variation among job search interventions. They are aimed at different target groups, feature highly different degrees of intensity in terms of frequency, duration, and personal mentoring, and focus on different elements of job search assistance. In an effort to identify the critical components of job search interventions, Liu et al. (2014) propose a taxonomy that distinguishes between *skill development* (teaching job search skills and improving self-presentation) and *motivation enhancement* (boosting self-efficacy, encouraging proactivity, enhancing stress management, promoting goal-setting, enlisting social support). In regard to skill development, job seekers participating in a search skills training find more job openings, contact more employers and submit more applications (Liu et al., 2014). Furthermore, how job seekers present themselves on résumés and during job interviews influences their chances of being short-listed or hired (Higgins & Judge, 2004). As for motivation enhancement, increasing job search self-efficacy is crucial, because it indirectly affects the probability of finding employment through its direct effects on job-search intention and behavior (van Ryn & Vinokur, 1992). Job seekers tend to underestimate the effectiveness of job search, resulting in lower than optimal search efforts. Hence, stressing the returns to search efforts can enhance job search self-efficacy (Spinnewijn, 2015). Moreover, job seekers' beliefs about employment prospects and unemployment duration can be distorted—especially individuals with a low level of education and low employment prospects have been found to be over-optimistic (Mueller et al., 2021; Steiber et al., 2017). At the same time, preparation and inoculation of job seekers against likely setbacks help to reduce mental stress and to keep up motivation (Vuori et al., 2005). Job search goal clarity, that is, the extent to which job seekers have a clear idea which type of job they want, correlates with job search intensity and hence with employment success (Côté et al., 2006). Likewise, social support, for example, by family, friends, peers or job counselors, is positively related to search effort and the probability of finding a job (Fervers, 2021; Goel & Lang, 2017; Kanfer et al., 2001). As unemployment might result in a reduction of social activity (Jahoda, 1982), it might be necessary to increase general well-being (Rose, 2018) and to encourage unemployed individuals to seek support of others, especially when considering the importance of social relations as a search channel (Granovetter, 1973; Ramia et al., 2020).

While there is empirical evidence that each of the components within the taxonomy by Liu et al. (2014) positively affects reemployment chances, the degree to which the individual elements are responsible for the positive effects of the interventions remains yet to be determined (Liu et al., 2014). In addition, participants' characteristics are likely to moderate intervention effectiveness (Bandura, 1986; Saloniemi et al., 2014). Most importantly, the effect of job search interventions is likely to be stronger for those who experience difficulties in finding new employment (e.g., individuals with a low level of education or special needs) than for job seekers in general (cf. Altmann et al., 2018; Kanfer et al., 2001; Liu et al., 2014; Rønsen & Skarðhamar, 2009; Weber & Hofer, 2003). Furthermore, it should be stressed that job search interventions are just aiming at improving the supply side, that is, the job search skills and motivation of the unemployed. The demand side, that is, whether there are suitable jobs in the first place, is yet another story.

3 | INFORMATION AND REFLECTION NUDGING

Job search programs are costly, both in terms of public resources and in terms of time invested by job seekers. Hence, the question arises whether less cost-intensive interventions in the form of so-called "nudges" (influencing behavior using positive reinforcement and indirect suggestions without proscribing any options or significantly changing economic incentives, see Thaler & Sunstein, 2009) might also be effective. Nudging has become increasingly popular not only in behavioral science, but also among policy makers (Haskins, 2017; Kosters & Van der Heijden, 2015). However, nudging is also criticized as manipulative. Indeed, in the terminology of the dual process model (Kahneman, 2011; Strack & Deutsch, 2004), according to which human behavior is defined by two systems: first, an automatic, affective system and second, a reflective, goal-oriented system, nudges mainly operate on the first level and might thus be used to unconsciously stimulate a certain behavior (Marteau et al., 2011). To counter

the criticism, behavioral scientists employ "information nudges," which are supposed to facilitate optimal decision-making simply by providing additional ("objective") information, for example, in the form of a sign-board, a leaflet, or an info-clip. However, even these information nudges are usually designed to trigger immediate responses rather than to affect long-term goal-oriented behavior. Hence, John (2018: 122) calls for nudges that operate not only affectively, but stimulate reflection and thus enable individuals to develop self-regulatory skills. This could be particularly important if immediate results are unlikely and longer-term actions are required—as it is the case for job search. Even more promising might be a combination of information and reflection. Information processing can be greatly enhanced in active learning environments where individuals are encouraged to reflect on new information and experiences (Bandura, 1986). Reflection can be defined as "the act of thinking and re-evaluating prior actions, choice constructs or available alternatives" (Banerjee & John, 2019). If a task involves the need for cognitive engagement, this can induce a change from "thinking fast" to "thinking slow," that is, from the affective to the reflective system (Kahneman, 2011: 64f). Once the reflective system is activated, new information is processed more thoroughly (Alter et al., 2007). Hence, following to the dual process model, triggering reflection *before* providing information is crucial.

The effect of an information nudge on job search success was investigated in a recent field experiment conducted by Altmann et al. (2018) in Germany. For their experiment, Altmann et al. produced a leaflet informing the unemployed in a simple and succinct way about scientific findings in respect to the situation on the labor market and the most promising search channels. The brochure was sent to 40,000 randomly selected individuals who had recently become unemployed. One year after the treatment, Altmann et al. drew on register data to compare the labor market integration of the treatment group with the control group which had not received the information leaflet. While for the whole sample, treatment effects were largely insignificant, the study identified a small, but significant effect for individuals with an "increased risk of long-term unemployment." Within this subgroup of high-risk individuals, those who received the leaflet were on average unemployed for 4.7 fewer days in the subsequent 12 months than those who did not receive the leaflet (Altmann et al., 2018).

There are various ways to stimulate reflection in the context of job search programs, for example by discussing different cases, giving advice, or posing questions (cf. Osmond & Darlington, 2005). The effect of self-reflection during unemployment was tested for example by Spera et al. (1994) in an experiment on how regular expressive writing sessions influence job search. They observed that the participants in the experiment who reflected in this way on their situation and the challenges they were facing over a period of several weeks regained employment more quickly than the control group (Spera et al., 1994). Expressive writing was also successfully applied in job search trainings in the UK (Sanders et al., 2021) and has proven to be a powerful technique to reduce emotional stress, to process information and to induce active learning (Pennebaker, 1997). Reflection exercises such as expressive writing have been particularly effective for individuals who are usually less likely to reflect on their actions (Soper & Von Bergen, 2001). Moreover, drawing on comprehensive qualitative interview data with job seekers, Wanberg et al. (2012) concluded that self-reflection is key to successfully dealing with the challenges encountered during the search period. Furthermore, intensive interventions such as expressive writing are not the only way to stimulate self-reflection. Even simple question and answer settings may provoke contemplation (cf. Osmond & Darlington, 2005) and even induce behavioral changes (Bach & Eckman, 2019). For example, we received highly positive feedback from respondents to a survey among young unemployed adults who thanked us for providing them with the opportunity and encouragement to think about their own situation (Mühlböck et al., 2018; Steiber et al., 2017). Hence, for our reflection nudge, we developed a short survey based on the experiences garnered in the prior study. A somewhat comparable approach has been previously employed in Germany. As part of the so-called "Activation Plan," jobseekers were asked to fill in a form at the job center with several questions regarding their job expectations, potential hurdles for job search, and the next steps to be taken in order to find a job. In a randomized controlled trial, van den Berg et al. (2018) found that, overall, being subject to the "Activation Plan" did not increase labor market success. However, within the subgroup of those who had a greater need for orientation (i.e., those who had previously been

unemployed or subject to active labor market policies), the "Activation Plan" did indeed reduce the number of days in unemployment during the year following the treatment.

In the present study, we advance previous research on job search interventions by testing the effects of information and reflection nudges. In line with the dual process model (Kahneman, 2011), we assume that interventions which first activate the reflective, goal-oriented system before providing the information should prove more effective than interventions that follow the reverse order (first information then reflection), or interventions consisting of either reflection or information alone. Furthermore, based on previous findings by Altmann et al. (2018), we expect the interventions to be most helpful for those with the highest risk of long-term unemployment.

4 | EXPERIMENTAL DESIGN

The field experiment tested the impact of information and self-reflection nudges on the reintegration of unemployed young adults into the labor market. It was conducted in cooperation with the Austrian Ministry of Social Affairs, which made it possible to identify the target group and contact registered unemployed individuals without violating privacy laws. Furthermore, based on register data, we were able to compare the labor market integration of the individuals in the treatment groups with those in the control group during the observation period following the intervention.

We designed four different treatments: (1) a short information video (info-clip), (2) a short online survey, (3) a combination of the two, with the info-clip first followed by the survey, and (4) a combination starting with the survey followed by the info-clip.

Our focus on young adults allowed us to tailor the interventions specifically to this age group. The info-clip was a two-minute video that was produced for the experiment with the help of a graphic designer. It took the form of a cartoon in which the information delivered by a narrator is complemented by a depiction of the experiences of a young job seeker. The info-clip contained all the critical components that have been proven successful in promoting job search in other interventions (see Liu et al., 2014 and discussion above). We provided information regarding the most successful search channels, counseling options, requirements of the application process and means to improve self-presentation. To enhance motivation, we stressed the negative consequences of unemployment and the returns to search effort, while at the same time preparing for potential setbacks and a long search period. Furthermore, we promoted job search goal clarity. Finally, we encouraged proactive behavior and the enlisting of social support by family and friends and emphasized the importance of the social network as a search channel. We kept the information short and simple in order to make it accessible for all individuals, irrespective of the level of education or language-fluency. The info-clip can be provided by the authors upon request while the text of the narrator (translated from German) can be found in the Appendix.

The online survey consisted of the same components as the info-clip, yet in the form of questions, covering job search behavior, search channels used, job application materials, job search self-efficacy, preferred job attributes, and the effects of finding a job on one's life. As for social support, we asked respondents how many people they knew who could help them with their search efforts. We also included a little "quiz" asking respondents which search channel they considered to be the most efficient one, later providing the solution that asking friends and relatives had proved to be most effective (see, e.g., Eppel et al., 2012; Holzer, 1988). The median completion time was about four minutes. The survey questions (translated from German) are included in the Appendix.

Both info-clip and survey were embedded in online-questionnaires.[iii] This allowed us to use a highly similar appearance for all four treatments ("survey," "info-clip," "info-clip + survey," and "survey + info-clip"), to control the sequence of the treatments, and to collect information on who was indeed "fully treated," that is, answered all survey questions and/or watched the whole info-clip. In addition, the approach provided us with the opportunity to include a short feedback question at the end of the interventions.

The target group for the experiment comprised young adults aged 18–35 in Austria who had registered as unemployed between November 2016 and April 2017 and were still unemployed at the time of the treatment. Of the total of 78,334 eligible individuals, those 37,115 individuals who had provided the public employment service ("AMS") with their email address were selected as subjects for the experiment. From this target group, 7000 persons were randomly assigned to each of the four different treatments. They received email-invitations that contained a link to the respective intervention in mid-May 2017.[iv] Those subjects of the target group who were not assigned to one of the experimental groups were either part of the control group who did not receive any email-invitation ($N = 7333$) or were used to conduct the pre-test (N pre-test $= 1782$).

The observation period lasted from mid-May 2017 until mid-November 2017. During this period, and based on register data, the employment histories of the subjects in the treatment groups were compared with those of the control group. This allowed for a causal analysis of the treatment effects. In addition, the register data contained information on the socio-demographic characteristics of the unemployed, allowing us to study effect heterogeneity across subgroups and to control for potentially confounding factors.

5 | DATA, RESPONSE RATES AND PARTICIPANTS' FEEDBACK

For the analysis of treatment effects, the dataset is restricted in three ways (see Table A1 in the Appendix). First, while the initial target group comprised of 35,333 individuals based on register data obtained in Mai 2017, this number reduces by 6869 due to the fact that the ex-post evaluation of the register data showed that a considerable number of individuals had only been flagged as unemployed due to a time lag in updates of the register but had in fact already taken up employment before the links to the treatments were sent out. Second, individuals who started to work before the end of June 2017 are excluded (cf. Altmann et al., 2018), as it is highly unlikely that the interventions would have such an immediate effect on job search success. Rather, individuals who started working less than six weeks after receiving the treatment had most likely successfully completed the application process before the treatment. Moreover, among those who had clicked on the link in the email-invitation, 90% had done so by May 22, the last click (and thus the last full treatment) occurred on June 29. This restriction reduces the total number of observations by another 7174. Third, individuals who already had an official re-employment agreement (Nekoei and Weber 2020) at the time that the email invitations (1121) were sent out are excluded, resulting in a final target group comprising of 20,169 observations.[v]

To assess whether the treatments affect labor market reintegration, we compare the treatment groups with the control group regarding the likelihood and speed of finding a job within the observation period of six months. Due to the random assignment of individuals to the groups in the experimental design, there are no significant differences between the groups with regard to central characteristics that might influence labor market integration, such as gender, parenting (for women), education, age, citizenship, place of residence, duration of unemployment at the time of sending the questionnaire, past labor market experience of more than six months,[vi] or whether someone had previously (i.e., before the current unemployment spell) been unemployed for over six months (see Table A2 in the Appendix). In addition, because of the random selection, any differences between groups regarding labor market integration after the interventions can be attributed to the treatments.

Before turning to the results of the experiment, it is informative to look at the response rates for the individual treatments (Table A1 in the Appendix). This enables us to—at least partially[vii]—distinguish the "intention-to-treat" from actual treatment. Considering the composition of the target group, which combines many characteristics associated with low participation rates in surveys such as young age, low level of education and a low degree of social integration (Groves & Couper, 1998) and the fact that no reminders were sent,[viii] the participation rate in the survey was comparably high in the "survey"-treatment. About 17.5% of those in this treatment group clicked on the link and about 12% answered all questions, that is, received the full treatment. For the "info-clip"-treatment, the click and response rates were significantly lower. About 12% of the subjects in this group clicked on the link to the info-

clip and about 8% watched the whole clip. Comparing the "survey + info-clip" and the "info-clip + survey" treatment confirms that the survey was more appealing to respondents. Even though the length of the task was the same, the framing of the invitation email in terms of a survey motivated more people (11.4%) to participate than the framing in terms of an info-clip (10.3%). Hence, the percentage of individuals who were "fully treated" was slightly higher in the "survey + info-clip" treatment (8.1%) than in the "info-clip + survey" treatment (7.7%). Response rates for the individual treatments are thoroughly discussed in Kalleitner et al. (2020).

As mentioned above, all treatments included an open feedback question. More than half (51.4%) of the "fully treated" subjects (i.e., those who answered all the survey questions and/or watched the whole info-clip, depending on the treatment) used the opportunity to give feedback. In order to evaluate the exact statements and to quantify the tone of the feedback, responses were coded on a scale from 1 = "very negative" to 5 = "very positive." The overwhelming majority of the feedback to both survey and info-clip was positive or very positive (survey: 83%, info-clip: 73%). The main positive point stressed was the authentic depiction of the situation of the unemployed. The clarity of the survey questions was also commended, but some respondents criticized the survey for being "too short," indicating a willingness to answer longer questionnaires. Individuals with higher levels of education criticized the treatments for containing no new information, which is in line with previous findings showing that the effect of job search trainings varies according to the educational level (Weber & Hofer, 2003).

6 | RESULTS OF THE EXPERIMENT

Labor market integration during the observation period is analyzed using two indicators: first, whether or not a new job has been found in the six months following the mailing of the invitations to the treatment, and, second, the time (in weeks) to reintegration into the labor market. To prove the success of the interventions, the reintegration of those in the intervention groups must be significantly more frequent and faster than that of those in the control group.

It should be noted that the comparison between the treatment groups (as a whole) and the control group (as a whole) provides us with a valid estimate of the effect of the assignment to the different groups, that is, the "intention-to-treat," but not of the effect of the treatment itself. It can be assumed that the effect of the intention-to-treat underestimates the effect of the treatment in an ideal situation where all subjects were actually treated (Angrist et al., 1996). However, studying the intention-to-treat has the advantage that it preserves the randomness of the assignment. This randomness can be seriously distorted when looking only at the individuals who clicked on the link and finished the questionnaire and/or watched the whole video. On the one hand, individuals with a low level of education may be less likely to click on the link to the treatments as they are usually found to be a difficult-to-reach target group in scientific studies (Groves & Couper, 1998). As education is the strongest predictor of labor market success, this would imply that those who are more likely to participate are also most likely to find a new job soon, but at the same time probably profit the least from the rather basic information on job search provided in the treatments. On the other hand, it is also possible that those who feel that they lack information on how to best conduct job searches are more likely to participate, due to a higher interest in the material provided. Hence, when simply comparing those fully treated with the control group, the outcome of the analysis might be biased in any direction. While there are different methodological approaches to account for self-selection into treatments, such as matching of observations or an instrumental variable approach (Heckman & Navarro-Lozano, 2004), low response rates render such approaches rather imprecise. Furthermore, our treatments were designed to be distributed widely and without the possibility of forcing individuals to participate. Hence, we are more interested in the overall effectiveness of providing the opportunity to participate than in the efficacy of actual participation. For these reasons, we stick to analyzing the effect of the intention-to-treat in the main analysis, but we provide additional analyses in the Appendix using an instrumental variable approach to estimate local average treatment effects (Angrist et al., 1996) among fully treated individuals.

TABLE 1 Labor market reintegration, by experimental group and education

	Control group	Survey	Info-clip	Info-clip + survey	Survey + info-clip
All levels of education					
New job within 6 months (%)	44.97%	44.62%	44.43%	45.08%	45.25%
Δ control group		−0.35	−0.54	0.11	0.28
Weeks until new job (⌀)	19.01	19.01	19.00	18.84	18.95
Δ control group		0.00	−0.01	−0.17	−0.06
N	4176	3949	4038	4008	3998
Low level of education (ISCED 0–2)					
New job within 6 months (%)	39.03%	40.56%	38.41%	40.47%	42.58%
Δ control group		1.53	−0.62	1.44	3.55*
Weeks until new job (⌀)	19.66	19.41	19.66	19.31	19.02
Δ control group		−0.25	0.00	−0.34	−0.63*
N	1532	1477	1549	1500	1496

Note: ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$ according to a z-test (proportions) or t-test (means).

In addition to the comparison of the groups as a whole, we specifically focus in the following analysis on individuals with a low level of education, that is, ISCED levels 0–2, which corresponds to compulsory education (i.e., at best a positive examination result of the ninth grade) in Austria. About 37% of the subjects in the sample fall in this category (Table A1). This is the educational group which is most at risk of long-term unemployment (see Table A3 for an analysis of unemployment duration based on our own data, but also Duell et al., 2016; Garrouste et al., 2010; Russell & O'Connell, 2001; Steiber et al., 2017) and may profit the most from receiving information on how to best search for a job (Rønsen & Skarðhamar, 2009; Weber & Hofer, 2003).[ix] Hence, we expect to find stronger effects for this group as compared to their more highly educated counterparts.

Table 1 displays the share of individuals who obtained new employment within the observation period and the average duration of the job search period[x] for each experimental group. Looking at the results across all levels of education, differences between treatment groups and the control group are small and not statistically significant at the 5% level. However, in line with our expectations, for those with a low level of education, the propensity of labor market integration within the observation period is higher and the job search duration is shorter in all treatment groups (except for the "info-clip" treatment) compared to the control group. As hypothesized, the treatment stimulating reflection before providing information, that is, the "survey + info-clip" treatment shows a significant positive effect on the reemployment propensity at the 5% level. On average, being assigned to the "survey + info-clip" treatment instead of the control group raises the probability of finding employment within the observation period by 3.6 percentage points. Furthermore, in comparison to the control group, job search duration is reduced significantly (by about 0.63 weeks, that is, about 4.4 days) within this treatment group. Positive but smaller effects on labor market reintegration which are not statistically significant at the 5% level are also observed for the "survey" and the "info-clip + survey" treatment.

To ensure that the descriptive results for the individuals with a low level of education hold even when controlling for further factors that might affect labor market integration, we ran multiple regression models on the reduced sample of those with a low level of education. The effect for the "survey + info-clip" treatment on the variable "found job within 6 months" remains significant even when controlling for gender, parenthood, age, citizenship, unemployment duration prior to the treatment, and previous (un)employment experience (see Table A4 in the Appendix; results for the full sample provided in Table A5). Furthermore, not only in comparison to the control group,

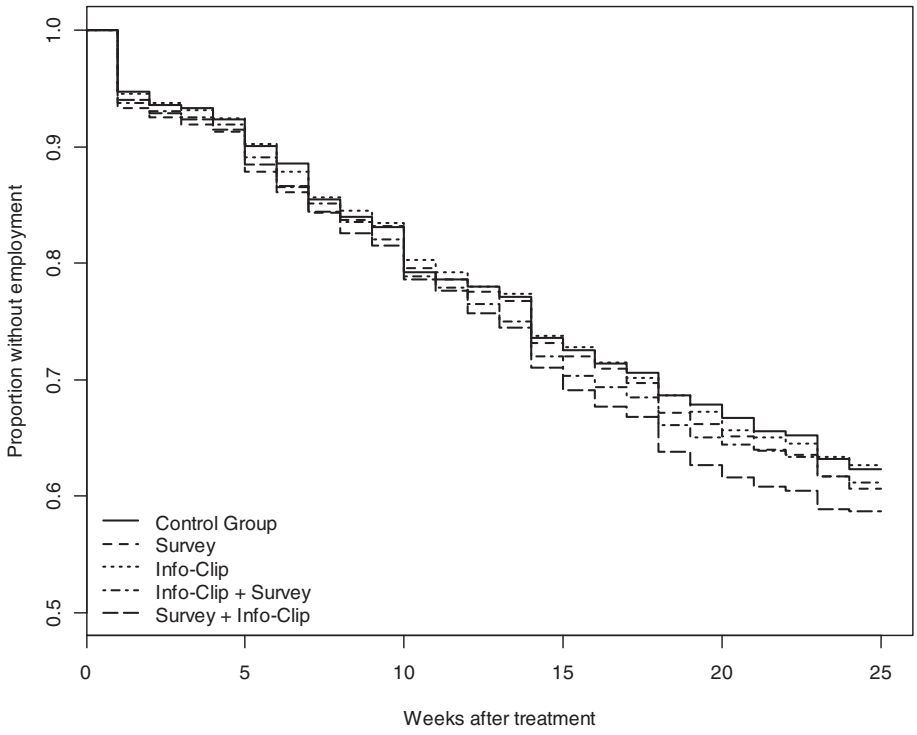

FIGURE 1 Kaplan–Meier estimator of the duration of the unemployment spell for individuals with a low level of education (see also Table A6 in the Appendix)

but also compared to the "info-clip"-only treatment, the probability of finding employment is significantly increased by the "survey + info-clip" treatment. This indicates that adding the reflection stimulus before providing information was crucial.

To evaluate the effect of the treatments on the amount of time it takes an individual to find a job, we employ Cox proportional hazards models (Cox, 1972). Again, even after controlling for various other factors, the effect of the "survey + info-clip" treatment remains statistically significant at the 5% level (see Table A6). Figure 1 displays the Kaplan–Meier estimator of the length of the unemployment spell for those with a low level of formal education according to group assignment. The survival functions illustrate that the proportion of individuals in unemployment declines more quickly for those in the "survey + info-clip" group than for those in the other groups and especially in the control group. Again, however, it has to be noted that this effect is confined to individuals with a low level of education (results for the full sample provided in Table A7).

7 | DISCUSSION AND ROBUSTNESS CHECKS

As expected, we found the effects of the nudges to be strongest for the group of individuals with a low level of education. Averaging over all subjects irrespective of their educational attainment, we do not find significant differences between those assigned to the different treatment groups and the control group. This may simply indicate that the effects for the more highly educated were small or non-existent. However, the lack of statistical significance could also be due to the fact that only a small proportion of those assigned to a treatment actually received the full treatment (i.e., clicked on the link in the email invitation and finished the survey or watched the whole info-clip). In order

to drive the average effect, the effects for those "fully treated" need to be considerable. At the same time, one could argue that even without clicking on the link, reading the email might have an effect. For example, the unemployed might feel more closely monitored and thus increase their search efforts.[xi] Therefore, it might not be possible to clearly distinguish between those fully treated and those who were assigned to a treatment group but did not participate. Nevertheless, it is informative to cast a look at the differences between the "fully treated" and the control group. As mentioned in the previous section, due to self-selection into the group of compliers, results may be biased. However, we can to some extent control for this bias using matching techniques or by calculating the local average treatment effect (LATE, see Angrist et al. (1996) and Angrist and Pischke (2008)). Thereby, in a two-stage-least-squares model, group assignment constitutes an instrument for being fully treated. The instrumental variable approach confirms the results presented in the previous section for individuals with a low level of education, suggesting a strong effect of the "survey + info-clip" treatment for this subgroup (see Tables A8 and A9 in the Appendix).

As hypothesized, the treatment that was designed to stimulate reflection *before* offering information had the strongest effect, indicating that this order of nudges is indeed more effective than providing information before the reflection stimulus. However, we cannot completely rule out that the differences between the two treatment groups are due to self-selection into the treatments, that is, that those who actually clicked on the link to the treatment "survey + info-clip" differed from those who clicked on the link to the "info-clip + survey" treatment, because different individuals were motivated to different degrees by the survey-focused and the info-clip-focused invitation to participate. Furthermore, the slightly lower response rate for "info-clip + survey" than for "survey + info-clip" might be responsible for why the former displayed a significant effect while the latter did not. Hence, for future studies, we suggest that measures to increase response rates, such as sending reminders or providing incentives for participation, may be taken in order to increase the proportion of those who actually receive the full treatment.

8 | CONCLUSION

We presented the results of a field experiment among young unemployed individuals testing the effects of an information nudge and what we termed a "reflection nudge" on job search success. We designed four different treatments, consisting either of a short information video-clip containing information on effective job search strategies, a short survey about job search behavior, or a combination of info-clip and survey (one treatment featuring the info-clip first and one with the survey followed by the info-clip). Links to the treatments were distributed by email.

The rationale behind providing the young unemployed not only with information but also with a stimulus to reflect on their own behavior is based on dual process theory (Kahneman, 2011). This theory stipulates that while reflective, goal-oriented processing is necessary to induce long-term behavioral effects, individuals usually rely on automated, affective processes that require little cognitive engagement (Marteau et al., 2011). Hence, the more cognitively intense reflective mode needs to be first activated by a stimulus—in our case by a short online survey.

In line with these assumptions, we found a positive effect of the treatment in which the survey is followed by the info-clip. This effect is significant for the subgroup of those with a low level of formal education only: this was to be expected, given that previous studies have come to similar conclusions by studying the heterogeneous effects of more intensive job search trainings (Kanfer et al., 2001), and given that our treatments were specifically aimed at providing basic information. While the size of the predicted effect may be deemed small—being assigned to the "survey + info-clip" treatment raised the probability of finding employment within a six months period by 3.6 percentage points—the extremely low costs imply a very high efficiency of the intervention.

Our experiment also supports the central finding of Altmann et al. (2018), namely that job search nudges exert significant effects on those who are at high risk of long-term unemployment. Following up on their findings, our study highlights the potential benefits of nudging in the context of job search or ALMPs more generally. While nudges may of course not replace personal job counseling or intensive training, they could easily complement existing interventions. In addition, combining existing information strategies with reflection stimuli may reinforce the

impact of these strategies. Future interventions might also target other disadvantaged groups, such as migrants who might be limited by their native language proficiency when engaging directly with job counselors (Scheibelhofer & Holzinger, 2018), but could receive information and reflection nudges in their respective mother-tongues.

Our study has some limitations: First, the target group of our research consisted of individuals who had supplied their email address when registering as unemployed. Registered unemployed may differ systematically from unregistered unemployed and those who supplied an email address could differ from those who did not. Therefore, results from this study cannot necessarily be generalized beyond the target group. Second, like other ALMP measures, successful nudges may result in the crowding-out of other job-seekers competing for the same jobs. Yet, we would argue that our nudges were not only designed to stimulate job search per se, but also to improve job match, that is, help individuals find suitable jobs, for example by prompting them to reflect on jobs they would like have and asking them whether they possessed the necessary qualifications for these jobs. Data restrictions limited our means to analyse the quality of the jobs that were found. Future research is called to test whether similar interventions can improve participants' abilities to achieve better job matches or higher wages. Furthermore, while targeting several components of information that have proven successful in previous ALMPs (Liu et al., 2014), our treatments did not target participants' reflection on their productivity and reservation wages. As reservation wages might be one reason why low-qualified unemployed individuals tend to have problems finding a job (Mueller et al., 2021), future studies might test whether tailoring nudges to correct these misperceptions can improve effectiveness. Third, because of restrictions in the access to governmental register data, our observation period was limited to six months after the treatment. As research by Card et al. (2017) and Altmann et al. (2018) suggests, benefits of job search interventions may appear only after considerable delay. Hence, we might underestimate the effect of our nudges. Future research should therefore seek to extend the observation period.

We encourage testing extensions and variations of our nudges in the field of ALMPs. Furthermore, and more generally, our study highlights the potential benefits of prepending a stimulus for reflection to information. A "reflection nudge" like the one we implemented in the form of a short survey might be used in many future applications of nudging across different fields of public policy.

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ENDNOTES

[i] See, for example Mauch, Uwe (2014): Aus für sinnlose AMS-Kurse. In: Kurier, March 11, 2014 https://kurier.at/wirtschaft/aus-fuer-sinnlose-ams-kurse/55.474.811 (retrieved November 18, 2018).

[ii] In their meta-analysis, Liu et al. (2014) also account for a potential publication bias.

[iii] All treatments were accessed by a single link to an online-questionnaire in the invitation mail. In the "survey" treatment, the online-questionnaire contained an intro-page, followed by a few pages containing the survey questions, and a last page with an open-ended feedback question. In the "info-clip" treatment, the info-clip was embedded on the second page of the online-questionnaire, followed by the page with the feedback question. In the "info-clip + survey" treatment, the survey questions were placed after the info-clip (without the possibility to return to the video). In the "survey + info-clip" treatment, we used the same approach but reversed the order of survey and info-clip.

[iv] We cannot exclude the possibility that the addressee forwarded the email message to someone else who then clicked on the link. But there is no reason to believe this to have been the case more often than occasionally, if at all.

[v] This was checked ex post using register data. Results are robust against inclusion of this criterion and against variations of the cut-off date June 30.

[vi] Indicating if someone ever held a job for a period of more than six months in his/her career.

[vii] It can be disputed to what extent reading the email invitation already constitutes a part of the treatment. However, we are unable to distinguish between those who have read the email but not clicked on the link and those who have not received or simply not read the email.

[viii] In the pre-test, sending a reminder increased contact rates by about 50%, but the ministry did not authorize sending a reminder in the main study.

[ix] In our survey, respondents were asked which search channel they deemed to be the most effective one. According to the literature, the most effective search channel is social networks (friends and relatives), especially for low-skilled jobs (Oesch & von Ow, 2017). However, among those with a low level of education, only 28.8% provided this answer, compared to 37.2% among the rest of the respondents, indicating that this search channel is particularly underestimated among those for whom it might be most relevant.

[x] Due to the boundedness of the observation period, the maximum value of this variable is 26 weeks.

[xi] However, registered unemployed individuals in Austria are in any case quite closely monitored. They have regular appointments at the local branches of the public employment service and receive regular updates by email or mail from their case workers.

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APPENDIX A.

Invitation emails (translated from German)

Sender: forschung@sozialministerium.at

***Survey treatment*:**

Subject: Job search survey of the University of Vienna

Dear Sir or Madam,

In collaboration with the Ministry of Social Affairs we are conducting a survey on the subject of job search.

It takes about 5 minutes to fill in the questionnaire. Your answers are very important to us!

Your data will be treated strictly confidential.

Please click on the following link for the questionnaire:

- To the questionnaire

Thank you very much for your support,

Prof. Bernhard Kittel, University of Vienna – Department of Economic Sociology

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This email has been sent to randomly selected (former) AMS-Clients in strict accordance with the data protection regulations. Please do not reply to this email directly. If you have any questions, please contact [email].

***Survey + Info-clip treatment*:**

Subject: Job search survey of the University of Vienna

Dear Sir or Madam,

In collaboration with the Ministry of Social Affairs we are conducting a survey on the subject of job search.

It takes about 5 minutes to fill in the questionnaire. Subsequently there is a 2-minute video. Please take some time to fill in the survey and watch the video. Your answers and your opinion of the video are very important to us!

Your data will be treated strictly confidential.

Please click on the following link for the questionnaire and the video:

- To the questionnaire and the video

Thank you very much for your support,

Prof. Bernhard Kittel, University of Vienna – Department of Economic Sociology

––––

This email has been sent to randomly selected (former) AMS-Clients in strict accordance with the data protection regulations. Please do not reply to this email directly. If you have any questions, please contact [email].

***Info-clip + Survey treatment*:**

Subject: Job search video of the University of Vienna

Dear Sir or Madam,

In collaboration with the Ministry of Social Affairs we created a video on the subject of job search.

It takes 2 minutes. Subsequently there is a 5-minute questionnaire. Please take some time to watch the video and fill in the survey. Your opinion of the video and your answers are very important to us!

Your data will be treated strictly confidential.

Please click on the following link for the video and the questionnaire:

- To the video and the questionnaire

Thank you very much for your support,

Prof. Bernhard Kittel, University of Vienna – Department of Economic Sociology

––––

This email has been sent to randomly selected (former) AMS-Clients in strict accordance with the data protection regulations. Please do not reply to this email directly. If you have any questions, please contact [email].

***Info-clip treatment*:**

Subject: Job search video of the University of Vienna

Dear Sir or Madam,

In collaboration with the Ministry of Social Affairs we created a video on the subject of job search.

It takes 2 minutes. Please take some time to watch the video and tell us what you think about it. Your opinion is very important to us!

Your data will be treated strictly confidential.

Please click on the following link for the video:

- To the video

Thank you very much for your support,

Prof. Bernhard Kittel, University of Vienna – Department of Economic Sociology

––––

This email has been sent to randomly selected (former) AMS-Clients in strict accordance with the data protection regulations. Please do not reply to this email directly. If you have any questions, please contact [email].

Text info-clip (translated from German):

Unemployment is experienced very differently: First the shock. Then a positive phase can follow; a chance for a new start: some relief if the termination has been preceded by negative affect or anxiety, more time for yourself, friends and family. However, as is known from scientific studies, this state of affairs all too often turns into the opposite: worries and fears, money problems and family disputes increase. Since it is often uncomfortable for those affected to speak about their unemployment, they may withdraw from their friends. Self-doubt and resignation may ensue. Overall life satisfaction may decrease, which in the longer run may even lead to health problems.

In order to avoid long-term unemployment, it is important to stay active and to approach job search with explicit targets. First it must be clear: Which job do I want? What are my strengths? Who can help me find a job? In addition to the AMS [Austrian Public Employment Service] as the official point of contact, many jobs can also be found on the internet. It is also important to ask your friends. Studies show that most jobs are found through friends and relatives.

Employers look for good application documents: an appealing layout, an error-free text, a convincing letter of motivation, covering the questions of why you apply for this specific job and what skills you have. If you do not have the necessary qualifications for the desired job, you can do further training first to apply later for a better position.

Even if you do everything right, rejections are normal. But: statistics show that people who write more applications also get a job more quickly. Every good application increases the chance of a "yes".

Questionnaire (translated from German) [survey + info-clip treatment]

The Department of Economic Sociology at the University of Vienna, in collaboration with the Ministry of Social Affairs, is conducting a survey on the topic of job search.

We would like to ask you to answer a 5-minute survey and then watch 2-minute video-clip.

Your information will of course be kept strictly confidential and analysed anonymously.

1. Are you currently searching for a job? (multiple answers)

Yes, I am searching for a job

Yes, I am searching for an apprenticeship

No, I already have a job / an apprenticeship

No, I have already found a job / apprenticeship

No, I am currently in or will soon start an education/training

No, I am not searching for a job for another reason

2. If you could choose a job, how important would the following aspects be for you?

(4-very important to 1-very unimportant)

- A job which allows me to learn new things
- Good career prospects
- A job which allows for self-development
- A high income
- An interesting job
- A job which is well respected
- A job which allows me to develop my creativity
- A job where I can help others
- An unlimited contract
- Much contact with other people
- A job that leaves me enough time for leisure activities

3. Please think of the job you would like to have. Do you have the necessary qualifications for this job?
Yes / No / I don't know
4. Would you like to engage in further education or training?
yes – rather yes – rather no – no
[if (rather) yes]
5. Which form of further education or training would you like to undertake? You can provide more than one answer.

- Go to school (e.g. to complete compulsory education or the Matura [Austrian high-school exam])
- Start or finish an apprenticeship (within a firm or public school)
- Take a course which adds to my qualifications in my current job
- Go to university
- Other: _____

[if currently searching for a job / an apprenticeship according to question 1]
6. What are you planning to do in the next weeks to find a job?
Please check all options that apply.
I will…
…apply for jobs that are suggested to me by the AMS
…search for job ads on the internet
… search for job ads in newspapers
…post an ad myself (in a newspaper or on the internet)
…apply to firms even if they are not currently advertising any open positions
…search via social networks (Xing, Facebook, LinkedIn or similar)
…ask friends and relatives
…hire a private job placement officer
I will use other search channels: ___
[all]
7. A short quiz: What do you think how most people find a new job?

- They apply to job ads from the AMS
- They apply to job ads in newspapers or on the internet
- They post their own ads (in a newspaper or on the internet)
- They apply to firms even if these are not currently advertising any open positions
- They search via social networks (Xing, Facebook, LinkedIn or similar)
- They ask friends and relatives
- They hire a private job placement officer

[show solution]
Answer to the quiz
A study from the University of Vienna shows: Most jobs are found through referrals by friends, acquaintances or relatives.
[if currently searching for a job / an apprenticeship according to question 1]
8. How many people do you know who could help you with your job search? Think of parents, siblings or other relatives, friends, colleagues, etc.
No one
1 person

2-4 persons
5-10 persons
More than 10 persons

9. How long do you think it will take until you find a suitable job?

Less than one month
…. months
More than one year

10. Please think of your application documents such as your CV and letter of motivation. To what extent do the following statements apply to you? (5-fully applies to 1-does not apply at all)

My application documents are already perfect
I will prepare/update my application documents during the next days/weeks
My resume clearly shows which skills I possess
When I apply for a position, I emphasize in the letter of motivation why I am interested in the specific position

11. How would the following things change in your life if you found a suitable job? (would improve, would not change, would deteriorate)

My well-being
My financial situation
My chance to show what I can do
My opportunity to develop myself further
[all]

12. The following statements characterize different attitudes towards life and the future. Please tell us to what extent you agree. (5-fully agree to 1-completely disagree)

What you achieve in life is primarily due to fate or luck
You must work hard to be successful
What happens to me is my own doing

13. Finally, we would like to know how you liked our survey.

We look forward to every comment!

Many thanks!

We would like to thank you very much for taking the time to answer our questions.
You can now close the browser window.

TABLE A1 Reductions of the initial target group due to data restrictions, size of the final target group, and number of fully treated individuals

	Control	Survey	Info-clip	Info-clip + survey	Survey + info-clip	All
Initial target group (based on official register data obtained in May 2017)	**7333**	**7000**	**7000**	**7000**	**7000**	**35,333**
In employment at time of treatment (mid-May)[a]	−1402	−1388	−1326	−1377	−1376	−6869
In employment by June 30[a]	−1530	−1423	−1435	−1385	−1401	−7174
Re-employment agreement	−225	−240	−201	−230	−225	−1121
Final target group	**4176**	**3949**	**4038**	**4008**	**3998**	**20,169**
No contact (did not click on link)		−3257	−3535	−3594	−3540	
Drop-out (did not answer all survey questions and/or did not watch the whole info-clip)		−211	−182	−107	−136	
Fully treated		**481**	**321**	**307**	**322**	

[a]Based on ex-post evaluation of register data.

TABLE A2 Central characteristics influencing labor market reintegration, share (in %) or mean by experimental groups

Characteristic	Group					
	Control	Survey	Info-clip	Info-clip + survey	Survey + info-clip	*p*
Highest level of education						
ISCED 0–2	36.8	37.5	38.5	37.6	37.5	
ISCED 3	35.5	36.6	35	35.8	35.4	
ISCED 4–5	16.7	15.4	15.9	16	16.8	
ISCED 6–7	11	10.5	10.6	10.7	10.3	0.81
Gender/child						
Female with child	17	16.4	17.6	18.1	17.2	
Female without child	34.8	36.0	33.8	34	33.4	
Male	48.3	47.5	48.6	47.9	49.4	0.24
Citizenship (≠ Austrian)	42.1	42.9	42.5	41.9	44	0.33
Ever employed >6 months (=yes)	81.3	80.7	80.5	81.7	80.9	0.66
Last unempl. period >6 months (=yes)	33.7	34.0	34.8	33.6	34.3	0.82
Place of residence (=Vienna)	41.6	40.8	42.9	40.9	42.8	0.15
Age	27.1	27	27.1	27.1	27.2	0.52
Unemployment duration before treatment (months)	3	3	3	3	3	0.95
N	4176	3949	4038	4008	3998	

Note: N corresponds to the restricted target group (see Table A1). *p*-values for balancing tests are based on chi^2-tests for categorical variables and ANOVA for continuous variables. There are no significant differences between the groups.

TABLE A3 Determinants of job-search success (calculated based on data from the control group)

	Model 1			Model 2		
	Coeff.	(SE)		Coeff.	(SE)	
Highest level of education (ref: ISCED 0–2)						
ISCED 3	0.33	(0.08)	***	0.23	(0.06)	***
ISCED 4–5	0.30	(0.10)	**	0.21	(0.07)	**
ISCED 6–7	0.48	(0.12)	***	0.35	(0.09)	***
Gender/kids (ref: female with child)						
Female without child	0.50	(0.10)	***	0.40	(0.08)	***
Male	0.61	(0.10)	***	0.44	(0.07)	***
Age	−0.04	(0.01)	***	−0.03	(0.01)	***
Citizenship (≠ Austrian)	−0.01	(0.07)		−0.03	(0.05)	
Unempl. Duration before treatment (in months)	−0.03	(0.02)		−0.03	(0.02)	
Ever employed >6 months (=yes)	0.63	(0.09)	***	0.49	(0.07)	***
Last unempl. Period >6 months (=yes)	−0.21	(0.07)	**	−0.18	(0.05)	***
Place of residence (=Vienna)	−0.41	(0.07)	***	−0.29	(0.05)	***
Intercept	−0.08	(0.24)				
N		4161			4161	
AIC/found new job		5539			1825	

Note: Model 1: probability of taking-up employment within six months. Model 2: Cox regression model on the hazard rate for taking up of employment.
***$p < 0.001$, **$p < 0.01$, *$p < 0.05$; robust standard errors in parentheses.

TABLE A4 Logistic regression models on the probability of taking up of employment within the six-months period following the treatments *among individuals with a low level of education*

	Model 1			Model 2		
	Coeff.	(SE)		Coeff.	(SE)	
Group (ref: control)						
Survey	0.06	(0.07)		0.06	(0.08)	
Info-clip	−0.03	(0.07)		0.00	(0.08)	
Info-clip + survey	0.06	(0.07)		0.08	(0.08)	
Survey + info-clip	0.15	(0.07)	*	0.16	(0.08)	*
Gender/kids (ref: female with child)						
Female without child				0.28	(0.08)	***
Male				0.53	(0.07)	***
Age				−0.04	(0.01)	***
Citizenship (≠ Austrian)				0.12	(0.05)	*
Unempl. Duration before treatment (in months)				0.01	(0.02)	
Ever employed >6 months (=yes)				0.43	(0.06)	***
Last unempl. Period >6 months (=yes)				−0.02	(0.05)	
Place of residence (=Vienna)				−0.53	(0.05)	***
Intercept	−0.45	(0.05)	***	−0.02	(0.17)	
N		7552			7552	
AIC		10,180			9912	

Note: ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$; robust standard errors in parentheses.

TABLE A5 Logistic regression models on the probability of taking up of employment within the six-months period following the treatments *for the whole sample*

	Model 1			Model 2		
	Coeff.	(SE)		Coeff.	(SE)	
Group (ref: control)						
Survey	−0.02	(0.04)		−0.02	(0.05)	
Info-clip	−0.02	(0.04)		−0.01	(0.05)	
Info-clip + survey	0.00	(0.04)		0.01	(0.05)	
Survey + info-clip	0.01	(0.04)		0.03	(0.05)	
Highest level of education (ref: ISCED 0–2)						
ISCED 3				0.27	(0.04)	***
ISCED 4–5				0.17	(0.04)	***
ISCED 6–7				0.42	(0.05)	***
Gender/kids (ref: female with child)						
Female without child				0.41	(0.05)	***
Male				0.52	(0.04)	***
Age				−0.03	(0.00)	***
Citizenship (≠ Austrian)				−0.04	(0.05)	
Unempl. Duration before treatment (in months)				−0.03	(0.01)	**
Ever employed >6 months (=yes)				0.53	(0.04)	***
Last unempl. Period >6 months (=yes)				−0.15	(0.03)	***
Place of residence (=Vienna)				−0.44	(0.03)	***
Intercept	−0.20	(0.03)	***	0.07	(0.11)	
N		20,095			20,095	
AIC		27,653			26,836	

Note: ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$; robust standard errors in parentheses.

TABLE A6 Cox regression models on the hazard rate for taking up of employment *among individuals with a low level of education*

	Model 1			Model 2		
	Coeff.	**(SE)**		**Coeff.**	**(SE)**	
Group (ref: control)						
Survey	0.05	(0.06)		0.04	(0.06)	
Info-clip	−0.01	(0.06)		0.01	(0.06)	
Info-clip + survey	0.05	(0.06)		0.06	(0.06)	
Survey + info-clip	0.12	(0.06)	*	0.13	(0.06)	*
Gender/kids (ref: female with child)						
Female without child				0.22	(0.06)	***
Male				0.41	(0.06)	***
Age				−0.03	(0.00)	***
Citizenship (≠ Austrian)				0.09	(0.04)	*
Unempl. Duration before treatment (in months)				0.02	(0.01)	
Ever employed >6 months (=yes)				0.29	(0.04)	***
Last unempl. Period >6 months (=yes)				−0.03	(0.04)	
Place of residence (=Vienna)				−0.40	(0.04)	***
N		7552			7552	
Found new job		2936			2936	

Note: ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$; robust standard errors in parentheses.

TABLE A7 Cox regression models on the hazard rate for taking up of employment *for the whole sample*

	Model 1		Model 2		
	Coeff.	**(SE)**	**Coeff.**	**(SE)**	
Group (ref: control)					
Survey	−0.01	(0.03)	−0.01	(0.03)	
Info-clip	−0.01	(0.03)	0.00	(0.03)	
Info-clip + survey	0.01	(0.03)	0.01	(0.03)	
Survey + info-clip	0.01	(0.03)	0.02	(0.03)	
Highest level of education (ref: ISCED 0–2)					
ISCED 3			0.19	(0.03)	***
ISCED 4–5			0.13	(0.03)	***
ISCED 6–7			0.33	(0.04)	***
Gender/kids (ref: female with child)					
Female without child			0.32	(0.03)	***
Male			0.40	(0.03)	***
Age			−0.03	(0.00)	***
Citizenship (≠ Austrian)			−0.04	(0.02)	
Unempl. Duration before treatment (in months)			−0.02	(0.01)	**
Ever employed >6 months (=yes)			0.39	(0.03)	***
Last unempl. Period >6 months (=yes)			−0.13	(0.02)	***
Place of residence (=Vienna)			−0.34	(0.02)	***
N		20,095		20,095	
Found new job		8797		8797	

Note: ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$; robust standard errors in parentheses.

TABLE A8 Local average treatment effect (LATE) of "Fully treated (with survey + info-clip)" on "new job within 6 months" *for individuals with a low level of education*

	First stage			Second stage		
	Coeff.	**(SE)**		**Coeff.**	**(SE)**	
Fully treated (with survey + info-clip)				0.57	(0.27)	*
Assigned to survey + info-clip treatment	0.07	(0.01)	***			
Gender/kids (ref: female with child)						
Female without child	0.00	(0.01)		0.06	(0.03)	*
Male	−0.02	(0.01)		0.13	(0.03)	***
Age	0.00	(0.00)		−0.01	(0.00)	***
Citizenship (≠ Austrian)	−0.01	(0.01)		0.04	(0.02)	
Unempl. Duration before treatment (in months)	0.00	(0.00)		0.00	(0.01)	
Ever employed >6 months (=yes)	−0.01	(0.01)		0.13	(0.02)	***
Last unempl. Period >6 months (=yes)	0.01	(0.01)		−0.01	(0.02)	
Place of residence (=Vienna)	0.01	(0.01)		−0.13	(0.02)	***
Constant	−0.01	(0.02)		0.54	(0.06)	***
N		3026			3026	
F (Prob > F)	107.6	(0.00)				
Wald chi^2 (Prob > chi^2)				152.8	(0.00)	
R^2		0.004			0.004	

Note: 2SLS Regressions with "new job within 6 months" as the dependent variable, "fully treated" as the endogenous explanatory variable and being in the "survey + info-clip" treatment group (vs. being in the control group) as the instrument. LATE estimates for the other treatments are available from the authors upon request. In line with the suggestions by Angrist and Pischke (2008), we use 2SLS to calculate the LATE estimators despite non-linearity.
***$p < 0.001$, **$p < 0.01$, *$p < 0.05$; robust standard errors in parentheses.

TABLE A9 Local average treatment effect (LATE) of "Fully treated (with survey + info-clip)" on "weeks until new job" *for individuals with a low level of education*

	First stage			Second stage		
	Coeff.	**(SE)**		**Coeff.**	**(SE)**	
Fully treated (with survey + info-clip)				−10.23	(4.54)	*
Assigned to survey + info-clip treatment	0.07	(0.01)	***			
Gender/kids (ref: female with child)						
Female without child	0.01	(0.01)		−1.16	(0.44)	**
Male	0.02	(0.01)		−2.21	(0.39)	***
Age	0.00	(0.00)		0.23	(0.03)	***
Citizenship (≠ Austrian)	0.01	(0.01)		−0.42	(0.31)	
Unempl. Duration before treatment (in months)	0.00	(0.00)		−0.22	(0.11)	*
Ever employed >6 months (=yes)	−0.01	(0.01)		−1.70	(0.34)	***
Last unempl. Period >6 months (=yes)	0.01	(0.01)		0.35	(0.31)	
Place of residence (=Vienna)	0.01	(0.01)		2.13	(0.31)	***
Constant	−0.01	(0.02)		16.35	(1.06)	***
N		3026			3026	
F (Prob > F)	106.0	(0.00)				
Wald chi^2 (Prob > chi^2)				162.3	(0.00)	
R^2		0.04			0.04	

Note: 2SLS Regressions with "weeks until new job" as the dependent variable, "fully treated" as the endogenous explanatory variable and being in the "survey + info-clip" treatment group (vs. being in the control group) as the instrument. LATE estimates for the other treatments are available from the authors upon request. In line with the suggestions by Angrist and Pischke (2008), we use 2SLS to calculate the LATE estimators despite non-linearity.
***$p < 0.001$, **$p < 0.01$, *$p < 0.05$; robust standard errors in parentheses.