Bridging the Intention-Behavior Gap? The Effect of Plan-Making Prompts on Job Search and Employment

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May 7, 2017

PRELIMINARY DRAFT - PLEASE DO NOT QUOTE

Abstract

We present a field experiment with unemployed youths in South Africa to test the effect of plan making on job search and employment. Five to twelve weeks after completing a detailed job search plan, participants increase the number of job applications submitted (15%), but not the time spent searching. This is consistent with the intention-behavior gaps measured at baseline and suggests improved efficiency of search. In addition, we find that job seekers diversify their search strategy and use more formal search channels. These increases in search efficiency and effectiveness translate into more job offers (30%) and employment (26%). We further combine action planning with weekly reminders and a peer-support intervention. Neither of these additional interventions improves the effectiveness of plan making, providing suggestive evidence against commitment and limited attention as underlying mechanisms of the action plan.

1 Introduction

Job search is a complex undertaking. Determining which search channels are likely to be most effective and choosing how much time to invest in alternative search activities can be overwhelming. Often these decisions must be made with little or no feedback on how to increase the probability of receiving a job offer, which can result in sub-optimal search behavior.

As job search is largely self-regulated, there is a variety of psychological and behavioral challenges seekers face. Spinnewijn (2015), for instance, shows that biases in beliefs about returns to search effort can lead to sub-optimal search intensity. Search efforts have also been shown to depend on job seekers present-bias (DellaVigna and Paserman, 2004), their locus of control Caliendo et al. (2015); McGee and McGee (2015), as well as on self-confidence and willpower (Falk et al., 2006).

The focus of the present paper is on the so-called intention-behavior gap, defined as the imperfect relationship between the intention to perform a particular behavior and the actual enactment. While the exact mechanisms by which planning prompts promote follow-through are difficult to pin down, there is convincing evidence that planning and scheduling tasks help people follow through on a variety of behaviors, ranging from voting (Nickerson and Rogers (2010)), to getting vaccinations (Milkman et al. (2011)), medical screening (Milkman et al. (2013)) and exercising (Prestwich et al. (2003)) (see Rogers et al. (2015) and Hagger and Luszczynska (2014) for recent reviews).

Building on this research, we use a field experiment with a sample of 1,100 unemployed South African youth to test the effect of plan-making prompts on search behavior and employment. As part of a job counseling workshop conducted by the South African Department of Labour, job seekers complete a detailed daily plan for whether, how and where they search. They also determine how many hours to search and the number of applications they plan to submit per week.

Failing to follow through on the intended job search plan does not necessarily mean that people do not search at all; it could also refer to switching from high-cost, high return activities (like traveling into town to look for work or compiling and submitting applications as they risk getting rejected) to low cost activities (like browsing the job websites or calling a friend and asking whether they know of any jobs). In fact, we find that at the beginning of the study

participants spend as much time searching as they intend to. By contrast, the number of applications they submit is much lower than their stated goal.

Our first main result is that five to twelve weeks after the action plan intervention, job seekers change their job search intensity, but *only* for the behavior for which we document an intention-behavior gap. Specifically, completing an action planning increases the number of job applications submitted by about 15% compared to participants who only attended the workshop, but does not affect the number of hours people spent searching. This suggests that the planning prompt increases the *efficiency* of search. That is, the action plan increases time spent on job search activities that result in submitted applications, while job-seekers in the control group appear to spend more hours on ineffective search that does not lead to applications. Self-reported data is further corroborated by observed data on job search behavior: after being informed about a vacancy seekers who completed an action plan are 11% and 29% more likely to submit an application than the workshop and control group, respectively (although the former result is not statistically significant).

Our second main finding is that the action plan induces people to use a wider range of search channels. In particular, participants switch from predominantly using informal channels like talking to family and friends to formal channels like submitting applications to advertisements which arguably requires more planning. This diversification of job channels leads to an increase in search *effectiveness*, arguably because of decreasing returns to using each channel and complementarities in some search activities.

These gains in search efficiency and search effectiveness translate into an increase in job offers (30%) and employment (26%), although only the former result is significantly different from the workshop group. We find that participants in the action plan group are significantly more likely to report in the follow-up survey that they found a job by answering advertisements, which is consistent with the explanation that a diversification from informal to formal channels increases search effectiveness.

Rogers et al. (2015) review the most prominent reasons suggested in the literature as to why plan-making prompts work. First, unpacking complex tasks into specific activities (when, where, and how) may help people to follow through on intentions, as they can anticipate challenges and have a more realistic understanding of the required steps. Second, planning can

help overcome forgetfulness by promoting recall of the intended behavior. Simply asking people about their intentions to carry out a specific behavior increases the likelihood of follow-through as it brings tasks to their 'top of mind' (Karlan et al. (2016)) or as people are more responsive to environmental cues ((Gollwitzer, 1999)). Finally, making a concrete action plan may serve as a commitment device. To the extent that individuals try to avoid the discomfort of failing to achieve a goal - either in front of peers or themselves - they are less likely to procrastinate (Laibson, 1997; Prestwich et al., 2012).

In order to explore which of these mechanisms may be more relevant in the domain of job search, our experimental design includes two sub-treatments. First, participants in the treatment group were further randomized to receive weekly SMS reminders about their stated job search plans. While the reminder increases the likelihood that participants remember their search intentions by about 40%, this treatment does not improve the effectiveness of the action plan.

Second, half of the group that completed the action plan was also asked to nominate a person who could help the job seekers to follow on their search plans. This peer subsequently received text messages about the job seeker's search intentions. We find that peers are willing to serve this role and participants are very positive about how helpful this person was. However, we do not find that this sub-treatment increases the effectiveness of the action plan either. While not conclusive, results from these two sub-treatments provide suggestive evidence against the importance of commitment (or accountability) and limited attention in our context.

The results in this paper point to action plans playing the role of 'unpacking' the different components of a multifaceted task. In particular, some sub-tasks may have higher psychological costs than others (e.g. browsing the internet vs. submitting applications and face rejection) and may differ in their returns.[1] For a given amount of time devoted to search, individuals may be more prone to focus on low-cost/low-return activities in the absence of a concrete plan that breaks up job search into well-specified and less costly tasks.[2] Consistent with this explanation, we find that the specific goals participants set themselves after completing a detailed plan of their job search activities are a significant predictor of the subsequent change in search behavior.

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[1]For instance, preparing an application and submitting it to job vacancy advertisements may require the same amount of time as contacting close relatives to inquire about jobs in their firms, but the probability of receiving a response and ultimately an offer as a result of these efforts may differ significantly.

[2]The effect of i) committing to a high return but unpleasant task, and ii) figuring out how to overcome the logistical and scheduling constraints, may be important factors in overcoming the intention-behavior barrier.

Our study makes several important contributions to the literature. First, we extends research on action planning to the important domain of job search. Research in social psychology suggests that the stronger the intentions to perform a certain behavior, the higher the likelihood of overlooking factors like plan-making, as people mistakenly believe that the strength of intentions will bring about engagement in the desired behavior (Koehler et al., 2011). Testing the effect of planning prompts for other important behaviors that are similarly complex as job search appears promising.

Our paper also relates to the larger literature on the effectiveness of active labor market policies (ALMPs), and more specifically of interventions aimed to boost job search intensity and/or efficacy (Card et al. (2015)). McKenzie (2017) provides a recent reviews on the effectiveness of ALMPs in developing countries. He concludes that the vast majority of studies find modest employment gains of about 2 percentage points. In line with this conclusion, we estimate that the government-run job counseling workshop increases employment by 1.9 percentage points. Results in this paper demonstrate how simple design tweaks (e.g. adding an action plan module to a workshop) addressing behavioral biases of job seekers may improve the effectiveness of ALMPs (Babcock et al. (2012)). Plan-making prompts are particularly promising as they are low-cost, easy to implement and preserve people's freedom of choice (Sunstein and Thaler (2008)).

We further contribute to an established literature investigating returns to different search channels (Holzer, 1988; Kuhn and Mansour, 2014; Kroft and Pope, 2014). Our experimental design at least partially addresses concerns about observational studies that search channels are endogenous. Our results indicate that there are high returns to diversifying your search strategy, complementing recent experimental evidence by (Belot et al., 2015) who find large returns to extending job search to additional sectors.

The rest of the paper proceeds as follows. Section 2 describes the research design and identification strategy. Section 3 reports the main results and Section 4 discusses potential mechanisms. Section 5 concludes.

2 Study Design

2.1 Background and Study Sample

A rising number of young people globally are not enrolled in education, employed, or searching for work (Bank (2013)). This problem is particularly severe in South Africa. Almost half of youths are unemployed (SA (2016)) and 65% of young people were classified as discouraged in 2014. While (youth) unemployment in South Africa is considered largely a structural problem, recent research has documented significant frictions in the labor market. [3]

The South African Department of Labour is trying to address these market inefficiencies through a range of employment services including job counseling and job referrals. However, public services are severely resources constrained in the context of sluggish economic growth. This study is part of a larger agenda to test innovative programs that are inexpensive and scalable.

Our sampling frame is the Employment Services South Africa (ESSA) data base comprising of more than 550,000 job seekers collected by the South African Department of Labour. We limit our study sample to South African unemployed job seekers between the ages of 18 and 34 who registered with ESSA in the previous 18 months and live within traveling distance from the urban labour centres that were part of the study. [4]

We randomly selected job seekers who meet these criteria and contact them using the phone number provided in ESSA. In the telephone call, surveyors invite job seekers to participate in an employment service study at the local labor center on a specified day. In return, they will receive a small stipend of 30 Rand (2.5 USD) that covers their travel cost. Of individuals successfully contacted, approximately 67% agreed to participate and of those who agreed, 63.5% came to the labor center on the specified day. While more educated job seekers are slightly more likely to be part of our sample, gender and age do not predict whether people accept the study invitation.

Our final sample consists of 1,097 unemployed youths. Table 1 provides summary statistics: the sample is relatively educated (12.1 years of education) and almost 80% previously held a

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[3] Abel et al. (2017) document that reducing information asymmetries between hiring firms and job seekers through reference letters can improve match quality.

[4] We worked with the following centres: Krugersdorp, Sandton and Soweto. These are townships in the Gauteng province.

job. Participants are actively looking for work and spend about 8 hours per week on job search and incur costs of 76 Rand (about 6USD). However, their number of applications (4.4 per months) is relatively low.

Table 1: Sample Characteristics

	N	Mean	Median	SD
Age in yrs	1097	26.69	26	4.47
Female	1097	.52	1	.5
Education (years)	1096	12.12	12	1.16
HH Size (adults)	1097	2.36	2	1.91
1=moved to Joburg	1097	.3	0	.46
1=ever had job	1097	.79	1	.4
Reservation wage, baseline	1091	3162.13	3000	1832.97
Fair Wage	1097	5800.36	5000	3209.01
Nbr Employed Friends	1097	1.88	1	2.08
Hrs/week, BL	1058	11.35	8	9.87
Apps/month, BL	1087	4.36	3	5.26
Responses/month, BL	1088	.47	0	.86
Interviews/month, BL	1087	.24	0	.54
Offers/month, BL	1088	0	0	0
Transport costs (BS)	1043	76.92	45	91.73

2.2 Intervention Design

We randomly assigned participants to one of four experimental conditions: (i) Control, (ii) Workshop only (Workshop), (iii) Workshop plus Action Plan (Workshop+AP), and (iv) Workshop plus Action Plan plus Peer Support (Workshop+AP+Peer). (Balance tables are provided in the Appendix.) The Workshop intervention is the standard 90-minute career-counseling session conducted by the Department of Labour. The career counselor covers topics such as job search strategies, CV creation, interview techniques, and access to information and resources for job search.

Layered on top of the Workshop is a job-search planning intervention where participants were provided with an action plan template designed by the research team and were invited to create their personal action plan (Workshop+AP). The 402 job seekers assigned to this treatment were asked to think about the time they have available in a typical week and fill out the job search activities they plan to do on any given day of the week. (The Action Plan templates is provided in the Appendix.) Respondents were encouraged to be realistic about

their job search plans and were asked to provide specific details, i.e. the how, when, and where of their proposed activities (for example, which newspaper to read, where to travel to search for work, etc.) since increased detail about the actualization of desired behavior has been shown to improve follow-through on intentions (Rogers et al. (2015)). [5] After completing the action plan, participants are also asked to list weekly goals for hours spent searching, number of identified job opportunities, and number of submitted applications. Participants took the plan home and received an additional blank action plan template in case they wanted to change their job search plan.

A random subset of 206 job seekers in the action plan group receives an additional workshop module in which they are asked to identify a peer that can help them to follow up on their plans (Workshop+AP+Peer). Respondents provided the contact information of the nominated peer. Upon consent from both the participants and peers, the peer received weekly SMS messages about the respondent's job search goals.

Within each of the three treatment groups, job seekers were further randomized to receive text-message reminders about completing their job search goals before the end of the week (Sunday). The reminder notifications differed slightly for each treatment group. The pure Workshop group received a general reminder to apply the lessons learned in the workshop to find job opportunities and apply for jobs. The Workshop+AP group and the Workshop+AP+Peer group received the same message but with specific reminders about their personal goals for job search and application specified in the respondent's Action Plan. [6] Participants in the control group did not receive reminder notification.

2.3 Data

We collect data on study participants through in-person and phone interviews. Baseline data is collected in a meeting at the labor centers. Once job seekers arrive, surveyors first register people and confirm that the ID of the participant is among those scheduled for that day. Next,

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[5]Activities participants listed ranged across a spectrum of job search actions: preparatory activities such as document creation and certification, identification of opportunities, networking, and delivering CVs.

[6]The content of the reminder text-message intervention for each group was the following:
Workshop treatment: "Dear XX.Soweto Labour Centre Reminder: Apply the steps you learned in the job search workshop about finding job opportunities and applying for jobs."
Workshop Plus Treatment: "Dear XX. Soweto Labour Centre Reminder: Your action plan is to search for X hours, find X job opportunities and apply for X jobs by Sunday."

the baseline survey is administered through an in-person interview. It takes on average 20 minutes and includes modules on demographic information, work history and current search activities. Baseline data was collected between September and December 2015.

Two rounds of follow-up data are collected, via phone, from all participants five and twelve weeks after the intervention. [7] The attrition rate in the first and second follow-up found is 5% and 15%, respectively, and does not differ by treatment group (Appendix, Table X).

One concern with self-reported data is that respondents may want to please the surveyor and therefore misreport outcomes. This may be particularly relevant in the context of an intervention that was designed to assist job seekers. To address this concern we supplement the survey data with an observed measure of job search. Specifically, participants receive a text message from a number not associated with the research project that notifies them about a vacancy and ask them to submit an application if interested. [8]

We collect a copy of completed action plans and transcribe the content. Table 2 provides statistics of the collected action plans in terms of completion rates, number of days per week during which an activity was planned, the weekly goal number of hours to spend on job search activities, the weekly goal number of job opportunities to identify, and the weekly goal number of applications to submit.

Table 2:   Action Plan Descriptives

|	N	MeanAll	SDAll	Women	Men	Pval
Completed AP	402	.89	.32	.92	.86	.06
Activity-days	357	3.75	2.38	3.77	3.74	.91
Goal: Hours	345	8.46	5.78	8.11	8.82	.25
Goal: Opportunities	339	10.35	6.5	10.65	10.03	.38
Goal: Applications	340	7.82	4.33	8	7.63	.43

We construct a measure of the intention-behavior gap from baseline data and information collected from the completed action plans. Specifically, we compare search intentions listed in the action plan with actual behavior at baseline. We find that respondents on average aim to submit 6.6 more job applications per week than they do in actuality (median difference of 5.5

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[7]Garlick et al. (2015) show that data collected via phone and in-person surveys are largely indistinguishable.

[8]The message informed participants about a vacancy in a specific sector, whenever possible in a sector in which they worked before. For those with work experience in different sectors, we randomly picked one sector. Sectoral shares were balanced by treatment status. Applications were submitted to actual vacancies after the last follow-up survey to avoid confounding employment estimates.

applications), indicating the presence of an intention-behavior gap. [9] Conversely, respondents aim to spend on average 3.4 hours *less* time on job search activities per week than what they indicate at baseline, and this difference is centered around zero (see Figure 1, median difference between goal hours and actual hours searched at baseline is zero).

The data thus suggests that there is an intention-behavior gap in terms of applications submitted, but not in terms of time spent searching. This will be important for the empirical analysis as it provides differential predictions about search outcomes: if the planning intervention is addressing the intention-behavior gap, then we would expect to see an effect on the number of applications and no effect on the time spent searching. By contrast, other concerns, e.g. about the self-reported nature of the data or selective attrition, would apply to both types of outcomes.
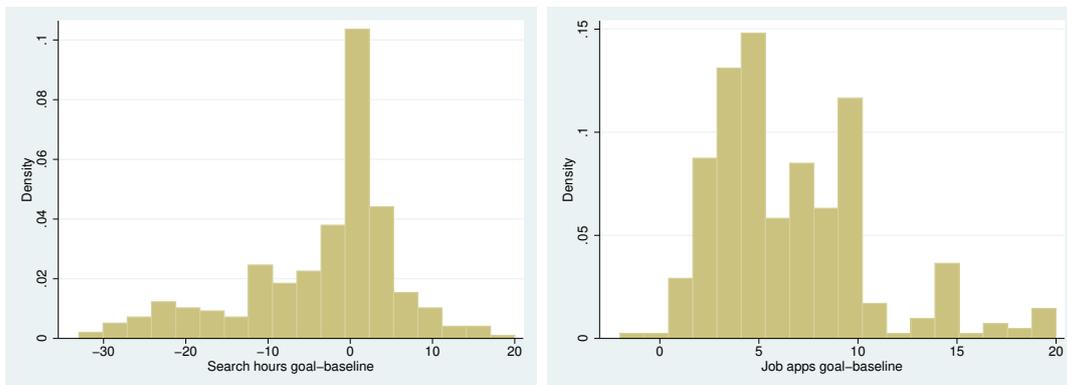
2.4 Empirical Strategy

The primary objective is to estimate the effects of the treatments on job search behavior and labor market outcomes. To increase statistical power, we combine the two rounds of follow-up data collection into a panel dataset and estimate the following equation for each outcome:

$$Y_{ijt} = \alpha_0 + \beta_1 Workshop_i + \beta_2 WorkshopPlus_i + \delta X_{i0} + \lambda_j + \gamma T + e_i \tag{1}$$

where Y is the outcome indicator for individual i in location j at time t. Completion of the action plan and peer nomination was around 90%. Results presented in the next sections are intent-to-treat estimates.

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[9] Baseline behavior is collected by asking "*In a typical week, how many applications do you submit / hours do you search*". Ideally, we would have collected an intention and behavior measure for exactly the same time period, but this was not feasible as the formation of the intention was part of the the treatment.

As some of the characteristics were imbalanced between treatment and control groups, we report findings with and without controlling for covariate vector X. [10] To account for geographical differences in firm demand, we control for location fixed effects j. Time dummies indicate the round of follow up (where a value of 1 signifies the second, i.e. final follow-up). Errors are clustered at the individual level to account for the panel nature of the data.

Equation (1) collapses the WS+AP and the WS+AP+Peer treatments into one treatment arm: WS Plus. Likewise, equation (1) pools across the reminder treatment. We show the effects of the Peer Support component and the Reminder treatment separately in section X.

3 Main Results

3.1 Search Intensity and Efficiency

We examine job search intensity in terms of the number of hours that the respondent spends searching for a job and the number of application that the respondent completed. We do not observe a change in the number of hours spent searching in either treatment. The number of applications is significantly higher in the Workshop Plus group, and is significantly different from the pure workshop group, indicating the action planning activity is driving the effect. An increase of 0.7 applications is equivalent to a 15% (18%) increase compared to the workshop (control) group (Table 3). While this is a sizable increase in number of applications submitted relative to the low levels of baseline search activity, it only partially closes the intention-behavior gap.

Reported increased search intensity is corroborated by measures of actual job search behavior; subjects who completed the action plan were more likely to submit an application when they are informed about a job opening. We observe a 5.3 percentage point (27%) and 2 p.p. (11%) increase in likelihood of responding compared to the workshop and control group respectively, which is qualitatively similar to the increases we observe in the self-reported number of submitted applications (Table 10 in the Appendix).

One implication of the previous results is that we see an increase in search efficiency, defined as the ratio of applications submitted to the number of hours searched. The Workshop Plus

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[10]Demographic controls include: age, gender, education, household size, and primary language.

Table 3: Effects on Job Search Intensity

	(1) Search Hours	(2) Search Hours	(3) Applications	(4) Applications
WS Basic	0.225	0.016	0.163	0.124
	(0.897)	(0.897)	(0.274)	(0.273)
WS Plus	−0.243	−0.480	0.749***	0.681***
	(0.750)	(0.747)	(0.240)	(0.235)
Covariates	*No*	*Yes*	*No*	*Yes*
Observations	1888	1886	1896	1895
R^2	0.083	0.092	0.308	0.318
Control Mean	14.095	14.095	3.835	3.835
P-value	0.595	0.573	0.054	0.062

Standard errors in parentheses

Notes: Errors are clustered at the individual level.

All regressions control for location-fixed effects and baseline value of the outcome variable.

Outcome variables are winsorized at the 5% level to account for outliers.

P-value compares WS Plus to WS Basic.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

group submits 0.3 applications more per hour spent searching than the control group (a 20% increase on the control mean).

3.2 Employment

We investigate whether the increase in applications translate into employment related outcomes - specifically responses from employers, job offers, and employment status of the respondents. Compared to the workshop group, job seekers who completed the action plan received significantly more responses from employers regarding their application (24%), more job offers (30%) and were more likely to be employed (26%) at the time of follow-up (Table 4).[11] These coefficients are all significantly different from both the control and workshop group with the exception of employment effects of the action plan treatment compared to the workshop group. We do not observe that the jobs that participants in the treatment group find differ with regard to salary or job satisfaction (results not reported).

It is noteworthy that the standard counseling program has modest positive effect of 1.9 percentage points. This result is in line with results from other programs that focus on infor-

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[11]Effect sizes are not significantly different by the time of the second follow-up but they are 15%-30% smaller in magnitude, suggesting that the action plan's effect may be decreasing over time. Future research could test whether a more flexible design that allows job seekers to update their action would help to facilitate sustaining the effects of action planning in the face of failed efforts.

Table 4: Effects on Employment Outcomes

	(1) Responses	(2) Responses	(3) Offers	(4) Offers	(5) Employed	(6) Employed
WS Basic	−0.025	−0.027	0.023	0.022	0.021	0.019
	(0.058)	(0.059)	(0.022)	(0.022)	(0.025)	(0.025)
WS Plus	0.112**	0.102*	0.058***	0.061***	0.047**	0.049**
	(0.053)	(0.053)	(0.020)	(0.020)	(0.020)	(0.021)
Covariates	*No*	*Yes*	*No*	*Yes*	*No*	*Yes*
Observations	1895	1894	1882	1881	1971	1969
R^2	0.101	0.109	0.012	0.021	0.017	0.024
Control Mean	0.544	0.544	0.130	0.130	0.115	0.115
P-value	0.027	0.036	0.126	0.099	0.321	0.249

Standard errors in parentheses

Notes: Errors are clustered at the individual level.

All regressions control for location-fixed effects and baseline value of the outcome variable.

Outcome variables are winsorized at the 5% level to account for outliers.

P-value compares WS Plus to WS Basic.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

mation provision to job seekers (Altmann et al. (2015)) as well as meta analyses of a broader range of of ALMPs (Card et al. (2015); McKenzie (2017).

3.3 Search Strategy

It is notable that employment is moving by almost twice the margin than applications. This implies that the action plan intervention did not only lead participants to submit more applications, but also that each application was more effective in obtaining jobs. Applications were thus either of higher quality and/or job seekers used search channels with higher returns.

To shed light on the quality of applications, we can analyze the applications that job seekers submit in response to the vacancy notification. We find that the quality of applications seem slightly higher compared to the control group (although the difference is not significant) and very similar to the workshop group (Table 5). While participants in the action plan group seem more likely to submit formal applications, differences in the quality of application are therefore unlikely to explain the large difference in employer responses between the action plan and workshop group.

Next we explore changes in search strategy. The Workshop Plus group diversifies its search strategy and significantly increases the use of employment agencies, dropping CVs, answering

advertisements, and online search (Table 5). [12] By contrast, the workshop group does not increase the usage of any of these channels, despite the fact that the workshop covered various search strategies.

The results in Table 5 uses the ordinal search frequency variable as the dependent variable, which allows the use of a simple pooled OLS estimator, but the magnitude of the estimated coefficients do not have a simple behavioral interpretation. Tables 12 and 13 in the Appendix address this shortcoming by re-estimating this model using an interval regression. The results, which can be interpreted as the effects of the interventions expressed as the additional weekly search days, are qualitatively very similar to those obtained in Table 5.

Using a diverse portfolio of search activities can be beneficial for two reasons. First, similar to other production functions, job search typically requires various inputs or activities, some of which are clearly complementary in nature. For example, identifying vacancies through online search or by visiting labor centers need to be followed by submitting applications in order to be effective. Yet, completing and submitting application material is arguably more costly - both in terms of complexity and the psychological costs of getting rejected - which may explain the substantial intention-behavior gap we document in our sample. The two search channels that do not require submitting an application, contacting family and friends, and placing advertisements, are unaffected by the Workshop Plus intervention.

Consistent with the first explanation, we find evidence suggesting that returns to spending time completing applications are high. An OLS regression using predicted search days from an interval regression (from Table 12) finds a positive correlation between time spent answering advertisements and the number of applications submitted, the number of firm responses and employment (columns 1-3 of Table 12). In addition, the action plan group job seekers are significantly more likely to report that they found employment by answering advertisements (Table 13). We also find generally positive effects of spending more search days on visiting employment agencies, dropping off CVs, searching online on the number of applications, firm responses and employment, whereas placing adverts or speaking to family and friends do not reveal the same positive returns. Results from a first-differenced regression (columns 4-6 of Table 12), which removes the confounding effect of time-invariant unobservable heterogeneity,

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[12]We find that the total number of channels in the action plan group increases by 0.24 which is significantly different from the workshop group (p-value ¡ 0.01).

are broadly consistent with the OLS results: answering adverts improves job search behavior and labor market outcomes (although the employment effect is now imprecisely estimated); the effects of dropping off CVs, searching online and visiting employment agencies remain generally (albeit less consistently) positive; and placing adverts and contacting family and friends have no positive effects.

The second reason why diversifying search activities may be effective is that each search channel has decreasing returns. Intuitively, most job seekers would start talking to the best connected friends, first search on the most effective online forum, or send the first application to the position for which they are the best fit.

Table 5: Effects on Frequency of Search Channel Use

	(1) Empl Agency	(2) Dropped CV	(3) Placed Ad	(4) Answered Ad	(5) Searched Online	(6) Fam/Frie
WS Basic	−0.016	−0.140	0.060	−0.068	0.058	−0.048
	(0.139)	(0.131)	(0.144)	(0.122)	(0.130)	(0.102
WS Plus	0.362***	0.253**	0.153	0.301***	0.410***	−0.02
	(0.123)	(0.115)	(0.119)	(0.107)	(0.100)	(0.08
Observations	1937	1936	1934	1927	1931	1926
R^2	0.093	0.069	0.028	0.088	0.364	0.04
Control Mean	2.125	2.826	1.532	3.253	4.203	4.83
P-value	0.010	0.004	0.537	0.003	0.006	0.78

Standard errors in parentheses

Notes: Outcome variables are a categorial frequency scale from 0 (never) to 6 (daily).

Regressions use panel data over two follow-up periods. Errors are clustered at the individual level.

All regressions control for demographics, location-fixed effects, and baseline values of the outcome variable.

Outcome variables are winsorized at the 5% level to account for outliers. P-value compares WS Plus to WS Basic.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

4   Discussion: Why did Participants Fail to Optimize Job Search?

In the previous section, we showed that our intervention led participants to spend their job search time more efficiently and to adopt more effective search strategies. We also showed how these effects translate into substantial employment gains. This raises the question of why people

failed to optimize their job search at the outset of the study. We investigate three possible barriers that the action planning may have removed: (i) complexity of a multifaceted task, (ii) forgetfulnesses, and (iii) lack of commitment. These potential mechanisms are informed by the most common explanations suggested in the planning prompts literature (Rogers et al. (2015)), as briefly reviewed in the introduction. There are, of course, other mechanisms potentially at work, which renders the analysis in this section suggestive, rather than conclusive.

4.1 Unpacking tasks and goal setting

Action planning can help unpacking a daunting task (e.g. finding a job) into smaller sub-tasks (e.g. identify vacancies, prepare application, submit material). There are various reasons why people are more likely to follow through on smaller tasks: they require less effort, which reduces the risk of procrastination (Laibson (1997)). Also, smaller tasks tend to be more concrete, which makes individuals more likely to act in response to environmental cues, and to have a more realistic sense of the time and logistical steps required to complete the task ((Kruger and Evans, 2004; Buehler et al., 1994)).

The action plan treatment asks job seekers to unpack their search process into specific actions for specific days of the week. After completing this detailed planning exercise, the job counselor asks them to set weekly goals on the number of hours spent searching, job opportunities to identify, and applications to send that are in line with their planned activities.

For participants who completed the action plan, we find a strong association between stated goals, as listed on the action plan, and subsequent behavior changes. Table 6 (Columns 2 and 3) shows that individuals who set a higher goal in terms of search hours are more likely to have increased time searching for work at follow up. Specifically, a one-hour increase in the stated goal is associated with a 0.4 hour increase in actual behavior. A positive correlation is also found between goals and behavior change with respect to the number of submitted applications, with a unit increase in the stated goal being associated to a 0.11 increase in applications (Table 6, Col. 4 and 6). [13] Table 6 also shows that the intended search hours (applications) are not correlated with the subsequent change in submitting applications (hours searched). That is, goals are significant predictors of change only for the corresponding behavior, suggesting that

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[13] We do not have information on the number of identified job opportunities at follow up, so that we cannot check the correlation between goals and behavior for this variable.

the observed pattern is not driven by endogenous character traits (e.g. ambition).

While we cannot observe goals for individuals in the control group, these within-person correlations of job seekers in the action plan group are consistent with studies in the psychology literature showing that goal-directed actions (i.e. implementation intentions) can support goal achievement (see Brandstätter et al. (2001) for a review). [14]

Table 6: Action Plan Subgroup Analysis: Correlation with Search Intensity

	Search Hours			Submitted Applications		
	(1) Search Hours	(2) Search Hours	(3) Search Hours	(4) Applications	(5) Applications	(Applic
Goal: Applications	−0.131		−0.267**	0.113**		0
	(0.119)		(0.119)	(0.055)		(0
Goal: Hours		0.405***	0.460***		0.048	0
		(0.105)	(0.107)		(0.037)	(0
r2	0.177	0.207	0.218	0.352	0.341	0
N	582	590	576	580	589	574
BaselineMean	12.013	12.013	12.013	4.647	4.647	4

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

4.2 Forgetfulness

We explore whether the effectiveness of our intervention may be explained by bringing job search to the 'top of mind' (Karlan et al. (2016)). While an action plan may itself serve as a reminder, we strengthen this channel by sending weekly SMS reminders about job search goals to a subset of participants. [15]

The results reported in Table 15 show that reminders do not have significant effects on search behavior or employment outcomes. Specifically, we find that sending general reminders about job search steps to participants in the basic workshop did not increase the number of hours spent on searching or the number of applications submitted. Similarly, we find that

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[14]van Hooft and Noordzij (2009) conduct an experiment in which they test the effectiveness of workshops that focus on goal setting. The authors find suggestive evidence of a positive effect on job intensity and employment. The study, however, is limited by a small sample size and selective attrition.

[15]SMS reminders have been found to be effective in different domains–e.g. savings (Karlan et al. (2016)) and physical activity (Schwerdtfeger et al. (2012)). Other studies have used different forms of reminder to strengthen planning prompts. (Milkman et al., 2013), for instance, find that merely asking people to write down the details of an medical appointment on a post-it note addresses forgetfulness leading to a 16% increases in the probability of receiving a colonoscopy.

sending specific reminders about job seekers' weekly goals (for those who had completed the action plan) does not change job search intensity within the action plan group.

One explanation for these results is that participants ignore the SMS reminders or they do not process the content of the message. However, when we call participants in the action plan group three months post-intervention, we find that reminders significantly increase the likelihood that they could correctly recall their goal by approximately 22 percentage points (41%) (Table 7). [16]

It is also possible that the action plan itself already serves as a reminder, bringing job search to top of mind. This would limit the additional potential impact of the SMS. However, the finding that reminders are also ineffective in the group that did not complete any action plan renders this explanation less plausible. Overall, these results suggest that forgetfulness may not be the limiting factor for the young job seekers in our sample.

Table 7: Second Follow Up: Goal Recall

	(1) Recall Likelihood	(2) Recall Accuracy	(3) Recall Accuracy (Abs)
Reminder	0.215***	−0.151	0.037
	(0.059)	(0.876)	(0.616)
Observations	253	140	140
R^2	0.130	0.025	0.100
Control Mean	0.527	0.036	3.491
P-value			

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

4.3 Accountability

An action plan could serve as a commitment device as failing to follow through on intended behavior may cause discomfort (Cialdini (2009)). Receiving a reminder of your intentions could have increased accountability both towards yourself or a third part (as the reminder was addressed from the labor center), but failed to affect behavior.

A second test of the importance of accountability comes from the peer support intervention. We posit that the discomfort of failing to follow through on plans is greater when others are

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[16]Conditional on claiming that they remember, the actual recall of actual goal is similarly accurate across groups (Table 7, Columns 2, 3)

informed of the sated intentions. [17] Table 14 shows that the peer support intervention did not appear to increase job search intensity beyond the impacts of the action plan itself. That is, participants who received an action plan had similar outcomes whether or not they nominated a peer to help them follow through on their job search intentions.

It is possible that the nominated people were not willing to serve as "support peers". When we informed peers that they were nominated by the job seeker, we provided them with a number they could text to if they did not want to fill that role.[18] None of the support peers refused.

We also find evidence that participants engaged with their peers: 85% report in the follow-up survey that the peer helped them in their job search. Participants report of various ways other than social pressure through which peers facilitated their job search, including information provision (60%), searching on the respondent's behalf (21%), and providing financial help (14%). The fact that the peer arm does not affect any search or employment outcomes suggests that neither the commitment, nor any of the other support channels facilitates job search in our context.

It could of course be that participants were already utilizing their social network in their job search before the intervention. In fact, over 95% of respondents reported discussing job search with family and friends at baseline. However, we do not find that the peer intervention is less effective for those who already frequently discussed job search before our intervention (results not reported).

While not conclusive, the evidence presented here suggests that increasing commitment and accountability is unlikely to be the mechanism through which the action plan is effective. The apparent lack of effect through accountability may be specific to the context of our study as mass-unemployment in South Africa may reduce the stigma associated with unsuccessfully searching for jobs.

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[17]Study participants mainly nominated friends (48%) and nuclear family members (42%) to receive periodic notifications about the job seeker's search goals. These close peers may be particularly instrumental in creating a sense of accountability and social pressure.

[18]Initial message to peer: "Dear XX. YY identified you as a good person to help him/her follow his/her job search plan. You will receive regular reminders about YYs search goals. If you do NOT want to receive these messages, text: OUT. Thank you. Soweto Labour Centre."

5 Conclusion

We extend research on planing prompts to the domain of job search and find that completing a detailed action plan helps South African unemployed youths to follow through on their intentions and adopt a more efficient and effective search strategy. Action planning presents a low-cost, easy to implement addition to existing job information provisions programs which have typically yielded modest results.

One open question is whether the effects of the action plan can be sustained, especially if job seekers' efforts are unsuccessful. We focus on relatively short-term behavioral changes. Future research should explore whether and how effects of action planning can be sustained. One possibility is to design online apps that allow a more flexible implementation of planning prompts.

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7 [**Appendix here**]