

THE PSYCHOSOCIAL VALUE OF EMPLOYMENT: EVIDENCE FROM A REFUGEE CAMP

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Abstract

Employment may be an important source of wellbeing beyond its role as a source of income. This paper presents a causal estimate of the psychosocial value of employment in refugee camps in Bangladesh. We engage 745 individuals in a field experiment with three arms: a control arm, a weekly cash arm, and an employment arm of equal value. We find that employment generates improvements in psychosocial wellbeing substantially larger than cash alone. Consistent with these findings, 66% of those in our work treatment are willing to forego cash payments to instead work for free.

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1 Introduction

Social scientists have long posited that employment may deliver social and psychological benefits beyond the value of income alone (Morse and Weiss, 1955; Jahoda, 1981). Identifying the psychosocial benefits of employment has implications for a vast range of policies, from assistance schemes for the unemployed, to government responses to forcibly displaced communities, to a future of automation and the resulting shift away from traditional forms of work. While cross-sectional evidence around this question exists (Case and Deaton, 2020; Olesen et al., 2013; Kuhn, Lalive, and Zweimüller, 2009; Kessler, Turner, and House, 1988), this literature encounters two key challenges. First, those who are unemployed differ from the employed in ways that are likely correlated with their psychological wellbeing, generating a problem of selection. Second, the income earned from gainful employment is likely to confer psychosocial value upon the worker, making it difficult to isolate the non-pecuniary means by which work improves wellbeing.

This paper presents a causal estimate of the psychosocial benefits of employment among a population of forcibly displaced people, the Rohingya refugees of Myanmar. We run a field experiment in which we randomize 745 camp residents of working age into three arms. In our employment arm, we offer gainful employment in the form of a surveying assignment for an average of three days per week for two months.¹ The surveying task requires workers to walk through their blocks four times per day tallying the various activities their neighbors are engaged with and consumes approximately 2.5 hours per workday, resulting in a form of part-time employment. The job is designed to embody the key features inherent to ‘work’. Drawing from the economics literature, workers must exert real effort and their task occupies a meaningful portion of their work day. Drawing from the sociology literature, the work involves some degree of sociability and purpose in the completion of a productive task. Employment lasts for eight weeks, a long duration given the scarce daily labor opportunities that arise in our setting.

Relative to this employment arm, our control arm receives no work and a small fee for weekly survey participation. A comparison of the control to the employment arm therefore yields the psychosocial benefits of the employment intervention. In order to estimate the *non-pecuniary* psychosocial value of employment, we include a cash treatment arm, in which no work is offered, but a large fee (equivalent to that received by those in the employment arm) for weekly survey participation is provided.

We work in the Rohingya refugee camps, situated upon the southern tip of Bangladesh.

¹We obtained formal permissions from camp administration to engage our study participants in this manner through our NGO partner, Pulse Bangladesh.

Between August and December 2017, approximately 780,000 Rohingya fled an ethnic cleansing campaign in Rakhine State, Myanmar, crossing into Bangladesh by foot or raft to build and settle into what is presently the largest refugee camp in the world. Formal employment in Bangladesh is illegal for these refugees and strict restrictions on movement limit access to informal work in nearby urban centers. Among our sample of male and female refugees between the ages of 18 and 45 years, eleven percent report having worked in the previous month. They further report spending an average of eight hours of their waking day engaged in ‘leisure’ activities such as taking naps or sitting entirely idle. This [lack of] activity appears to be borne by circumstance rather than by choice: in our qualitative work, refugees regularly request work, and often “*haather kaaj:*” colloquially, handiwork; literally, a way to keep one’s hands occupied.²

Baseline data shed further light on the potential consequences of such pervasive unemployment: individuals who report having been unemployed the entirety of the previous month are 14 percentage points more likely to qualify as depressed according to the PHQ-9, the diagnostic tool we employ to assess depression severity. This correlation is vulnerable to selection into employment and conflated with the lack of income, and thus motivates our experimental methodology to answer the central question of this paper: what is the impact of employment, beyond that of remuneration alone, on wellbeing?

We describe our results in four steps. First, we find that the employment arm, for which we have 100% takeup, generates significant psychosocial benefits relative to the control. We observe a precisely estimated 0.21 unit increase in our ‘psychosocial index’ ($p = 0.000$), a pre-specified aggregation of the standardized measures of depression, stress, life satisfaction, self worth, sociability, locus of control, and sense of stability. Each of these subcomponents exhibit a significant and meaningful improvement as well: for example, we find that employed individuals are ten percentage points (12%) less likely to be depressed and five percentage points (16%) less likely to be moderately or severely depressed. Nor are these positive effects of employment limited to the psychosocial index. We find that employed individuals are also significantly less likely to feel physically ill, perform better on memory and math tests, and are less risk averse. As a benchmark, a recent evaluation of a year-long psycho-education program for Rohingya refugees in the Bangladesh camps documents a 0.15 SD reduction in depression (Islam et al., 2021), in comparison to the 0.24 SD reduction in depression from our employment program. As a second benchmark, individuals in our sample who experienced the death of a loved one in the indiscriminate violence in Myanmar exhibit 0.26 SD greater depression severity at baseline than their non-death counterparts.

²Such expressions of the need to be occupied are not unique to Rohingya refugees. Syrian migrants in the Turkish Killis camp in 2017 echo these sentiments (McClelland, 2014)

Second, we find that employment generates benefits that are significantly greater than that of cash alone, which yields a statistically insignificant 0.06 unit increase in our psychosocial index, consistent with recent meta-analyses of the mental health impacts of cash transfers (Ridley et al. (2020); McGuire, Kaiser, and Bach-Mortensen (2020)). We can reject equality of effects between employment and cash for our mental health index ($p = 0.000$), reported physical health ($q = 0.081$), cognitive performance ($q = 0.028$), and risk tolerance ($q = 0.028$).³ These differences are substantial: employment improves mental health at a magnitude four times greater than cash alone.

Third, we find a high willingness to supply labor among study participants even at a wage of zero, suggesting that individuals are able to internalize the psychosocial benefits of employment. Through an incentivized elicitation of reservation wages for an additional week of work, we find that the majority (69%) of individuals are willing to work an additional week for zero pay. Among these individuals, the vast majority (77%) are willing to forego an alternative low-effort activity offered by the NGO for which they can earn 200 BDT (approximately \$2.5 USD, or average savings at baseline) to instead continue working for no pay. We elicit these measures after eight weeks of working, with the intent of both familiarizing participants with the nature of the work and eliminating novelty effects that might arise in the early days of new employment.

We consider two potential confounds to the experiment: expectations of future work and experimenter demand effects. While we cannot rule out that our work made participants hopeful of eligibility for future work, a randomization of a certificate, intended to provide an explicit boost to the resumes of our employees, has no measurable impact on psychosocial wellbeing. Nor do we see differences in expected or actual employment among the treated after the experiment. To address experimenter demand, we supplement our psychosocial index with a variety of objective and incentivized measures, from memory and arithmetic questions, to the incentivized risk preference game, to the incentivized labor supply exercise. Each reiterates our findings of significant non-pecuniary benefits to employment.

To what can we attribute these gains? We explore how work makes one feel, how it shapes one's day, and how one spends their earnings. We lack experimental variation along most of these margins, so we cannot rule in or out any mechanism definitively, but we find strong evidence of a self-worth vis-à-vis the family, channel: employment significantly increases one's perception of how valuable they are to their family. We find little evidence the social element of the work, or the community-centric purpose embedded in the work

³'q' represents sharpened q-values, or p-values corrected for multiple hypothesis testing using Anderson (2008). The mental health index is a single index of psychosocial measures and is therefore not subject to correction for multiple hypothesis testing.

generate psychosocial value in our context. Nor do we see that employment alters how one otherwise spends her day, nor how one consumes her earnings, compared to those who receive cash alone.

We view our study as a proof of concept. Our results are likely to be moderated by the nature of the work we intervene with: the employment intervention is clerical rather than heavy manual labor, public rather than isolated, purposeful, engaging a low-stress employer, and part-time. They are also likely to be affected by the context in which we operate: the Rohingya community we engage are socially conservative, vastly un- and under-employed, and forcibly displaced. As such, one should be wary of extrapolating our effects into other contexts and types of employment.

That said, we design a work task that shares features common to work in the developing world: ILO (2019)'s sectoral estimates suggest that the majority of work in developing countries is social and public in nature. Among employed Indians with a gradeschool education or less, ISSP (2017) finds that 43% occasionally or never engage in hard physical labor at work, 59% believe their work is helpful to society, 72% rate their relationship with their employers positively, and 35% (10%) work 40 (8) hours or less weekly. Key features of our context are likewise shared by other subpopulations of interest. Constrained labor market opportunities, material poverty, and limited leisure activities are features common to many of the world's incarcerated (10.35 million), the unemployed in low-income countries (conservatively estimated at 22 million (ILO (2019))), as well as many of the world's agricultural poor (300 million, many of whom suffer from seasonal scarcity in labor and consumption: see Devereux, Vaitla, and Swan (2008) for global estimates and Akram, Chowdhury, and Mobarak (2017) for a Bangladesh context).

More directly, we view our findings as relevant to the global phenomenon of forced displacement. The number of forcibly displaced persons has grown rapidly in recent years, reaching a historic high of 80 million in 2020 (UNHCR (2020)). At least 70% of refugees reside in countries in with legal barriers to the right to work (Schuettler and Caron (2020)), notwithstanding the myriad informal labor market barriers refugees may encounter. Mental health is a persistent challenge in these communities (WHO, 2021): the 38% of our sample screened as moderately or severely depressed is comparable to, for example, Syrian refugees in Greece (Poole et al. (2018)). Our study offers a prototype of a scalable form of employment that may meaningfully improve wellbeing for this vulnerable population.

This study makes three primary contributions. First, the study provides a proof-of-concept causal estimate of the psychosocial impacts of employment conditional on income. There exists a long history of sociological work exploring the costs of long-term unemployment beyond that of income alone (Morse and Weiss, 1955; Jahoda, Lazarsfeld, and Zeisel,

1971). Conversely, a burgeoning experimental literature documents positive psychosocial impacts of employment, but is not designed to distinguish pecuniary from non-pecuniary channels (Bertrand et al., 2021). Our experiment is motivated by this literature as well as a limited stock of empirical evidence from lab-in-the-field experiments around the costs of idle time (Bhanot, Han, and Jang, 2018; Hsee, Yang, and Wang, 2010). We differ from this literature by designing a work task more reflective of long term employment in two ways: it requires the investment of long-duration physical and mental effort in order to be compensated, and it substitutes away from leisure, preserving a realistic outside option; individuals proceed with existing activities rather than being contained in a room with no stimulation, which Hsee, Yang, and Wang (2010) have established to be psychologically costly.

Second, this experiment offers insight into whether cashfare or workfare programs are a more cost-effective means of improving psychological wellbeing. While cash-based programs directly address the loss of income and are relatively straightforward to implement (Hanna and Olken, 2018), they do not address the psychosocial costs that may accompany the absence of work. These costs are documented in sociology literature, first articulated in Jahoda, Lazarsfeld, and Zeisel (1971)’s seminal work around Mariantal, a town in Austria devastated by deindustrialization in the wake of the global depression of the 1930s. As described by one woman who lost her job, *“If I could get back to the factory it would be the happiest day of my life. It’s not only for the money; stuck here alone between one’s own four walls, one isn’t really alive.”* (Jahoda, Lazarsfeld, and Zeisel, 1971).⁴ We bring an experimental lens to this question.

Finally, this study contributes to a small but growing literature that engages with refugee populations and the forcibly displaced to causally identify the impacts of various interventions through field experiments (see IPA (2020) for a sample of interventions). Among the existing set of field experiments engaging this population, the majority are psychosocial support interventions and the remainder material interventions (cash transfers, skills training, food provision, etc.). Our research is the first to examine the non-pecuniary mechanisms through which a material intervention (gainful employment) may improve psychosocial wellbeing. This is a valuable exercise, as aid organizations and policymakers grow increasingly concerned about the protracted nature of most displacement, which, when paired with widespread unemployment, may cultivate long term discouragement and a deep lack of hope in a viable future. In addition, while employment and job training programs are common policy levers considered for migrants and those who lack economic stability, this is the first

⁴More recently, individuals who are incarcerated - as of 2019, 2.3 million within the United States alone - describe similar experiences. *“It is the dull sameness of prison life, its idleness and boredom, that grinds me down”* (Council, 2014).

study, to our knowledge, to both probe the underlying mechanisms driving impacts on well-being and offer a benchmark against a standard cash transfer program.

2 Research Context

2.1 Recent Events

The Rohingya are an ethnic group that, prior to the genocide of 2017, lived predominately in Rakhine State along the western coast of Myanmar (also known as Burma) (Blakemore, 2019). The community traces their origins back to the 15th century, when thousands of Muslims settled in the former Arakan Kingdom, which was conquered by the Burmese Empire in 1784 (Albert and Maizland, 2020). The Rohingya have since faced multiple waves of discrimination and suppression, with the first major campaign of ethnic cleansing occurring in 1978 when the Burmese military, tasked with performing a census of the border regions to determine citizenship, conducted indiscriminate attacks across Rohingya villages in Rakhine state. This led to an estimated quarter million people fleeing into neighboring Bangladesh. Subsequent ethnic cleansing campaigns in 1992 and 2012 sent additional waves of Rohingya into Bangladesh (Watch, 1996).

On August 25, 2017, the Rohingya insurgent group Arakan Rohingya Salvation Army launched an attack on security force outposts in northern Rakhine, killing twelve security personnel. Within hours, Myanmar security forces responded. Satellite imagery documented the destruction of at least 392 villages (40 percent of all settlements in northern Rakhine), with 80 percent burned within three weeks. By October 2018, over 750,000 Rohingya refugees found themselves in a veritable city of makeshift tents along the southern tip of Bangladesh, stretching from Teknaf to Cox’s Bazaar. The largest and most densely populated refugee camp on earth was constructed in a matter of weeks (Hussam, 2019).

There are currently 34 camps in Bangladesh, each subdivided into blocks ranging in population density from 60 to 130 households. Each block is represented by a local leader (a *majhi*) who is responsible for organizing distribution efforts and serving as a liaison between humanitarian organizations and the refugee community. While refugees receive humanitarian assistance, most are unable to cover their basic needs and look for ways to supplement their income by selling their assets and the rations they receive, and seeking informal work opportunities (as they do not possess a legal right to work in Bangladesh).

2.2 Camp Life: Descriptive Statistics

Because refugees are not legally allowed to work (Bhatia et al., 2018), many remain unoccupied in the camp. Some seek occasional employment in the informal sector outside the camps, but this comes with risk as military checkpoints around the camps abound. Among the scarce employment opportunities available are day laboring in agriculture or construction, operating street stalls, private tutoring, or assisting in NGO’s women’s cooking centers, child-friendly spaces, or health clinics. The majority of jobs available in the camps are provided by NGOs, several of whom have organized cash-for-work programs in the camps (Mree and Homer (2019)). Outside of the camps, a comparable population of Bangladeshis are likewise occupied in agriculture, fisheries, transit, or small street-side enterprises.

The average refugee in our sample is a married man below thirty years of age, with 30% of the sample comprised of women. Less than 50% received any formal education when in Myanmar. 78% of our sample qualifies as depressed according to the PHQ-9 screening tool. A typical day in the life of a man in our sample, as understood through a recollection of time spent in the previous day on a variety of activities, consists of three hours socializing (mostly at tea stalls), an hour at the market, an hour and a half in prayer (typically in congregation at the nearby camp mosque), an hour talking on the phone, and two and a half hours spent completely idle. The remainder of the waking day is spent eating, bathing, collecting rations, and engaging in other chores. A typical day in the life of a woman is similar, though socializing happens near the home rather than at tea stalls, she spends twice as much time in prayer (typically at home), significant time with children, and slightly less time completely idle. When asked how one prefers to spend his or her time rather than sit idle, both men and women express time with children, socializing, taking walks, reading religious scripture, or taking a nap as alternatives. These same activities are described as ways of lifting one’s spirits or distracting oneself from the difficulties of the past and daily life.

3 Experimental Design

Sampling Strategy The research team obtained permission from governmental authorities to operate in three camps in Bangladesh (5, 8W, 17), divided into several hundred blocks of 50 to 150 households.⁵ Camp authorities organized meetings with local *majhis*, or

⁵These permissions included the right to engage the sample in part-time work opportunities, as refugees can be engaged in cash-for-work or volunteer activities for operational needs in the camps as per the Guidance on Rohingya Volunteers by the Office of Refugee Relief and Repatriation Commissioner GoB and Inter-Sector Coordination Group (WB, 2020)

Rohingya block leaders, and the field team to ensure smooth operation of the experiment. Within each camp, we selected non-adjacent blocks to reduce the risk of spillovers, enlisting five households per block. Upon entering a given block, the field team knocked on doors, inquired if the household member (randomly pre-assigned to be chosen as the male or female head of household) was interested in participating in a study, and confirmed that the respondent met our eligibility criteria.⁶ The sample was chosen so that females comprised one third of the total.⁷ In total, we assembled a sample of 745 individuals across the three camps.

Experimental Design We randomly assigned 149 blocks to one of three arms, stratifying by gender (Table 1 reports summary statistics and balance across the three treatment arms). Specifically, five participants were chosen within each block, with one or two of them being women. In each case, we informed participants that the study would last eight weeks and that the field team would be checking in weekly to conduct five-minute surveys and provide compensation. We assigned 33 blocks to the control group, where participants received 50 taka (USD \$0.60) per week as compensation for answering our weekly surveys. An additional 33 blocks were assigned to the cash group, where participants earned 450 taka (USD \$5.30) per week as compensation for survey participation. Finally, 83 blocks were assigned to a work group, where we offered participants gainful employment. We compensated participants in this treatment arm with 150 taka (USD \$1.77) per day of work. Households were assigned an average of three days of work per week, resulting in 450 taka per week on average over the course of the eight weeks and thereby equivalent to that received by the cash group. All participants were aware of the randomization process: enumerators described the three arms and displayed the random number to the participant as it appeared on their tablet, assigning the participant to his or her treatment group.

Employment intervention details We now turn to the nature of the employment we offer. Employees were asked to engage in a data collection exercise in which they completed time-use sheets describing the activities of fifteen unnamed, same-sex neighbors of their choosing four times per day. We sought first to incorporate into this task the key features of ‘labor’ as understood in economic theory: the work was designed to require substantive

⁶We had seven eligibility criteria: that the individual had not worked in the last 14 days; were within the ages of 18-45 years; were able and willing to work for two months inside the block; were not the *majhi* or a member of the *majhi*'s household; and did not receive remittances from abroad. We sought to identify individuals who had not worked in the last 14 days out of equity concerns.

⁷We would have wished for an even split by gender, but found it challenging to recruit women during our pilot. The women in our sample are those for whom their husband granted them permission to participate, and should be interpreted as selected along this margin.

effort, both physically (with repetitive movement in the outdoor heat and crowded camp pathways) and mentally (we document a high volume of mistakes made in early weeks, with work quality improving over time), and occupy a meaningful amount of time, with workers reporting 2.5 hours per working day on the job. We further sought to incorporate key features of employment as described in sociology (Jahoda, Lazarsfeld, and Zeisel, 1971; Terkel, 1974): the work embedded a nominal social component, with workers needing to step outside of their tents to complete their work. It also had a purpose, as sociological literature describes blue collar or service work to be perceived as valuable by most workers (Lamont (2002); Poll (2018); ISSP (2017)).⁸ Given this precedence, we articulated the objective of the work to be that NGOs sought to better understand the refugee experience in order to provide services, and would therefore benefit from more accurate data on how refugees spend their time in the camps.

We sought to design a form of employment that was neither ‘too good’ nor ‘too bad’ in the context of the camps. While the task required physical and mental labor, it was not back-breaking, which would have precluded the inclusion of women in our sample. Given the multiple time-specific sheets per day, the work required attention throughout the day, but did not occupy the full workday, as most available work in the camps was likewise ‘part-time’. The task also involved daily accountability and quality control through the possibility of docked pay, as described in the following section, but employees were never at risk of losing their job nor of being severely reprimanded by their employer. On the margin of sociability, while the work required participants to step outside of their tents, it did not require any conversations with neighbors. Finally, the objective of the employment was framed to echo the purposefulness vis-à-vis one’s community that is inherent to most employment in camp life (building roads, constructing latrines, assisting in children’s centers, and the like). As such, our aim was to construct a form of work that was representative of ‘employment’ broadly construed, and similar to the nature of work an individual in our context might engage in both in terms of effort cost and potential value.

Logistics of employment intervention In order to ensure that literacy was not an impediment to completing the work, we contracted an artist to design a time-use worksheet visually depicting daily activities in the camps (eg. napping, eating, going to the market, sitting at a tea stall, sitting idle). We piloted the sheets extensively to ensure that all major activities were included (Figure 1). Upon being randomly assigned to the employment intervention, enumerators explained the work task to households and then showed the participant

⁸In fact, recent empirical work by Soffia, Wood, and Burchell (2021) finds that 94% of workers occupying positions perceived by the sociology literature to be ‘useless’ or ‘alienating’ regard their work as meaningful as well.

a five minute video designed by the artist and research team to reiterate the task.

We asked that households complete their work on specific days to which they were assigned: work schedules varied week to week, averaging three days weekly. To ensure compliance with the work schedule, we stationed a tamper-proof box in a preselected household within each block (the facilitator household) and informed participants that they should submit their tasks into the box at the end of each assigned workday. The facilitator would slip an additional piece of paper into the box at the end of the day to bookend that day’s set of submissions, and the respondent’s submission was marked late if it was inserted after the bookend. Facilitators were compensated with an additional 50 taka per week for their services, and had no access to the materials inside the box.

Along with dropping off their submissions at the end of each workday, participants were instructed to visit the facilitator’s home on their designated ‘collection day’ each week. The facilitator made their home available for a few hours on this day so the enumerator could complete the check-ins with the block’s five respondents and pay the participants their respective amounts in a relatively private setting. In blocks assigned to the work treatment, the enumerators first checked the respondents’ work (eg. the number of pages they submitted; whether worksheets were submitted on the correct dates; and the number of mistakes made per sheet). Checking for mistakes involved assessing that the correct number of tick marks were present (corresponding to the number of individuals the participant was asked to survey); whether the patterns across days were identical or distinct (whether sheets had been copied); and whether the handwriting was consistent (whether the work was completed by someone else).⁹ At the end of the interaction, enumerators were instructed to examine the respondents’ performance over the previous three weeks. If the work had not been completed correctly three weeks in a row, the enumerator did not pay the participant for that week. Payment occurred at the end of the interaction after the enumerator had administered the standard weekly survey.

Interpreting the magnitude of cash interventions As described previously, we offer both the cash and the employment arms 450 taka per week for two months. At 1800 taka per month (\$60 USD PPP), this amount is slightly larger than the cost to the World Food Program (WFP) of the per-refugee monthly ration provision of lentils, oil, and rice.¹⁰ Despite widespread complaints of insufficient provisions, refugees regularly resell portions of these

⁹We did not have auditors in the camps watching our workers given both logistical infeasibility and concern that workers may feel insecure.

¹⁰In 2019, Rohingya refugee households with one to three members received 30 kg of rice, 9 kg of lentils and 3 liters of cooking oil, with these provisions made monthly. Using the upper bounds on the market price of rice (BDT 60/kg), lentil (BDT 140/ kg) and soyabean oil (130/kg), the monthly rations can be estimated at approximately BDT 3450 per two, or 1725 per adult.

rations - at discounted prices to host community members - to secure the cash required to purchase other basic staple foods such as salt and vegetables. Given that the WFP provisions are the only reliable rations that refugees receive, we approximate a cash transfer of 450 taka per week to at least double potential weekly consumption.

Relative to the wealth refugees possess, 450 taka per week is likewise sizeable: average baseline savings is 195 taka, with the median refugee reporting zero taka in savings. Average baseline borrowing (typically in the form of store credit) is 1600 taka, with a median of 600 taka. Refugees have no economically meaningful assets that may be more common among the rural poor, such as land or cattle, given the unanticipated displacement which forced them from their homes. Relative to other employment opportunities, average reported pay is 300 taka per day for less than three days. The monthly cash transfer is therefore more than double what a refugee might expect from alternative employment if he or she is fortunate enough to secure a job.

4 Data Collection and Survey Instruments

Timeline and survey instruments We collected data via a baseline, commencing in November 2019, and endline survey, commencing in February 2020, as well as seven midline surveys conducted prior to payment disbursal each week. These weekly surveys collected a small subset of wellbeing outcomes. In an effort to ensure that our temporary interventions had no unintended negative mental health consequences on our participants, we also conducted a final short followup survey six weeks after the interventions concluded (Appendix Figure A1. We had 2% attrition at endline and followup, neither differential by treatment arm (Appendix Table A1).

Main outcome variables Our primary outcome of interest is psychosocial wellbeing, which we assess through an index of seven mental and social health measures, henceforth referred to as the psychosocial (PS) index: depression, stress, life satisfaction, locus of control, sociability, self worth, and stability. Our measures of depression, stress, life satisfaction, and locus of control are drawn from standard screening tools (PHQ-9, Cohen’s Perceived Stress Scale, Diener’s Satisfaction With Life Scale, and the Levenson Multidimensional Internal Locus of Control Scales, respectively) adapted for sensitivity to the Rohingya camp context (see Appendix Table A13 for adjustments). The PHQ, our depression screening tool, has been validated against antidepressant medication (Löwe et al., 2006) and employed in the cross-section among refugee populations (Poole et al., 2018) as well as in experimental evaluations of psychotherapy programs in South Asia (Patel et al., 2017; Bhat et al., 2021).

For sociability, we inquire about the number of interactions that participants have had throughout the day prior to the survey day. We develop our own questions around self-worth rather than employing the more standard Rosenberg Self-Esteem Scale, which we found inappropriate given the Rohingya’s recent experiences. Specifically, we construct an index of self-worth from two questions designed to elicit respondents’ beliefs about how they contribute to their family and community. Finally, we adapt the Cantril Self-Anchoring Striving Scale (Cantril, 1965) to measure how stable respondents feel in their present lives and in the future.

We additionally examine the impacts of each treatment on physical health, cognitive function, economic decisionmaking, time-use, and consumption. We capture respondents’ sense of physical health by asking how many days they have fallen sick in the past thirty days and cognitive function by employing a digit-span memory test and a series of basic arithmetic problems. We explore economic decisionmaking along two dimensions: incentivized time preferences (Andreoni and Sprenger, 2012; Giné et al., 2018) and incentivized risk preferences (Holt and Laury, 2002). We measure time-use through the number of hours in the previous day a respondent reports spending idle, as well as the amount of time spent on a variety of other common activities one might do in the camps (including bathing, market, chores, collection of rations, eating, child-rearing, sitting at tea stalls, praying, sleeping, visiting friends/relatives, playing games, playing sport, sitting idle). Finally, we ask respondents how much they consume, borrow and save over the past week.

We further consider changes in perceptions on gender and power in two ways. First, we generate a Household Power Index, composed of a set of questions on perceptions of gendered decision-making and intimate partner violence. The questions are drawn from Haushofer and Shapiro (2016), which are themselves adapted from the Demographic Health Surveys. In addition, we produce a Work Rights Index, composed of questions around whether respondents feel that women should be allowed to work inside or outside the home or the camp block.

Each outcome is described in greater detail in Appendix C. The frequency with which each outcome is collected is also presented in Appendix C.

Multiple Hypothesis Testing We utilize two approaches to address the issue of multiple hypothesis testing. First, we present our primary outcome, psychosocial wellbeing, as an inverse-covariance weighted index variable following Anderson (2008). We also generate index variables for other outcomes in which this is possible, such as the cognitive index, the household power index, and the work rights index. Our second strategy is to report the sharpened False Discovery Rate (FDR) q-values for all outcomes within a particular

table, which control for the expected proportion of rejections that are type I errors, likewise described by Anderson (2008).

Pre-Analysis Plan (PAP) This study was pre-registered on the AEA Registry and successfully underwent the pre-results review process at the Journal of Development Economics. The experiment was run prior to the completion of this review process, but all post-baseline data was held with IPA administrators and not released to the authors until the pre-review process and PAP were complete, which occurred in March of 2021. Deviations from the PAP are minor and described in detail in Appendix Section B.

5 Experimental Results

5.1 Completion of work

We first establish that participants in the employment arm engaged in the work they were offered. Figure 2 exhibits the fraction of individuals in the employment arm who completed their work (Panel A) and made any mistakes (Panel B). No week exhibits below a 98% completion rate, indicative of participants’ desire to engage in the work. Mistakes were common in the early weeks of employment, but declined to hover around 5% from weeks three through eight. This suggests both that the task required some effort, such that many respondents had to learn how to perform well, and that respondents invested this effort and maintained a reasonably high quality of work throughout the experiment. Work quality is further reflected in the frequency of docked pay, which peaks at less than two percent (not shown), resulting in individuals in the work treatment arm receiving nearly exactly as much in remuneration as those in the cash treatment arm over the course of the intervention.

5.2 Empirical Framework

We now estimate the effects of the cash and work treatment using the following regression:

$$Y_{ibc}^1 = \beta_0 + \beta_1 Cash_{ibc} + \beta_2 Work_{ibc} + \sigma_g + \gamma_c + \delta_e + Y_{ibc}^0 + X_{ibc} + \varepsilon_{ibc} \quad (1)$$

where Y_{ibc}^1 represents the relevant outcome for individual i in block b and camp c , X_{ibc} is a vector of sociodemographic controls selected via double-selection LASSO to maximize precision following Belloni, Chernozhukov, and Hansen (2014), and ε_{ibc} is an error term clustered at the block level. We include fixed effects for gender σ_g , camp γ_c and enumerator

δ_e .¹¹ We control for the baseline value of the outcome variable Y_{ibc}^0 when available in an ANCOVA specification following McKenzie (2012). Our coefficients of interest are β_1 , the impact of cash, and β_2 , the impact of work. We evaluate whether there exist non-pecuniary benefits to work through a test of equality between these two, $\beta_1 = \beta_2$.

5.3 Impact of employment

Table 2 presents the treatment coefficients of Equation 1 for psychosocial outcomes. Relative to those in the control group, individuals in the employment arm experience a 0.21 unit improvement in their psychosocial index, significant at the one percent level. Each standardized subcomponent of the index exhibits significant and meaningful improvements as well. Those offered employment experience a substantial reduction in symptoms of depression, as captured by the PHQ, as well as feelings of anxiety or frustration, as captured by the stress index (both signs flipped such that positive coefficients reflect improvements). They exhibit greater life satisfaction, are more sociable, possess higher self-worth, feel greater control over events in their lives, and feel more stable in the present and the anticipated long-term future.

As a first benchmark, a randomized evaluation of a year-long psychoeducation program for Rohingya refugees, which included 44 weekly sessions of counseling and was implemented at approximately the same time in the Bangladesh camps as this study, documents a 0.15 SD reduction in depression severity among treated mothers (Islam et al., 2021), relative to the 0.24 SD reduction we document from the employment intervention. As a second benchmark, we find that individuals who experienced the death of a close friend or family in the indiscriminate violence in Myanmar prior to fleeing (for whom we can demonstrate balance on observables relative to those who did not experience death, see Appendix Table A3 and Appendix Section D) exhibit 0.26 SDs greater depression severity than their luckier counterparts. The employment program therefore appears to reduce depression severity by nearly as much as being spared the death of a loved one in Myanmar. To provide context on which dimensions of depression severity were most affected we report effects for each subcomponent of the PHQ module in Appendix Table A2.

The employment arm not only improves psychosocial wellbeing relative to the control arm, but also yields significantly larger improvements in psychosocial wellbeing than the cash arm. Figure 3 offers a visual representation of these non-pecuniary effects (while Appendix Figure A2 presents the same relative to the control group). The cash treatment yields an imprecisely estimated 0.06 unit increase in the mental health index, and we can reject equality of effects between employment and cash at the one percent level. This result is

¹¹We follow Di Maio and Fiala (2019) and include enumerator fixed effects to account for the fact that respondents' answers may be influenced by the way enumerators ask more sensitive questions.

manifested across all subcomponents of the index, with the exception of life satisfaction, which increases significantly under both treatment arms. In other words, the psychosocial value to employment appears to be driven largely by the non-pecuniary dimensions of the employment experience.

5.4 Impacts of employment on reported physical health, cognitive function, and economic decision-making

The positive effects of employment extend to other measures beyond psychosocial health. Table 3 presents results on reported physical health, cognitive function, and incentivized measures of risk and time preference. We observe a significant increase in the days reported healthy. This effect may be due to ‘real’ health improvements from increased exercise (which has also been documented to translate to improved mental health (Herbert et al. (2020))) from the employment task or ‘perceived’ health improvements in which improved psychosocial wellbeing translates into feeling less physically ill. Should the channel be exercise, we may expect health improvements to grow over time. Our weekly data on days healthy suggests this is not the case: we observe the treatment effect on health from the first week of working, and the gap remains steady throughout the following two months (Appendix Figure A3).

The employment arm also significantly improves cognitive function as measured through an index of memory and basic arithmetic tests, a finding consistent with a large psychology literature documenting the relationship between cognitive processes and depression (Semkowska et al., 2019). As with physical health, improvements to cognitive function are unlikely to be a direct product of the employment task itself, which was specifically designed to require no literacy or mathematical skill. Rather, these results are suggestive of a downstream impact to reducing depression through the experience of employment.

Finally, we find no change in time preferences: treated individuals are no more or less likely to discount the future relative to control counterparts, although results may have differed had we engaged participants in an effort or consumption-based time preference game rather than a financial one. However, we find a substantial increase in risk tolerance among the employed. A greater preference for risk-taking may be indicative of employment serving as a form of psychological ‘insurance’ that allows participants the mental bandwidth to exercise greater risk. This is consistent with the positive impacts of employment on stability as well as with a key motive underlying universal basic income (UBI) in the developing world (Banerjee, Niehaus, and Suri, 2019). Interestingly, however, we document no parallel increase in risk tolerance in the cash transfer arm. Our result on risk preference also echoes a potential

consequence of depression and anxiety described in Ridley et al. (2020), although empirical evidence on this relationship remains mixed (Cobb-Clark, Dahmann, and Kettlewell, 2019; Bayer et al., 2019).

As with psychosocial health, impacts of the employment arm are significantly larger than those of the cash arm for our physical, cognitive, and risk preference outcomes; impacts of cash alone again remain noisy and close to zero, and we can reject equality between the two arms for each of these outcomes at at least the ten percent level. The effects we document therefore appear to be driven by the non-pecuniary value of employment.

Reassuringly, we find no evidence of negative impacts to the withdrawal of the work or cash interventions in our six week followup (Appendix Table A4). Instead, we find evidence of some positive persistence, with formerly employed individuals reporting significantly greater wellbeing, control, and physical health, and less stress, than their control counterparts six weeks after the interventions concluded.

5.5 Labor supply

We estimate significant benefits of employment on psychosocial, physical, and cognitive wellbeing, and these effects appear to be driven largely by the non-pecuniary dimension of the experience. We now examine whether individuals *perceive* the non-pecuniary benefits of employment through an incentivized labor supply elicitation exercise conducted after the conclusion of the eight-week intervention.

Having experienced the work task and therefore able to realistically value the work, we offer individuals in the employment arm an additional [surprise] week of work at a series of wages following the incentivized Becker-DeGroot-Marschak (BDM) method. We inform participants that we have a limited amount of funds remaining and are therefore unable to pay everyone their previous wage. This strategy realistically motivates the reservation wage elicitation exercise and makes clear that there will be no further opportunities for work. We piloted this exercise extensively. To maximize comprehension, we employ a multiple price list strategy, embed repeated confirmations, and conduct a trial run of the exercise for each respondent before the real exercise; this mimics the procedure employed in Burchardi et al. (2021) for which participants in another low-income country field context exhibited high comprehension.

For those individuals who express willingness to work at a wage of zero, we offer an alternative option of answering a brief survey at the end of the week for a small randomized fee; we then use the fraction of respondents who are willing to forego this paid option and instead work for free as an estimate of the proportion of respondents who have a negative

reservation wage of at least the foregone magnitude.

Figure 4 presents a cumulative distribution of the expressed reservation wages among these individuals. 97% of those in the employment arm express interest in working the additional week. 73% of those who are interested in working express willingness to work for a wage of zero. 78% of those who are then offered an alternative of 200 taka (USD \$2.5) in compensation for answering a brief survey *continue* to prefer to work for free.

As we did not offer compensation for the alternative beyond 200 taka, we cannot deduce the precise negative reservation wage for the majority of our sample, but instead view 200 taka as an upper bound. In other words, we find that 70% of all former workers value the non-pecuniary benefits of additional employment at greater than zero (assuming some non-negligible cost of effort to working), and 55% of former workers value these benefits at greater (and given the shallow slope, potentially substantially greater) than 200 taka, approximately equivalent to the average held in baseline savings. Notably, 99% of all those who expressed interest in working completed the work in the following week at the wage drawn in the elicitation exercise. These results suggest that participants understand well the psychosocial value of this employment opportunity.

5.6 Potential confounds

Our results are indicative of the presence of significant non-pecuniary benefits to employment. We investigate two potential challenges to this interpretation: the employed develop differences in expectations of future work relative to the cash only individuals, or the employed exhibit differential surveyor demand effects.

Expectations of future work Despite repeated reminders that the work opportunity we provided would last no more than eight weeks, there remains a possibility that those in the work treatment believed that current employment may make future employment more likely. In other words, employment may carry monetary benefits beyond those of the immediate income received, either through the relationship formed with the NGO or through a boost in the beneficiary’s ‘resume’ which makes them more appealing to other potential employers. While resumes are scarce in the camp context and thus an unlikely channel through which the differential benefits of employment might transpire, we sought to estimate such effects by randomizing, at the block level, the provision of paper certificates to half of all participants.

These certificates provided documentation of the beneficiaries’ involvement with our project, intending to serve as an explicit boost to their resume (Appendix Figure A4). If employed individuals derive psychosocial benefits from the expectation of future work,

the certificate was designed to make this expectation salient.¹² Table 4 presents the results. Those in the work arm who receive a certificate exhibit no additional improvements in psychosocial wellbeing.¹³

While helpful, this is not conclusive: perhaps the certificate was not an effective way to raise the perceived probability of future work. We therefore additionally estimate the expected and actual likelihood of employment after the intervention. Appendix Table A5 presents the impacts of each treatment arm on post-intervention labor market experiences. Six weeks after the intervention, those who were formerly employed are no more likely to find work, receive a higher wage, nor expect work or a higher wage in the future than their cash counterparts.

Experimenter demand effects Are the effects of employment driven by a desire to please enumerators for the employment opportunity received? We offer three reasons why we view this as unlikely. First, our key margin of comparison is between those in the employment arm and the cash arm, both of whom receive an equivalently substantial sum of cash. As such, both groups are equally ‘indebted’ to the experimenter and therefore equally vulnerable to demand effects. Those in the cash arm may arguably feel more indebted, as they receive cash without completing daily work in return.

Second, we complement our psychosocial index with measures that are not vulnerable to experimenter demand. Demand effects are unlikely to alter one’s cognitive ability as measured through the arithmetic questions and memory tests of our cognitive index. Our risk and time preference games are incentivized with meaningful stakes (respondents gamble with a minimum of 1.20 USD in the risk preference game and trade off 3.50 USD today with higher amounts tomorrow in the time preference game), stake sizes that de Quidt, Haushofer, and Roth (2018) have found effectively eliminate demand effects.

Perhaps employed individuals feel a need to impress the enumerator, as their proximate employer, in a way cash recipients do not. This may lead to reporting better mental and physical health and investing greater effort in the cognitive tasks. However, we find that life satisfaction increases substantially for both groups, inconsistent with a differential desire to impress among the employed. We also observe patterns of treatment effects within our validated PHQ-9 module that are inconsistent with experimenter demand (Appendix Table

¹²The signaling value of the certificate may have been diminished if other employers learned about the nature of the certificate distribution. Our time in the field suggests this is unlikely: we randomized certificate distribution at the block level to limit spillovers, only five people in each block of 200 adults was involved in the experiment, and job opportunities were scarce.

¹³The certificate read “I engaged with Pulse Bangladesh to do data collection”. It was written this way in order to be generic enough to apply to all the individuals in the experiment, all of whom were providing us data from the weekly surveys

A2): effect sizes vary substantially across each question despite similar implications for one’s ability as an employee. Furthermore, an exercise in Section 5.7 documents that wellbeing shrinks the longer it has been since an employee worked *within* a given week, a pattern consistent with real changes in mental health related to the experience of employment.

Finally, our incentivized labor supply elicitation exercise offers a revealed preference validation of the psychosocial effects of employment. 97% of former workers express desire to work an additional week: 99% of these individuals complete this additional work, with 70% willingly doing so for no pay and 55% foregoing at least \$2.5 USD to work for no pay. Such behavior underscores that the self-reported psychosocial measures are plausibly reflective of an internalized non-pecuniary value to the experience of employment.

5.7 Exploring underlying mechanisms

The primary objective of this study is a causal estimation of the psychosocial value of employment, broadly construed, beyond that of income alone: we present a proof of concept that employment generates non-pecuniary psychosocial benefit. We now explore: what about employment does so?

We first ask: Is the nature of the work itself relevant? In other words, could labeling one group “employed” and paying them over two months for an instance of work have generated the same psychosocial value as what we estimate? To test this, we exploit individual and temporal variation in the days that an employed individual is assigned work.¹⁴ We run the following regression:

$$Y_{ibct} = \beta_0 + \beta DaysSinceWork_{ibct} + t + \eta_i + \gamma_c + \delta_e + \varepsilon_{ibct} \quad (2)$$

where Y_{ibct} represents weekly measures of wellbeing, $DaysSinceWork_{ibct}$ represents the number of days between the day of the weekly survey and the most recent day of employment, η_i is individual fixed effects, t is a weekly time trend, and $\gamma_c, \delta_e, X_{ibc}, \varepsilon_{ibct}$ are as defined above. If the actual experience of working, rather than simply the identity of being employed, affects psychosocial wellbeing, we expect our coefficient of interest β to be negative: the longer it has been since one last worked, the less one benefits from being employed.

Results are presented in Table 5. One additional day away from work is associated with a reduction in wellbeing of 0.098 SD ($q = 0.001$) and increase in stress of 0.064 SD ($q = 0.001$). This suggests value in the experience of working, and therefore the nature of the work itself.

¹⁴Note that every worker works an average of three days per week; we incorporate variation in the number of days per week and across workers *in a given week* in order to embed some unpredictability in work schedules, for the purposes of a subrandomization on structure in work described below.

Given the role of the experience of working itself, we next consider what features of the work may alter one’s psychosocial state. We first examine how working makes one feel: the self worth imparted by working (through the sense of purpose experienced by the job) vis-à-vis the family and the community, and the sociability facilitated by the job. We then consider features that impact how the work shapes one’s day: the structure imposed by a work schedule and the occupation of time. Third, we consider how working shapes consumption choices, as what is consumed from wages may differ from what is consumed from a cash transfer. Because we lack experimental variation along most of these margins, we cannot definitively rule in or out singular channels. Our evidence suggests that the role of employment in conferring self worth, upon an individual within the eyes of their family, may be particularly impactful. Finally, we investigate how different workers gain from working, where we consider their gender, baseline exposure to violence, depression and extroversion.

5.7.1 How working makes one feel

Self worth vis-à-vis the family We document a significant non-pecuniary impact of employment on self-worth. Our self-worth index asks the following question separately for one’s family and one’s community: “Think of the individual you most respect and who brings greatest value to your family (community). If they are ranked 10, where would you rank yourself?” We find that baseline mental health is highly correlated with how one ranks themselves within their family at baseline (Appendix Table A6). Consistent with this, the non-pecuniary impact of the employment treatment on family-rank is large, at 0.17 SDs ($q = 0.01$) greater than the cash arm (Column 1 of Table 6. Notably, this is a combination of a 0.11 SD increase in ranking among the work group and a 0.06 SD *decrease* (though imprecise) among the cash group.

The large impact of employment on family status, paired with the potential disempowering effect of cash, hints at these improvements being gendered: because males are the traditional breadwinners in our context, deprivation of that role and receipt of a ‘handout’ may be particularly costly for them.¹⁵ Indeed, we find in Table 7 (Columns 5 and 6) that, while women exhibit improvements in their family ranking under both employment and cash arms, males exhibit a substantial increase in their family ranking from employment and a reduction from cash. The non-pecuniary impact of employment on self worth appears to be driven almost entirely by men, who exhibit greater [self-perceived] sense of self-worth within their family when employed, but reduced family status from cash alone.

¹⁵This is despite the fact that we framed the cash transfer as ‘earned’ for the completion of weekly surveys in efforts to limit the potential disempowering effects of cash.

Self worth vis-à-vis the community (“status”) The job embedded features which may have conferred a sense of self-worth upon our employees in the eyes of their *communities*. For example, it had a community-centric purpose, was publicly observable, and was a pen-and-paper task rather than manual labor. We examine the community component of the self-worth index to shed some light on the role of these mechanisms, where we interpret an individual’s sense of self-worth within the community as a measure of status within the community. Appendix Table A6 demonstrates that baseline mental health has no correlation with ranking within one’s community beyond that of family, suggesting that mental health is not closely tied to one’s perception of their standing within their community. To test this directly, Column 2 of Table 6 examines the impact of employment on one’s community ranking: the effect is smaller, but remains positive. Because community ranking implicitly includes one’s perceived rank within their family as well, Column 3 conditions on family rank. Conditioning on this causes the effect of community rank to largely disappear, suggesting that the public, clerical, and community-centric nature of the work are unlikely to be primary driving forces behind greater wellbeing. We note that this exercise faces several limitations: we cannot establish causality as we condition on an endogenous regressor, standard errors remain too large to reject any impact of employment on standing within the community, and our question on community ranking may preclude other dimensions of status, such as wealth or prestige, that are not captured by concepts such as ‘respect’ or ‘value’. The social status that a refugee in our setting obtains from having a job with an NGO may therefore generate psychosocial value on a margin we cannot estimate.

Sociability Does the social nature of the work task drive the results? Participants are relatively social at baseline: the average refugee in our sample has conversations with 14 different adults per day and spends nearly 4 hours engaged in social activities. The non-pecuniary impact of employment on sociability is small, at an imprecise 0.09 SD, or 0.5 additional conversations per day.¹⁶ Furthermore, the marginal increase in conversations among the employed transpire on *non-work* days (Column 3 of Table 5), suggesting that gains in sociability are unlikely to be due to the nature of the work itself.

5.7.2 How working shapes one’s day

Structure In an environment where days are unregimented and there exists great uncertainty around the future, does the structure of work lead to mental health improvements?

¹⁶This is derived from the difference in the work and cash impacts on sociability of Table 2; we then obtain 0.5 more conversations upon converting the standard deviations into number of conversations. Note also that socializing with the ‘employer,’ or the enumerators, was held constant across all three treatment arms.

Such a channel would be consistent with psychology literature on behavioral activation, or the act of scheduling structured activities as a means of combatting depression (Cuijpers, van Straten, and Warmerdam (2007)). To explore this question, we supply a random subset of the employed with a calendar marking every date of work (Appendix Figure A5). The remainder receive a blank calendar and are instead informed weekly about their schedule. We find no impact of a schedule on respondent wellbeing or decision-making (Appendix Table A7). Despite this exercise, we cannot causally estimate the role of the structure alone on wellbeing, as the structure imposed by regular employment is coextensive with employment itself. Indeed, our measure of stability, which asks respondents how secure they feel at the moment and expect to feel in the future, increases substantially among the employed relative to both control and cash arms.

Time use Does employment improve wellbeing by allowing participants to substitute time away from unsavory or psychosocially costly activities? Appendix Table A8 presents how cash and work arms use their time. We document no significant difference between the two arms in the number of hours that respondents report spending across a variety of activities. Notably, while we cannot rule out that time outside due to employment may play a role (e.g. fresh air may boost one’s mood), our time-use data indicates that the average refugee already spends at least three hours outside per day, with no measurable difference between employed and cash arms. As we are powered to detect changes of at least twenty minutes for each activity, our results suggest that large substitutions away from unsavory activities are unlikely to be driving the improvements in psychosocial wellbeing, insofar as the respondent recalls.¹⁷¹⁸ We also investigate whether those who were more idle prior to being employed benefit more from employment. We find no impact along this margin, suggesting that the elimination of boredom *per se* is not the driving force behind the psychosocial value of employment (Appendix Table A10).

¹⁷Most respondents do not track their day by time, making collection of reliable time use data challenging (though recent literature documents the broader unreliability of such data). We piloted a variety of strategies, and settled on asking respondents how much time they spent on a set of activities in the previous day. Methods such as calling respondents at various times of day to document their activities were not feasible in the camps given the lack of mobile phones.

¹⁸Given that individuals in the employment arm report spending an average of 2.5 hours per day engaged in the work assignment, the absence of time use effects is perhaps surprising. Given the distribution of work time over the course of the day (40 minute intervals), we suspect that rather than supplanting any single activity during a worker’s day, the task instead shed a few minutes off of many activities. Both recollection and detection of these small margins of substitution are less likely. As such, while we cannot rule out that the effects of the employment arm may arise from small changes in how time is spent, our results suggest that substantial differences in time use are unlikely to drive the non-pecuniary impacts we document.

5.7.3 How working shapes consumption choices

Consumption While those in the employment arm received nearly exactly the same quantity of cash as those in the cash arm, participants in each may have experienced the receipt of this cash differently and therefore spent it differently.¹⁹ We examine directly how income was consumed. Panel A of Appendix Table A11 demonstrates no statistically significant difference between the employment and cash arms across a variety of consumption categories. Similarly, Panel B demonstrates no statistically significant difference in the rates at which the employed and the cash arms save, borrow, or lend.

5.7.4 How different workers gain from working

As with the features of work, the features of the employee may likewise moderate the psychosocial benefits of employment. We consider four below.

Gender *Ex ante*, men or women may derive greater non-pecuniary value from employment. Whereas males may gain a greater sense of status through employment, employment may differentially raise the household bargaining power of females.²⁰ We find suggestive evidence that the non-pecuniary psychosocial benefits of employment are greater among males (Table 7). The patterns on self worth described above are further mirrored in the depression scale: males experience a large reduction in their PHQ score when employed, but a slight increase from cash alone, while females experience modest reductions from both the employment and the cash treatments. The positive impact for females under both treatments is echoed in their household power index: the provision of cash, with or without employment, significantly raises women’s beliefs about their prerogative to make decisions in the household and their intolerance for intimate partner violence. Notably, the two month employment intervention also manages to significantly shift the beliefs of employed women around whether women should be permitted to work outside the home.

Baseline violence, depression, and extroversion: We explore whether the impacts of employment are mediated by baseline exposure to violence in Myanmar, depression, and extroversion. Columns 1-2 of Appendix Table A12 present suggestive evidence that those

¹⁹This potential difference in perception (and in particular, the concern that a beneficiary’s dignity may be challenged with the receipt of cashfare) is implicit in the program itself and is therefore part and parcel of the differential psychosocial impacts we are interested in estimating.

²⁰Sociological work suggests that job loss leads to greater male aggression in the home due to a greater sense of powerlessness (Annan and Brier (2010); Kabeer (2015); Bhalotra et al. (2020)). McKelway (2020) describes the empowerment effects of employment for women, although it remains an open question whether such gains are derived from the nature of the employment or from its function as an income source.

who witnessed death in the genocide experience a larger reduction in depression from the employment intervention. Columns 3-4 present the parallel results for baseline depression, but we observe no obvious pattern. Columns 5-6 examine heterogeneity by extroversion, where we likewise observe no obvious pattern, with reassuringly no evidence that introverted individuals are harmed by the outward-facing work.

5.7.5 Benchmarking main effects

Benchmarking the employment impact How do our employment impacts compare to alternative anti-poverty programs or targeted psychotherapy programs? Ridley et al. (2020) perform a meta-analysis of the mental health impacts of multi-faceted anti-poverty interventions (eg. livestock transfer, business training, employment, etc.) and find an average effect of 0.2 SD per \$1000 PPP in cash transfers (or 0.024 SD per \$120 PPP); the effects we document are substantially larger. Singla et al. (2017) perform a meta-analysis of the mental health impact of targeted psychotherapy programs in low and middle-income countries and find an average of a 0.49 SD reduction in depression and PTSD, against which the impact of employment that we document are smaller. Perhaps most relevant is a study of a year-long psycho-education program directed at Rohingya refugee women residing in the same set of camps as those in this study (Islam et al., 2021). The program provided weekly sessions of in-person psychoeducation and parental counseling and yielded a 0.15 SD reduction in depression severity. In comparison, the employment program we consider generates a 0.24 SD reduction in depression severity.

Benchmarking the cash impact A meta-analysis of the mental health impacts of cash transfer programs by McGuire, Kaiser, and Bach-Mortensen (2020) approximates that transfers which double consumption generate a 0.12 SD improvement in mental health, and transfers of \$120 PPP are likewise associated with a 0.12 SD improvement in mental health. An alternative meta-analysis by Ridley et al. (2020) estimates impacts of cash that are substantially smaller: \$1000 PPP cash transfer generates an average mental health impact of 0.12 SD; a linear interpolation implies that our \$120 PPP transfer would yield a 0.014 SD impact on mental health. Our cash transfer, which is valued at \$120 PPP and at least a doubling of daily consumption, exhibits a 0.06 unit (though imprecise) change in our psychosocial index of standardized mental health outcomes, falling in between these two meta-analyses.

6 Conclusion

Cumulatively, our analyses shed light on the psychosocial impacts of employment and the various mechanisms mediating the relationship we identify. We design a simple employment intervention, contextually appropriate and amenable to both men and women, which yields improvements in psychosocial wellbeing substantially greater than that of an equivalent amount of cash. Perhaps most striking in this is how simple the work task is: for all intents and purposes, our participants could have organized a similar activity of their own accord. That they do not do so suggests that the experience of being employed, of engaging in productive and effortful activity in the service of an employer, confers particular value to a task, even at the low intensity of 7.5 hours per week. Indeed, we find that individuals are able to at least partially internalize these benefits in their labor supply decisions. We offer two considerations with regard to these findings.

First, our study finds that the majority of refugees in our setting are willing to work for zero pay, and in fact willing to forego a sizable transfer in order to work for free. When choosing between cashfare and workfare programs in similar contexts, policymakers may therefore favor work programs as a means of alleviating both material and psychological poverty. However, our results cannot offer insight into the price of labor in these contexts, as there are long-term psychosocial benefits to accumulated wages that are not captured in this field experiment. The low reservation wages exhibited in this study also suggest a nuanced role for labor regulation: while legal restrictions to labor market opportunities are a likely source of these low reservation wages, legal protections in the form of wage floors may be particularly important to welfare in the restrictive labor environments these laws produce.

Second, we sought to design a study to estimate the psychosocial value of a realistic form of employment, beyond that of income alone, for two reasons. On the margin of economic theory, neoclassical frameworks of labor supply model the provision of ‘labor’ as a net disutility, while our results suggest that there exist contexts within which this is not the case. On the margin of policy relevance, organizations such as the UNHCR invest significant capacity into securing refugees the right to work in their host countries (UN (2018)); estimates of the psychosocial benefits to employment may serve as valuable evidence for their efforts.

Finally, we underscore the interpretation of our findings as a *proof of concept*. The employment intervention we designed was a part-time activity, was not manual labor, was clerical, purposeful, and involved a relatively kind employer. These are features that are common to many, but far from all, jobs. Our findings instead encourage us to deepen our conception of ‘labor’ and ‘employment’ through future directions of questioning. Among

them, which elements of the experience of employment may be most psychosocially valuable? In what contexts might material support alone be a suboptimal means of improving wellbeing? And how might the scarcity of meaningful activity or direction, so palpable in refugee camps but often encountered beyond, transform the concept of 'time' from a valuable resource into an amorphous and costly experience?

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Table 1: Balance in observables across treatment arms

	(1)	(2)	(3)	(4)	(5)	(6)
	Control	Cash	Work	(1) vs. (2)	(1) vs. (3)	(2) vs. (3)
Female	0.32	0.29	0.30	0.24	0.45	0.49
Married	0.82	0.81	0.76	0.34	0.04	0.31
Age	28.39	29.03	28.01	0.74	0.41	0.17
Household size	4.99	5.23	5.14	0.52	0.61	0.78
Formal education	0.48	0.44	0.51	0.70	0.14	0.07
Past Ag. Work	0.62	0.66	0.65	0.74	0.64	0.92
Math ability (index)	0.00	0.01	0.04	0.91	0.43	0.25
Digit Span Score (Total)	0.00	0.08	0.13	0.63	0.18	0.35
Wellbeing	0.00	0.07	0.07	0.22	0.04	0.71
Life Satisfaction	0.00	-0.04	0.04	0.62	0.05	0.22
Self-worth (relative)	-0.00	0.11	0.00	0.40	0.32	0.93
Worked in the last month	0.11	0.11	0.10	0.88	0.49	0.39
Worked in Myanmar	0.72	0.72	0.76	0.57	0.81	0.38
Hours Idle (avg) demean	2.97	3.31	3.01	0.99	0.39	0.46
Idle Feelings	1.66	1.73	1.67	0.31	0.06	0.66
Locus of Control	0.00	0.10	0.15	0.35	0.07	0.47
Power Perceptions	-0.00	-0.07	-0.00	0.19	0.85	0.07
Work Perceptions	0.00	-0.09	-0.01	0.61	0.63	0.31
Persistent Illness (>7)	0.30	0.33	0.28	0.89	0.26	0.24
Days Healthy	25.51	24.82	25.78	0.39	0.15	0.02
PHQ Scale	0.00	0.13	0.00	0.31	0.80	0.18
Depression (Base)	0.76	0.82	0.77	0.26	0.91	0.14
Stress (index)	-0.00	-0.13	-0.00	0.24	0.96	0.18
Number of conversations	0.00	0.01	0.02	0.85	0.68	0.46
Number of conversations +	9.25	8.96	9.94	0.34	0.69	0.07
Number of conversations -	3.45	4.04	3.84	0.45	0.40	0.88
Family Injuries (Burma)	1.79	1.70	1.68	0.58	0.26	0.72
Observations	165	165	415			
Joint F-Test				0.30	0.40	0.27

Notes: Columns (1), (2), and (3) show the average value of the variable in the respective treatment arm. Column (4) shows the p-value of the difference in means between the control and cash treatment groups, Column (5) shows the p-value between control and work, and Column (6) shows the p-value between cash and work.

Table 2: Impacts on psychosocial wellbeing

	Individual Components of PS Index							
	(1) PS Index	(2) PHQ	(3) Stress	(4) Life Sat.	(5) Social	(6) Self Worth	(7) Control	(8) Stability
Work	0.211*** (0.041)	0.237*** (0.075)	0.237*** (0.086)	0.293*** (0.073)	0.172** (0.081)	0.137* (0.082)	0.233*** (0.082)	0.247*** (0.075)
Cash	0.056 (0.050)	0.011 (0.088)	0.056 (0.097)	0.229*** (0.084)	0.084 (0.098)	-0.090 (0.090)	0.040 (0.103)	0.066 (0.097)
Shrp. q-val Work		0.004	0.005	0.001	0.012	0.029	0.005	0.004
Test Work=Cash	0.000	0.006	0.018	0.326	0.292	0.002	0.026	0.032
Shrp. q-val Work=Cash		0.019	0.031	0.103	0.103	0.013	0.033	0.033
Observations	726	726	726	726	726	726	726	726

Notes: This table reports the treatment effect of the employment and cash arms on psychosocial outcomes. Each column shows the OLS estimates of Equation (1) including dummies for each treatment arm and controlling for the baseline measure of the dependent variable (ANCOVA), camp and enumerator fixed effects, and sociodemographic controls as determined through a double-selection LASSO procedure (Belloni, Chernozhukov, and Hansen, 2014). Each row presents the coefficients of the specified treatment relative to the control group (which received a small weekly cash payment).

All outcomes are standardized. The PS index (Column 1) is an inverse covariance-weighted index of the outcomes of Columns 2-8. ‘PHQ’ is the standardized score of the PHQ-9 depression screening tool, but with the sign flipped, such that higher values represent reductions in depression severity. Similarly, higher values for ‘Stress’ represent *reduced* stress. All remaining outcomes are likewise presented such that higher scores represent improved wellbeing.

Standard errors are clustered at the block level. The row labeled “Shrp. q-val Work” reflects p-values, referred to as ‘sharpened q-values,’ adjusted for multiple hypothesis testing using the false discovery rate (FDR) procedure of Anderson (2008) for all outcomes in this table. The row labeled “Test Work=Cash” reflects the unadjusted p-value for the test of equality between the Work and Cash arms, while the row labeled “Shrp. q-val Work=Cash” reflects the adjusted p-value for this test of equality.

Table 3: Impacts on reported physical health, cognitive health, and preferences

	(1) Days Healthy	(2) Cognitive Index	(3) Risk Tol.	(4) Time Pref.
Work	0.789** (0.397)	0.231*** (0.079)	0.239** (0.104)	-0.032 (0.112)
Cash	0.107 (0.467)	0.071 (0.088)	-0.014 (0.120)	-0.013 (0.117)
Shrp. q-val Work	0.059	0.018	0.047	0.453
Test Work=Cash	0.075	0.011	0.009	0.822
Shrp. q-val Work=Cash	0.081	0.028	0.028	0.300
Observations	726	726	726	726

Notes: This table reports the treatment effect of the employment and cash arms on physical, cognitive, and risk and time preference outcomes. Each column shows the OLS estimates of Equation (1) including dummies for each treatment arm and controlling for the baseline measure of the dependent variable (ANCOVA), camp and enumerator fixed effects, and sociodemographic controls as determined through a double-selection LASSO procedure (Belloni, Chernozhukov, and Hansen, 2014). Each row presents the coefficients of the specified treatment relative to the control group (which received a small weekly cash payment).

‘Days Healthy’ is a self-reported measure of the number of days the respondent reports feeling healthy (not sick) in the previous 30 days. ‘Cognitive Index’ is an inverse covariance-weighted index of forward and backwards digit span tests and two arithmetic questions. ‘Risk Av.’ represents an incentivized risk-preference elicitation game in which higher values represent greater aversion to risk, while ‘Time Pref.’ represents an incentivized time-preference elicitation game in which higher values represent greater patience.

Standard errors are clustered at the block level. The row labeled “Shrp. q-val Work” reflects p-values, referred to as ‘sharpened q-values,’ adjusted for multiple hypothesis testing using Anderson (2008) for all outcomes in this table. The row labeled “Test Work=Cash” reflects the unadjusted p-value for the test of equality between the Work and Cash arms, while the row labeled “Shrp. q-val Work=Cash” reflects the adjusted p-value for this test of equality.

Table 4: Effect of receiving participation certificate

	(1) Psychosocial Index
Cash	0.020 (0.071)
Work	0.204*** (0.052)
Cash * Certificate	0.072 (0.103)
Work * Certificate	0.021 (0.082)
Certificate	-0.040 (0.070)
Observations	726

Notes: This table reports the treatment effect of receiving employment and receiving a certificate (and the interaction). In order to control for potential reciprocity effects, we provided these certificates not only to a subset of our employment arm, but additionally to a randomized subset of cash and control arms. The column shows OLS estimates of a regression of the Psychosocial Index on dummies for work, cash, certificate reception, the interactions, as well as the baseline measure of the Psychosocial Index, camp and enumerator fixed effects, and sociodemographic controls as determined through a double-selection LASSO procedure (Belloni, Chernozhukov, and Hansen, 2014). Standard errors are clustered at the block level.

Table 5: Psychosocial impact of days since last worked

	(1) Wellbeing	(2) Stress	(3) Sociability
Days Since Work	-0.098*** (0.013)	-0.064*** (0.012)	0.042** (0.019)
Shrp. q-val: Days Since Work	0.001	0.001	0.009
Observations	3148	3165	3165

Notes: This table reports the impact of an additional day since a respondent last worked on the three margins of psychosocial wellbeing which were collected in the weekly surveys. Each column shows the OLS estimates with individual, camp and enumerator fixed effects, a weekly time trend, and sociodemographic controls as determined through a double-selection LASSO procedure (Belloni, Chernozhukov, and Hansen, 2014). The sample includes only those in the employment treatment arm. Standard errors are clustered at the block level.

Table 6: Employment impacts on purposefulness

	(1) Value to family	(2) Value to community	(3) Value to community
Work	0.112 (0.072)	0.072 (0.090)	0.006 (0.081)
Cash	-0.063 (0.079)	-0.086 (0.110)	-0.067 (0.100)
Shrp. q-val: Work	0.543	0.752	1.000
Test Work=Cash	0.006	0.068	0.345
Shrp. q-val Work = Cash	0.019	0.073	0.131
Observations	726	726	726

Notes: This table reports the treatment effect of the employment and cash arms on one's ranking of oneself relative to the most valuable person in their family (Column 1) or community (Column 2), where the latter is conditional on family ranking in order to isolate community beyond family. Rankings range from 1 to 10, with 10 being the most valuable individual in the family/community and 1 being the least. Outcomes are standardized. Each column shows the OLS estimates of Equation (1) including dummies for each treatment arm and controlling for the baseline measure of the dependent variable (ANCOVA), camp and enumerator fixed effects, and sociodemographic controls as determined through a double-selection LASSO procedure (Belloni, Chernozhukov, and Hansen, 2014). Each row presents the coefficients of the specified treatment relative to the control group (which received a small weekly cash payment). Standard errors are clustered at the block level.

Table 7: Heterogeneity by gender

	Psychosocial Index		PHQ		Value to Family	
	Female	Male	Female	Male	Female	Male
Work	0.165** (0.068)	0.233*** (0.051)	0.120 (0.124)	0.276*** (0.089)	0.091 (0.114)	0.121 (0.089)
Cash	0.086 (0.088)	0.045 (0.057)	0.089 (0.146)	-0.031 (0.101)	0.080 (0.142)	-0.084 (0.109)
Test: Cash = Work	0.268	0.000	0.799	0.001	0.921	0.021
Shrp. q-val Cash=Work	1.000	0.001	1.000	0.008	1.000	0.026
Test: Male = Female	0.247	0.247	0.047	0.047	0.223	0.223
Shrp. q-val Male = Female	0.396	0.396	0.396	0.396	0.396	0.396
Observations	223	503	223	503	223	503

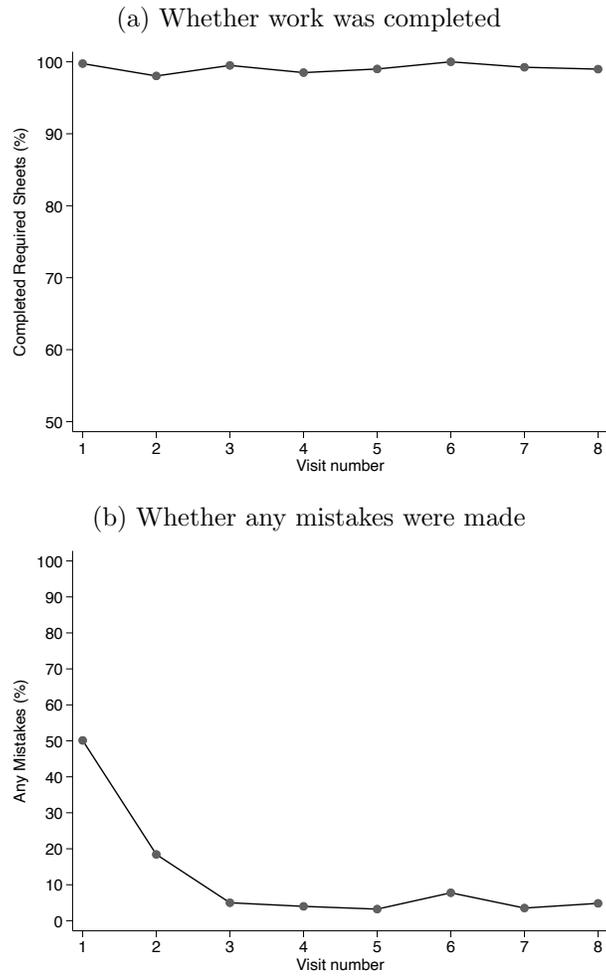
	Stability		Household Power Index		Work Rights Index	
	Female	Male	Female	Male	Female	Male
Work	0.241* (0.140)	0.284*** (0.087)	0.323** (0.129)	0.019 (0.093)	0.349*** (0.104)	0.086 (0.094)
Cash	0.196 (0.163)	0.045 (0.111)	0.279** (0.142)	0.072 (0.097)	0.110 (0.113)	0.040 (0.111)
Test: Cash = Work	0.724	0.018	0.745	0.532	0.011	0.600
Shrp. q-val Cash=Work	1.000	0.026	1.000	0.271	0.146	0.280
Test: Male = Female	0.174	0.174	0.674	0.674	0.195	0.195
Shrp. q-val Male = Female	0.396	0.396	0.491	0.491	0.396	0.396
Observations	223	503	223	503	223	503

Notes: This table reports the treatment effect of the employment and cash arms on psychosocial outcomes separately for male and female participants. Each column shows the OLS estimates of Equation (1) including dummies for each treatment arm and controlling for the baseline measure of the dependent variable (ANCOVA), camp and enumerator fixed effects, and sociodemographic controls as determined through a double-selection LASSO procedure (Belloni, Chernozhukov, and Hansen, 2014), run separately by respondent gender. Each row presents the coefficients of the specified treatment relative to the control group (which received a small weekly cash payment).

All outcomes are standardized. The ‘Household Power Index’ is an index of a series of questions around who in the household makes key decisions, with a higher household power index signaling greater decision-making power for the female head of household. The ‘Work Rights Index’ is an index of a series of questions around whether women should be permitted to work outside of the home.

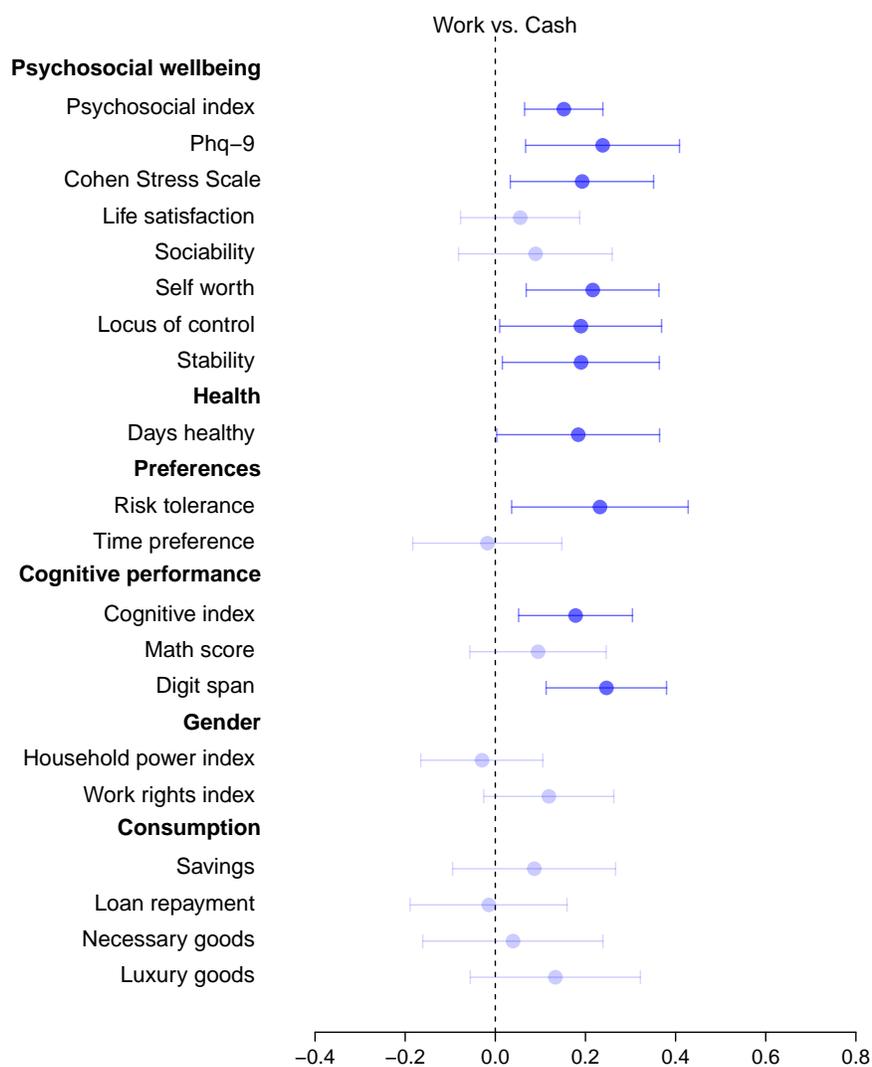
Standard errors are clustered at the block level. The row labeled “Shrp. q-val Work” reflects p-values, referred to as ‘sharpened q-values,’ adjusted for multiple hypothesis testing using Anderson (2008). The adjustments are made within gender for all outcomes in this table. The row labeled “Test Male = Female” reflects the unadjusted p-value for the test of equality between the Male and Female work treatment effects based on a pooled regression (not shown) where the treatment indicators were interacted with the gender of the respondent. The row labeled “Shrp. q-val Male = Female” reflects the adjusted p-value for this test of equality across all five outcomes.

Figure 2: Work completion measures



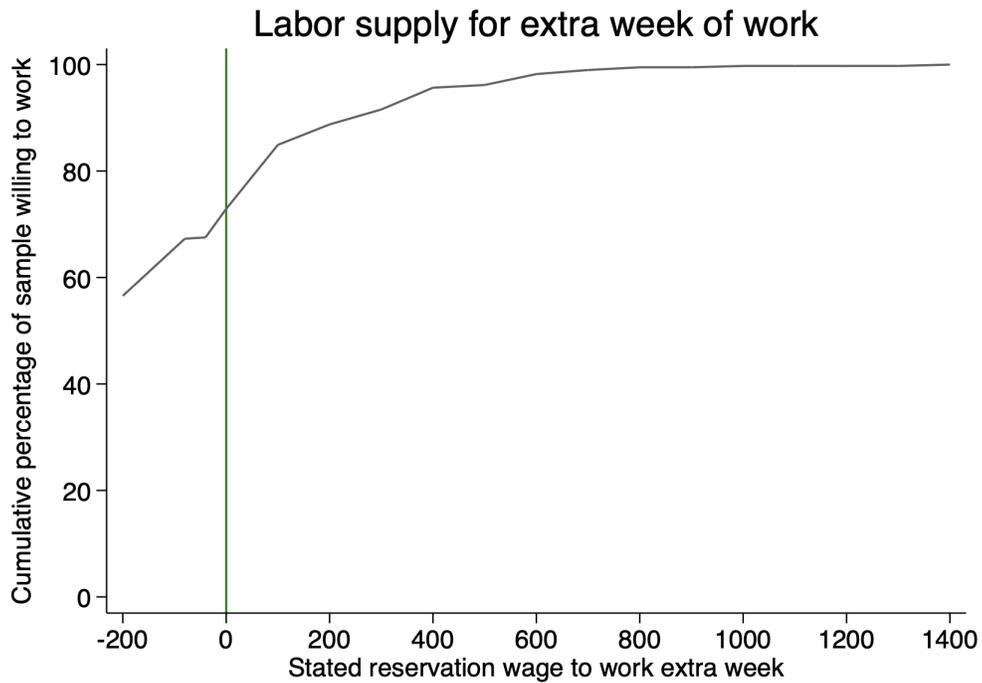
Notes: This figure exhibits the fraction of individuals in the employment arm who completed their work (all sheets for all workdays were accounted for, submitted on the correct days, each week) (Panel A), or made any mistakes (mistakes included: handwriting was different across sheets, indicated that someone else completed their work for them; the number of tally marks did not equal 15; or the distribution of the tally marks was identical or nearly identical across sheets, suggesting lack of effort (Panel B)).

Figure 3: Main employment treatment effects relative to cash



Notes: This figure plots the point estimates and 95% confidence intervals for each outcome in the work treatment group relative to the cash group. All outcomes are standardized. The scales for PHQ-9 and the Cohen Stress Scale have been reversed from previous tables so that positive values represent better outcomes.

Figure 4: Labor supply curve



Notes: This figure presents the cumulative distribution function of the reservation wage expressed by employment treatment participants for an additional week of work using the incentivized Becker-DeGroot-Marschak mechanism. The horizontal axis is in units of Bangladeshi Taka. The vertical dotted line represents the point at which individuals express a willingness to work one additional week for zero pay. Negative reservation wages are a measure of how much respondents are willing to forego earning in an alternative (minimal effort) task in order to continue working for one week with no pay.

A Appendix (For Online Publication)

A.1 Tables

Table A1: No differential attrition across treatment arms

	(1) Attrition
Cash	0.003 (0.017)
Work	0.003 (0.015)
Mean in Control	0.018
Observations	745

Notes: This table reports attrition in each treatment arm relative to control. Standard errors are clustered at the block level.

Table A2: Treatment effects for sub-components of PHQ-9 depression screening tool

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	PHQ 1	PHQ 2	PHQ 3	PHQ 4	PHQ 5	PHQ 6	PHQ 7	PHQ 8	PHQ 9	Depressed	Mod. Depressed
Work	-0.46*** (0.14)	-0.31** (0.13)	-0.41** (0.16)	-0.13 (0.14)	-0.20 (0.16)	-0.22 (0.15)	-0.21* (0.11)	-0.33*** (0.10)	-0.11 (0.11)	-0.10*** (0.03)	-0.05 (0.04)
Cash	-0.19 (0.16)	-0.12 (0.15)	-0.09 (0.19)	0.24 (0.15)	0.01 (0.15)	0.19 (0.17)	0.05 (0.14)	-0.12 (0.11)	0.06 (0.14)	-0.02 (0.03)	0.03 (0.05)
Shrp. q-val Work	0.005	0.033	0.025	0.206	0.131	0.112	0.058	0.005	0.184	0.005	0.112
Test Work=Cash	0.051	0.142	0.031	0.007	0.125	0.002	0.018	0.017	0.152	0.008	0.058
Shrp. q-val Work=Cash	0.046	0.075	0.041	0.027	0.075	0.018	0.029	0.029	0.075	0.027	0.046
Mean in Control	2.28	2.69	2.32	2.19	2.05	1.99	1.28	0.97	0.84	0.84	0.31
Observations	726	726	726	726	726	726	726	726	726	726	726

Notes: This table reports the treatment effect of the employment and cash arms on individual components of the PHQ module. Each column shows the OLS estimates of Equation (1) including dummies for each treatment arm and controlling for the baseline measure of the dependent variable (ANCOVA), camp and enumerator fixed effects, and sociodemographic controls as determined through a double-selection LASSO procedure Belloni, Chernozhukov, and Hansen (2014). Each row presents the coefficients of the specified treatment relative to the control group (which received a small weekly cash payment).

The individual components are all responses to the questions “How many days out of the last 7 days did you.” **1)** Have little interest or pleasure in doing things?; **2)** Feeling down, depressed or hopeless?; **3)** Have trouble falling or staying asleep, or sleeping too much?; **4)** Feel tired or have little energy?; **5)** Poor appetite or overeating?; **6)** Feel bad about yourself, think that you are of little worth?; **7)** Trouble concentrating on things?; **8)** Moving or speaking so slowly that other people could have noticed? Or the opposite - being so fidgety or restless that you have been moving around a lot more than usual?; **9)** Thoughts that you would be better off dead, or of hurting yourself in some way?

Standard errors are clustered at the block level. The row labeled “Test Cash=Work” reflects the unadjusted p-value for the test of equality between the Cash and Work arms, while the row labeled “Shrp. q-val Cash=Work” reflects the adjusted p-value for this test of equality, adjusted for multiple hypothesis testing of Anderson (2008) for all outcomes in this table.

Table A3: Balance on observables along exposure to death in Myanmar

	(1) No Violence	(2) Violence	(3) No Vio. vs. Vio.	(4) No Vio. vs. Vio., Town FE	(5) No Vio. vs. Vio, Grid FE
Married	0.82	0.78	0.69	0.70	0.61
Age	27.87	28.39	0.30	0.36	0.30
Household size	5.11	5.13	0.67	0.89	0.78
Formal education	0.43	0.50	0.31	0.20	0.15
Math ability (index)	-0.02	0.03	0.30	0.30	0.28
Past Ag. Work	0.58	0.66	0.22	0.17	0.15
Observations	91	654			

Columns (1) and (2) show the average value of the variable for respondents who did and did experience the death of a family or community member in Myanmar. All difference in means test control for gender because violence was targeted differently between men and women. Column (3) shows the p-value of the difference in means with no additional controls. Column (4) reports p-values while controlling for township fixed effects, while column (5) includes fixed effects using 55 by 55 kilometer grid cells for respondent location of origin in Myanmar.

Table A4: Persistence in psychosocial effects in six-week followup

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	PS Index	Wellbeing	Life Satis.	Locus of Cont.	Sociability	Stress	Cognitive	Days Healthy
Work	0.161* (0.064)	0.421*** (0.122)	0.045 (0.095)	0.184 (0.098)	0.084 (0.087)	0.234* (0.096)	0.039 (0.078)	0.313 (0.167)
Cash	0.041 (0.074)	0.230 (0.148)	0.019 (0.120)	0.090 (0.114)	-0.005 (0.092)	-0.003 (0.107)	0.098 (0.087)	-0.317 (0.190)
Observations	698	698	698	698	698	698	743	698
Shrp. q-val Work	0.048	0.006	0.312	0.066	0.204	0.036	0.312	0.066
Test: Cash = Work		0.178	0.807	0.306	0.223	0.010	0.415	0.000
Shrp. q-val: Cash = Work		0.286	0.555	0.343	0.287	0.038	0.421	0.002

Notes: This table reports the treatment effect of the employment and cash arms on a variety of outcomes collected in the six-week followup survey. Each column shows the OLS estimates of Equation (1) including dummies for each treatment arm and controlling for the baseline measure of the dependent variable (ANCOVA), camp and enumerator fixed effects, and sociodemographic controls as determined through a double-selection LASSO procedure (Belloni, Chernozhukov, and Hansen, 2014). Each row presents the coefficients of the specified treatment relative to the control group (which received a small weekly cash payment).

All outcomes are standardized and drawn from the six-week followup survey, in which we ask only a subset of the outcomes that compose the Psychosocial Index collected at endline. The ‘PS Index’ presented here is therefore only an index of this subset (Columns 2-6). ‘Wellbeing’ is an index of two questions asking i) how the respondent feels today on a six point scale, and ii) how many days in the past week they felt ‘good’. Higher values for ‘Stress’ represent *reduced* stress. All remaining outcomes are likewise presented such that higher scores represent improved wellbeing. ‘Cognitive’ represents an index of three arithmetic questions, and ‘Days Healthy’ measures the number of days healthy reported in the prior week. Standard errors are clustered at the block level. The row labeled “Test Cash=Work” reflects the unadjusted p-value for the test of equality between the Cash and Work arms, while the row labeled “Shrp. q-val Cash=Work” reflects the adjusted p-value for this test of equality, adjusted for multiple hypothesis testing of Anderson (2008) for all outcomes in this table.

Table A5: Future employment expectations and outcomes do not differ by treatment

	(1)	(2)	(3)	(4)	(5)	(6)
	Day labor	Salaried	Any work	Daily wage	Expects work	Total expected
Work	0.001 (0.015)	-0.004 (0.009)	-0.111*** (0.043)	-0.009 (0.341)	-0.064 (0.143)	-0.619 (2.713)
Cash	0.023 (0.022)	-0.011 (0.008)	-0.070 (0.049)	0.119 (0.344)	0.120 (0.200)	-1.787 (3.588)
Shrp. q-val Work	1.000	1.000	0.060	1.000	1.000	1.000
Test Work = Cash	0.321	0.113	0.356	0.635	0.327	0.681
Shrp. q-val Work = Cash	1.000	1.000	1.000	1.000	1.000	1.000
Observations	743	743	698	193	698	698

Notes: This table reports the treatment effect of receiving employment or cash relative to the control group on future employment. The columns show OLS estimates of a regression of the outcome on a dummy for assignment to the work treatment, as well as the baseline measure of the dependent variable, camp and enumerator fixed effects, and sociodemographic controls as determined through a double-selection LASSO procedure Belloni, Chernozhukov, and Hansen (2014).

Outcomes collected during the six-week followup survey. ‘Day labor’ is a binary variable that equals 1 if the respondent reports engaging in agriculture or construction work in the prior month, and 0 otherwise. ‘Salaried’ work equals 1 if the respondent reports engaging in service or teaching work, and 0 otherwise. ‘Any work’ equals 1 if the respondent reports engaging in any work in the prior month, and 0 otherwise. ‘Daily wage’ is the wage in USD received if a respondent worked in the previous month. ‘Total expected’ is the total compensation expected in the coming month if one were to find work (USD). Standard errors are clustered at the block level.

Table A6: Mental health is correlated with family but not community value-ranking

	(1)
	PHQ
Rank within family	0.052*** (0.020)
Rank within community	0.003 (0.019)
Observations	726

Notes: This table reports the baseline relationship between ranking of oneself within one’s family and one’s community on PHQ score. The PHQ score is reversed such that lower PHQ reflects a poorer outcome, or higher likelihood of depression. Regression includes camp and enumerator fixed effects. Standard errors are clustered at the block level.

Table A7: Predictability of work schedule does not impact wellbeing or preferences

	(1) Stability	(2) Dist. Mon.	(3) Risk Tol.	(4) Time Pref.
Received Schedule	-0.046 (0.068)	-0.165** (0.076)	0.104 (0.091)	0.040 (0.096)
Shrp. q-val Schedule	0.988	0.143	0.620	1.000
Observations	403	403	403	403

Notes: This table reports the treatment effect of receiving a schedule of two months of work relative to those who received no such schedule. Sample includes only those in the employment treatment arm. The columns show OLS estimates of a regression of the outcome on a dummy for assignment to the work treatment, as well as the baseline measure of the dependent variable, camp and enumerator fixed effects, and sociodemographic controls as determined through a double-selection LASSO procedure (Belloni, Chernozhukov, and Hansen, 2014).

All outcomes are standardized. ‘Received Schedule’ are those who received the calendar the complete two month work schedule marked. ‘Dist. Mon.’ is a prespecified revealed preference question on whether the respondent is interested in joining a committee to determine how funds will be distributed to the community, used as a proxy for ‘agency.’

Standard errors are clustered at the block level. The row labeled “Shrp. q-val Work” reflects p-values, referred to as ‘sharpened q-values,’ adjusted for multiple hypothesis testing using Anderson (2008) for all outcomes in this table.

Table A8: Time use does not differ by treatment

	(1) Hours Idle	(2) Time Chores	(3) Time Social	(4) Time Ration
Work	0.033 (0.094)	-0.115 (0.174)	0.108 (0.140)	-0.108 (0.091)
Cash	0.079 (0.114)	-0.229 (0.176)	-0.002 (0.180)	-0.119 (0.105)
Shrp. q-val: Work	1.000	1.000	1.000	1.000
Test Work=Cash	0.613	0.440	0.497	0.861
Shrp. q-val Work=Cash	1.000	1.000	1.000	1.000
Control Mean	2.284	3.154	2.870	0.321
Observations	726	726	726	726

Notes: This table reports the treatment effect of receiving employment or cash relative to the control group on time use. The columns show OLS estimates of a regression of the outcome on a dummy for assignment to the work treatment, as well as the baseline measure of the dependent variable, camp and enumerator fixed effects, and sociodemographic controls as determined through a double-selection LASSO procedure (Belloni, Chernozhukov, and Hansen, 2014).

All outcomes are measured in number of hours spent on the activity per day. ‘Idle’ is the average number of hours respondent reports being idle per day. ‘Chores’ is the amount of time reported spend on household chores such as cooking or fetching water. ‘Social’ is the amount of time spend socializing with others. ‘Ration’ is the amount of time spend getting household rations. ‘Market’ is the amount of time spend at the market. While not an exhaustive list of all reported activities, these activities make up the bulk of the waking (daytime) hours of the average refugee respondent. Effects on all activities available upon request.

Standard errors are clustered at the block level. The row labeled “Shrp. q-val Work” reflects p-values, referred to as ‘sharpened q-values,’ adjusted for multiple hypothesis testing using Anderson (2008) for all outcomes in this table.

Table A9: Heterogeneity of time use by gender

	Panel A							
	Hours Idle		Time Chores		Time Social		Time Ration	
	(1) Female	(2) Male	(3) Female	(4) Male	(5) Female	(6) Male	(7) Female	(8) Male
Work	-0.092 (0.161)	0.127 (0.112)	0.135 (0.281)	-0.147 (0.203)	0.251 (0.195)	0.060 (0.186)	-0.067 (0.162)	-0.128 (0.100)
Cash	0.029 (0.221)	0.129 (0.144)	0.007 (0.285)	-0.306 (0.202)	-0.248 (0.214)	0.088 (0.234)	-0.011 (0.168)	-0.167 (0.115)
Test: Cash = Work	0.530	0.985	0.562	0.377	0.016	0.895	0.590	0.561
Shrp. q-val Cash=Work	0.795	1.000	0.795	1.000	0.070	1.000	0.795	1.000
Test: Male = Female	0.812	0.812	0.824	0.824	0.158	0.158	0.381	0.381
Shrp. q-val Male = Female	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Observations	223	503	223	503	223	503	223	503

Notes: This table reports the treatment effect of the employment and cash arms on time use outcomes separately for male and female participants. Each column shows the OLS estimates of Equation (1) including dummies for each treatment arm and controlling for the baseline measure of the dependent variable (ANCOVA), camp and enumerator fixed effects, and sociodemographic controls as determined through a double-selection LASSO procedure (Belloni, Chernozhukov, and Hansen, 2014), run separately by respondent gender. Each row presents the coefficients of the specified treatment relative to the control group (which received a small weekly cash payment).

All outcomes are measured in number of hours spent on the activity per day. 'Idle' is the average number of hours respondent reports being idle per day. 'Chores' is the amount of time reported spend on household chores such as cooking or fetching water. 'Social' is the amount of time spend socializing with others. 'Ration' is the amount of time spend getting household rations. 'Market' is the amount of time spend at the market. While not an exhaustive list of all reported activities, these activities make up the bulk of the waking (daytime) hours of the average refugee respondent. Effects on all activities available upon request.

Standard errors are clustered at the block level. The row labeled "Shrp. q-val Work" reflects p-values, referred to as 'sharpened q-values,' adjusted for multiple hypothesis testing using Anderson (2008). The adjustments are made within gender for all outcomes in this table (both Panel A and B). The row labeled "Test Male = Female" reflects the unadjusted p-value for the test of equality between the Male and Female work treatment effects based on a pooled regression (not shown) where the treatment indicators were interacted with the gender of the respondent. The row labeled "Shrp. q-val Male = Female" reflects the adjusted p-value for this test of equality across all five outcomes.

Table A10: Workers who are more idle at baseline do not benefit more from employment

	(1) PS Index	(2) PHQ
Work	0.212*** (0.041)	0.242*** (0.075)
Cash	0.060 (0.050)	0.013 (0.089)
Work * Baseline Idleness	-0.002 (0.023)	0.039 (0.049)
Cash * Baseline Idleness	-0.021 (0.022)	0.035 (0.049)
Test: Work X Idle = Cash X Idle	0.346	0.925
Observations	726	726

Notes: This table reports the treatment effect of receiving employment, and the interaction effect of receiving employment and baseline hours reported idle, relative to the control group. The columns show OLS estimates of a regression of the outcome on a dummy for assignment to the work treatment, baseline hours idle, the interaction of the two, the parallel for the cash group, as well as camp and enumerator fixed effects, the baseline value of the independent variable, and sociodemographic controls as determined through a double-selection LASSO procedure Belloni, Chernozhukov, and Hansen (2014).

Table A11: Consumption patterns do not differ by treatment

Panel A			
	(1) Luxury	(2) Necessary	(3) Total Cons.
Work	0.28 (0.36)	3.10 (1.89)	3.91 (2.13)
Cash	-0.20 (0.42)	2.69 (1.95)	2.85 (2.25)
Shrp. q-val Work	0.181	0.181	0.181
Test Work=Cash	0.189	0.815	0.604
Shrp. q-val Work=Cash	1.000	1.000	1.000
Mean in Control	4.19	21.41	25.70
Observations	726	726	726

Panel B			
	(1) Savings	(2) Borrowing	(3) Lending
Work	2.47*** (0.63)	-8.48*** (2.22)	0.55*** (0.18)
Cash	1.64** (0.73)	-9.04*** (2.61)	0.38* (0.22)
Shrp. q-val Work	0.001	0.001	0.001
Test Work=Cash	0.264	0.793	0.474
Shrp. q-val Work=Cash	1.000	1.000	1.000
Mean in Control	1.19	23.93	0.10
Observations	726	726	726

Notes: This table reports the treatment effect of receiving employment or cash on consumption relative to the control group. The columns show OLS estimates of a regression of the outcome on a dummy for assignment to treatment, as well as the baseline measure of the dependent variable, camp and enumerator fixed effects, and sociodemographic controls as determined through a double-selection LASSO procedure Belloni, Chernozhukov, and Hansen (2014).

All outcomes are measured in USD spent (converted from Bangladeshi taka with 2020 market exchange rate of 83 BDT to 1 USD). ‘Luxury’ is made up of the following consumption categories: meat or fish, paan or cigarettes, tea, and electronics. ‘Necessary’ is made up of the following consumption categories: fruits or vegetables, health, education, household supplies, and clothing. Quantities reported are total amount spent in given category during the previous two weeks. ‘Savings’ is the total savings reported at endline; ‘Borrowing’ is the total amount in loans respondent has at endline. ‘Lending’ is the total amount lent in the previous two weeks.

Standard errors are clustered at the block level. The row labeled “Shrp. q-val Work” reflects p-values, referred to as ‘sharpened q-values,’ adjusted for multiple hypothesis testing using Anderson (2008) for all outcomes in this table.

Table A12: How different types of workers benefit from employment and cash

	Exposure to Death		Depression		Sociability	
	(1) PS Index	(2) PHQ	(3) PS Index	(4) PHQ	(5) PS Index	(6) PHQ
Work	0.163 (0.124)	-0.024 (0.264)	0.234*** (0.076)	0.107 (0.155)	0.185*** (0.053)	0.226** (0.098)
Cash	0.019 (0.142)	-0.032 (0.290)	0.116 (0.089)	-0.210 (0.169)	0.052 (0.065)	0.090 (0.114)
Work X Feature	0.049 (0.127)	0.285 (0.274)	-0.029 (0.085)	0.172 (0.169)	0.050 (0.075)	-0.004 (0.141)
Cash X Feature	0.041 (0.147)	0.040 (0.308)	-0.074 (0.092)	0.286 (0.191)	0.011 (0.083)	-0.171 (0.149)
Shrp. q-val Work X Feature	1.000	1.000	1.000	1.000	1.000	1.000
Shrp. q-val Cash X Feature	1.000	1.000	1.000	1.000	1.000	1.000
Test: Work X Feature = Cash X Feature	0.936	0.275	0.585	0.461	0.581	0.151
Observations	726	726	726	726	726	726

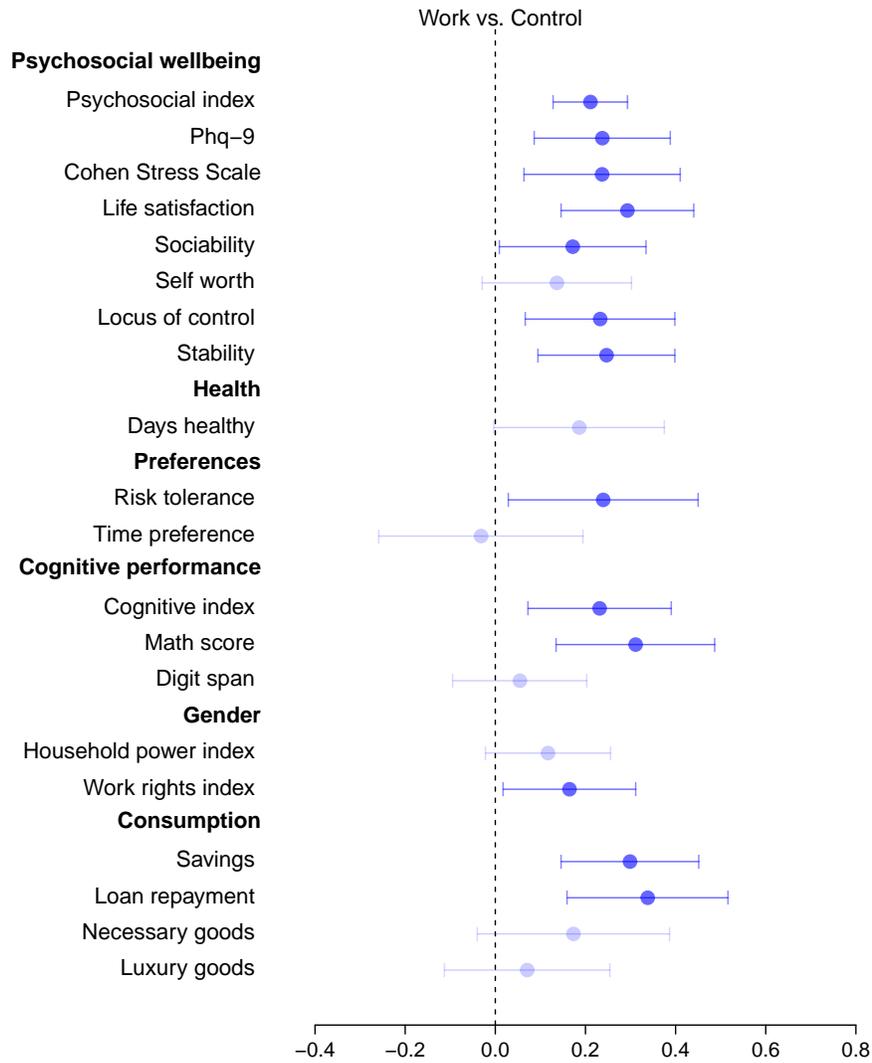
Notes: This table reports the impact of each treatment, and heterogeneity by the specified features, on the psychosocial index and on depression severity as measured by PHQ, where a higher value of PHQ implies lower likelihood of depression. ‘Feature’ represents the title to each respective column: exposure to death, depression, or sociability. Exposure to death is a binary variable equaling one if any death was witnessed during the violence in Myanmar. Depression is a binary variable equaling one if baseline PHQ score is greater than 4. Sociability is a binary variable equaling one if an individual reported greater than the median number of daily conversations at baseline. Regressions include the baseline measure of the dependent variable, camp and enumerator fixed effects, and sociodemographic controls as determined through a double-selection LASSO procedure Belloni, Chernozhukov, and Hansen (2014). Standard errors are clustered at the block level.

A.2 Figures

Figure A1: Intervention Timeline by Weeks

T = 0	Baseline Survey
T = 1	Work Submission + Midline 1
T = 2	Work Submission + Midline 2
T = 3	Work Submission + Midline 3
T = 4	Work Submission + Midline 4 + Certificate Delivery
T = 5	Work Submission + Midline 5
T = 6	Work Submission + Midline 6
T = 7	Work Submission + Midline 7
T = 8	Work Submission + Endline Survey 1
T = 9	Additional week of work
T = 15	Endline Survey 2

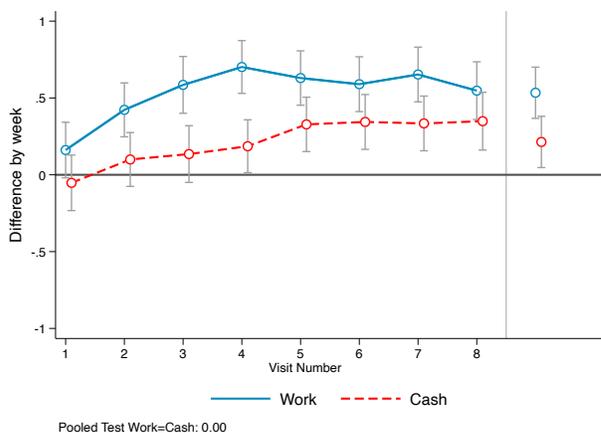
Figure A2: Main employment treatment effects relative to control



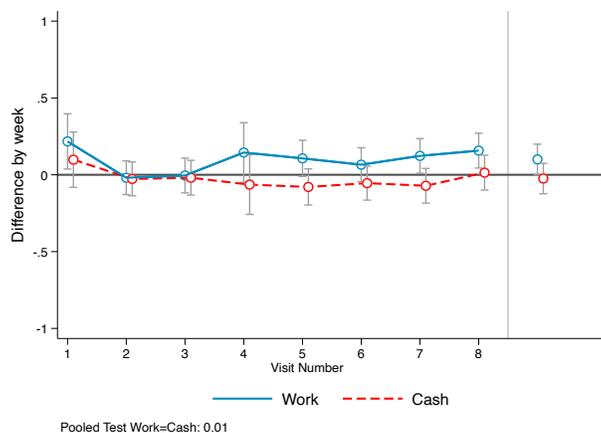
Notes: This figure plots the point estimates and 95% confidence intervals for each outcome in the work treatment group relative to the control group. All outcomes are standardized. The scales for PHQ-9 and the Cohen Stress Scale are scaled such that positive values represent better outcomes.

Figure A3: Weekly trends in psychosocial measures

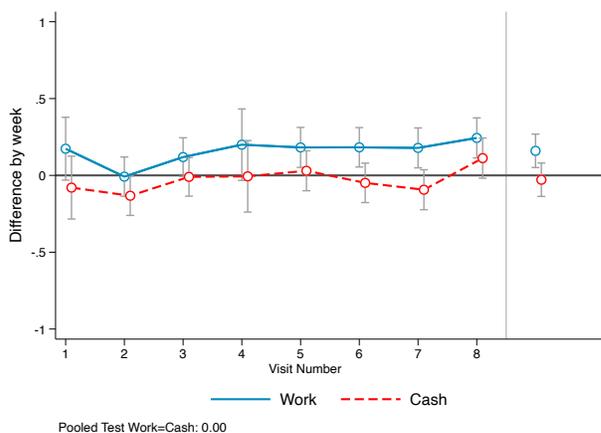
(a) Stress Index



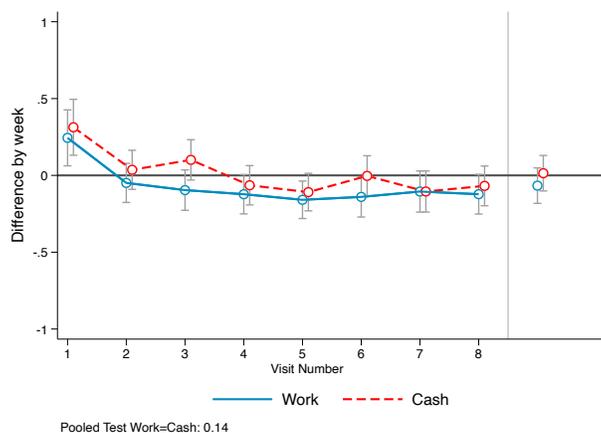
(b) Sociability



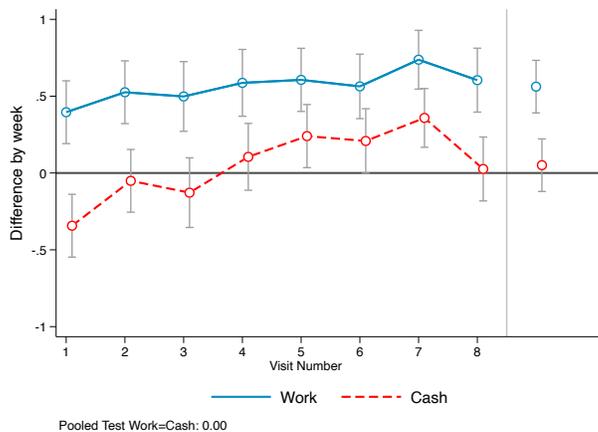
(c) Positive Conversations



(d) Negative Conversations



(e) Days Healthy



Notes: Each figure plots the impact of the treatment (work or cash) by week relative to the control arm. The estimates to the right of the dotted line represent the pooled effect across all eight weeks.

Figure A4: Participation certificate to boost 'resume'



Notes: The wording of the certificate was made such that it could be applied to both arms; cash-only arms participated in weekly surveys along with all other experiment participants, so technically also engaged in data collection for our project.

Figure A5: Pre-filled calendar for randomization in predictability of work schedule

HHID: 1 Respondent Name: _____ Block: _____ Starting date: 6/11

	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
WEEK-1					●	✓	✗
WEEK-2		✓			C	✓	✗
WEEK-3	✓		✓	✓	C		✗
WEEK-4	✓	✓	✓		C		✗
WEEK-5		✓	✓		C	✓	✗
WEEK-6	✓		✓		C		✗
WEEK-7	✓	✓	✓	✓	C		✗
WEEK-8	✓	✓				C	✗
WEEK-9	✓	✓	✓	✓	C		✗

Notes: The picture above shows an example of a calendar provided to a worker randomized into the “certain” schedule arm. We describe this randomization procedure in detail here. Workers were randomized, stratified by block, into certain and uncertain schedule workers. Respondents assigned to the certain schedule received a calendar like the one in this figure marking all their days of work. Respondents assigned to the uncertain schedule received a blank calendar and were informed of their work schedule one week in advance (when they met the enumerator to answer the weekly survey). To prevent uncertain schedule individuals from assuming and copying the schedule of their certain neighbors, we assigned these two treatments within a block to two different schedules (e.g. certain individuals in Block X were on schedule A and uncertain individuals on schedule B). To ensure that schedule types were not collinear with certainty treatment, we alternated whether schedule A or B was assigned to the certain treatment arm across blocks. This yielded variation in days worked within the block level across schedules (individuals) and time.

B Deviations from Pre-Analysis Plan (PAP)

Below we note the deviations in the analysis from the PAP, registered here.

B.1 Outcomes

- For ease of exposition, we shift the outcomes of time-use (time use for all categories, including hours idle), financial wellbeing (lending, borrowing, saving, and spending), and gender dynamics (household power and work rights) to the mechanisms section. We report time-use and financial wellbeing results in the Appendix Tables given their loss of centrality as operative channels.
- Consumption is described as a main outcome variable in the final paper, but a mechanism in the PAP. Functionally, it remains in the mechanism section.
- We find that positive, not negative, conversations drives the sociability effect we find. This seemed sufficiently uninformative to warrant another appendix table (whereas had we found negative conversations driving the increased sociability, it would have been an important adverse consequence to document.)
- We construct an index of self-worth from two questions (rather than three) because we decided not to include the third question for self-worth in the baseline/endline survey after piloting.
- We replace the “Agency” subcomponent of the mental health index with the “Locus of Control” index, which functionally means that we exclude the resource allocation decision from this measure. We did so because we the question appeared to reflect more the stress involved in an allocation decision than one’s belief in their ability to make a decision, as is evident in the impact of a calendar on this outcome (Appendix Table A5, Column 2.)
- While we pre-specified “days sick > 7 days”, we learn little from this binary outcome variable beyond what we learn from the continuous “days healthy” variable, so we no longer report this outcome.

B.2 Analysis

- We include gender fixed effects in all specifications, as we stratify the randomization by gender.

- We report all psychosocial results from the weekly data (described in Section 5.1.1 of the PAP) in the Appendix, since the time series data does not offer additional evidence beyond the endline data.
- We report heterogeneity by past violence, baseline depression, and extroversion (sociality) in the Appendix given space constraints and the loss of their centrality to the main message of the paper.
- We report the impact of alleviating future uncertainty via schedule provision in the Appendix given space constraints and the loss of their centrality to the main message of the paper.
- We do not explore heterogeneity by mild and moderate depression. For simplicity of exposition, we only show results for mild depression, or $PHQ9 > 4$. Results are similar for moderate depression.
- In our examination of differential effects by gender, we move time-use to the Appendix given space constraints and the loss of their centrality to the main message of the paper.

B.3 Sample

- We planned to visit four different camps for this RCT: 5, 8W, 17,4 for a total sample size of 1000 households (featured in the randomization sample). Upon entering the camps for the full survey, we found that Camp 4 was more difficult to travel to and the conditions were not conducive to collecting high-quality data. We decided not to proceed with including Camp 4 in our sample.

C Details on outcome measures

Outcome Variable Descriptions

Psychological Well-being	
PHQ9	The standardized total score of 9 questions from the Patient Health Questionnaire-9 (PHQ9)
Life Satisfaction Index	A standardized average of survey responses to four questions from Diener’s standardized scale, responses made along a seven-point Likert scale.
Stress Index	The standardized total score from three elements of adapted from the Cohen Stress scale. “How many of the last 7 days have you [been able to fall asleep peacefully / felt nervous / felt frustrated]?”
Sociability (Total)	The total number of conversations in the past day with adults.
Sociability (Positive)	The total number of conversations in the past day with adults that the respondent felt were positive.
Self Worth Index	The standardized total score from the responses on a scale from 1 to 10 to two questions: “Think of a person you know who you most respect and who brings greatest value to your [family / community]. If that person is a 10, where would you put yourself?”
Locus of Control	The standardized total score from responses to four locus of control questions. “In the last 7 days, how many days did you feel that to a great extent your life is controlled by accidental/chance happenings...”
Allocation Decision Game	Indicator (yes / no) for response to an offer to participate an allocation committee to decide how money is spent. Participants are offered the opportunity to make a resource allocation decision for their community or have another individual (an NGO worker, an “expert”, or another refugee) make the decision.
Stability Index	The standardized total score from responses to two stability questions using a Cantril ladder. “How secure [do you feel / think you will feel] [at present / five years from now]”
Physiological Index	An inverse-covariance weighted average of PHQ, Stress, Life Satisfaction, Sociability (Total), Self Worth, Locus of Control, and Stability indices.
Gender Dynamics	
Gender Perceptions - Work	The standardized total score of two questions regarding women’s work, “How often would you agree that women should be allowed to work for a living [inside /outside] the block?”

Gender Perceptions - Violence (IPV) The standardized total score of five questions regarding norms for intimate partner violence (IPV) from the Demographic and Health Survey (DHS) (The important decisions in the family should be made only by the men of the family. How often would you agree? The wife has the right to express her opinion even when she disagrees with what her husband is saying. How often would you agree? A wife should tolerate being beaten by her husband in order to keep the family together. How often would you agree? A husband has the right to beat his wife. How often would you agree? It is more important to send a son to school than it is to send a daughter. How often would you agree?).

Financial Wellbeing

Savings Response to the question “How much money do you currently have in savings?” During the collection surveys (midlines) this question instead asked “How much money did you save in the past week?”

Borrowing Total amount of money the household has borrowed.

Economic Decision Making

Risk Preference Measured using incentivized responses to the multiple price list decisions adapted from Holt-Laury and Sprenger (2002).

Time Preference Measured by adapting Andreoni and Sprenger’s (2011) convex time budget method following Giné et al. (2018).

Other Outcomes

Cognitive Ability A standardized weighted index of the number of correct responses to i) a digit span (forward and backward) memory test and ii) basic arithmetic problems including addition, subtraction, multiplication, and division. Only the arithmetic problems were included in midline.

Physical Health Answer to the question “In the past 30 days, how many days were you sick?”. For the collection surveys (midline), this question was modified to ask “How many of the last 7 days did you feel sick?”

Outcome Variable Collection Periods

	Baseline	Midline	Weekly	Endline
Psychological Well-being				
PHQ9	X			X
Life Satisfaction Index	X			X
Stress Index	X		X	X
Sociability (Total)	X		X	X
Sociability (Positive)	X		X	X
Self Worth Index	X			X
Locus of Control	X			X
Allocation Decision Game		X		X
Stability Index		X		X
Physiological Wellbeing Index	X			X
Gender Dynamics				
Gender Perceptions - Work	X			X
Gender Perceptions - Violence (IPV)	X			X
Financial Wellbeing				
Savings	X		X*	X
Borrowing	X			X
Economic Decision Making				
Risk Preference		X		X
Time Preference		X		X
Other Outcomes				
Cognitive Ability	X		X*	X
Physical Health	X		X*	X

Notes: The “Baseline” survey was conducted with respondents before treatment assignment was revealed. The “Midline” survey were questions asked immediately after treatment assignments were disclosed after the baseline survey, but before the work task had begun. “Weekly” surveys were conducted after each week of work (if any). The “Endline” survey was conducted after the end of the eight week engagement and all work had ceased.

*Physical Health, Savings, and Cognitive Ability are measured differently during the weekly surveys than at baseline or endline.

D Excerpts from Human Rights Council Report

The following is a compilation of excerpts drawn from the United Nations' Human Rights Council Report on Myanmar regarding the "Clearance Operations" in Rakhine State executed by the Myanmar military (referred to below as the *Tatmadaw*) in late August and early September of 2017. These excerpts describe the indiscriminate nature of the violence perpetrated against the Rohingya during these operations. We caution the reader as several of these excerpts are difficult to read. We have left out the most graphic descriptions but direct the reader to the report itself (A/HRC/39/CRP.2) for further evidence of the random nature of violence during the Operations.

- During subsequent operations in villages and towns, the Tatmadaw did also not attempt to distinguish civilians from military objectives. Such indiscriminate attacks resulted in civilian men, women and children being injured or killed, with large numbers of civilians being driven away from their homes and villages. (P.35)
- Information therefore strongly indicates that airstrikes and shelling were used indiscriminately as a more general tactic in the context of "clearance operations," in essence attacking the civilian population as a whole as opposed to being used against specifically identified military targets. (P.35)
- The operations were designed to instill immediate terror, with people woken by intense rapid weapons fire, explosions, or the shouts and screams of villagers. Structures were set ablaze and Tatmadaw soldiers fired their guns indiscriminately into houses and fields, and at villagers. (P.178)
- Many Rohingya were killed or injured by indiscriminate shooting. Rohingya villages were approached without warning, usually from more than one direction, and often in the early morning, by armed Tatmadaw soldiers.... Members of the security forces, primarily Tatmadaw soldiers of the Western Command and the 33rd and 99th LIDs, shot assault rifles towards the Rohingya villages from a distance, not targeting any particular military objective or making any distinction between ARSA fighters and civilians. Men, women and children were all shot at. Many victims referred to the volume of gunfire, with some describing it as "raining bullets." Many were shot and killed or injured while attempting to flee. (P.205)
- One young girl described the operation in Maungdaw Township: "When the soldiers came to my village, we all ran, and they shot at us. We were around 50 people, and maybe half of us were shot. The people shot fell down while they were running. Some died and some escaped. Somehow, I escaped." (P.205-206)
- One man from Kyein Chaung village tract, known in Rohingya as Boli Bazar, in northern Maungdaw Township explained the circumstances in which his daughter was killed: "I don't know how many people died that day. The military, they were just shooting at whomever. They were shooting at people whenever they saw them, on the

streets or in the houses. When they were shooting, there was no time to look back and care for those who were shot. As people were running, they were shooting at them. That is how my daughter died. She was hit fleeing. I couldn't go back and carry her.” (P.206)

- Some Rohingya villagers who could not flee, or who sought shelter inside their houses, were also shot and killed or injured, when bullets penetrated thatched roofs and bamboo walls. Villagers were shot in other locations where they had found shelter, including through rapid arms fire into forested hills where they had fled. (P.206-207)
- The Mission has provided detailed accounts above of corroborated mass killings perpetrated in the villages of Min Gyi, Maung Nu, Chut Pyin, Gu Dar Pyin, the villages of Koe Tan Kauk. Dozens, and in some cases hundreds, of men, women and children were killed. Additional organized mass killings are likely to have taken place. Witnesses reported seeing bodies of large numbers of Rohingya, including those with gunshot and machete wounds, as well as decapitated heads, in burned villages en route to Bangladesh. (P.207)
- Rohingya fleeing the “clearance operations” also faced violent attacks at border crossing points, resulting in loss of life and serious injuries. Soldiers opened fire on groups of Rohingya at or close to border crossing points, including large numbers gathered on the shores of the Bay of Bengal or Naf River, while waiting to cross into Bangladesh.2005 A man from Nga Yant Chaung village tract, Buthidaung Township, described arriving at the Naf River in mid-September 2017 and being fired upon by soldiers. Some of the people ran; others, like him, lay on the ground. He said that 25 people were killed, including three of his relatives. (P.208)
- Soldiers also shot at boats carrying Rohingya to Bangladesh, resulting in further casualties. One witness explained how the boat she was in was shot at by soldiers as it crossed the Naf River, killing three men and two women. Another witness described her experience while waiting for a boat: “Soldiers started shooting, so we crawled away and lay down behind the plants in the mud. I saw many people being shot at. Dead bodies of men, women and children were floating in the river.” (P.208-209)
- Another feature of the “clearance operations” was the widespread destruction of Rohingya homes and villages, causing further death and injury through burning. Houses were burned both manually using flammable liquid and matches, and by the use of “launchers,” weapons firing a munition that explodes upon impact. This latter method in particular meant that victims were often caught by surprise and had little time to escape. (P.209)
- Landmines, planted by the Tatmadaw in and around Rohingya villages as part of the “clearance operations” also caused death and injury. On or around 26 August 2017, a group of Tatmadaw soldiers approached Sin Oe Pyin (Ywar Gyi) hamlet, in Maung Gyi Taung village tract, Buthidaung Township. They systematically planted mines along the main road to the village, with one villager describing them as being placed “15 feet apart.” Once the operations began, the landmines killed and injured many

who tried to flee.²⁰³⁷ As one villager described, “The mines were put at the entrance of the village, that is the only way out so when people were running they stepped on them and died.” Another recalled: “Some people were running and were killed by the mines, as they didn’t know that they were planted there. Others were hit by the mines as they were coming back from the field. My 18-year old relative died from an explosion coming back from the paddy field just in front of my house.” (P.211)

E Script to participants

FOR EVERYONE: We want to thank you for all the time you have spent with us so far: we have learned so much from you. As a token of our gratitude, we would like to offer you a gift. We do not have a lot of money, but we still want to help by learning about your life and conditions in the camp better so that we can do something in a larger scale in the future. Because we don't have enough for everybody, we are offering a lottery. You might receive: (1) 300 taka today plus a total of 400 taka over the next two months, (2) 300 taka today plus a total of 3600 taka over the next two months, (3) 300 taka today plus a work opportunity from which you can earn 3600 taka over the next two months or (4) Nothing. Most people get nothing (this is the most common happening, most people in your block will receive nothing). Here are a few envelopes, each with a different number on them. I do not know what numbers are in these envelopes. I want you to choose one of these, and tell me the number inside. I will enter it into my tablet and it will tell me which of the gifts you will receive. Does that make sense?

T-0 (Control, No Work) Congratulations! You drew a number that entitles you to 300 taka today plus a total of 400 taka over the next two months. *Enumerator: Please give three 100 taka bill to the respondent* This is yours to keep and do what you wish with the money. We will come to your block every week for the next eight weeks to check in and see how you are doing and will ask you some questions again. Next week, you will receive 50 taka if you come to meet us in your block and answer a few questions, and this process will continue for the next 8 weeks, adding up to 400 taka by the end. You will have come to the collection point every week to collect money, you cannot send someone else on your behalf. We have a few remaining questions to ask you – it will take about 30 minutes, and then we will be on our way. Is that okay?

T-1 (Cash, No Work) Congratulations! You drew a number that entitles you to 300 taka today plus a total of 3600 taka over the next two months. *Enumerator: Please give three 100 taka bill to the respondent*] This is yours to keep and do what you wish with the money. We will come to your block every week for the next eight weeks to check in and see how you are doing and ask you some questions again. Next week you will receive 450 taka if you come to meet us in your block and answer a few questions, and this process will continue for the next 8 weeks, adding up to 3600 taka by the end. You will have come to the collection point every week to collect money, you cannot send someone else on your behalf. We have a few remaining questions to ask you, it will take about 30 minutes and then we will be on our way. Is that okay?

T2a: pay for work with a certain schedule Congratulations! You drew a number that entitles you to 300 taka today plus a work opportunity where you can earn a total of 3600 taka over the next two months. *Enumerator: Please give three 100 taka bill to the respondent.* This is yours to keep and do what you wish with the money. Now let me tell you about the work opportunity. As you know, we are conducting a research project in which we are trying to understand how you feel about life and how you spend your days in the camps. If we understand this well, we will be able to help you and your community by providing you with the things you need. Does it make sense to you? ENUMERATOR: BEGIN PINK VIDEO HERE. Would you like to accept this work opportunity? Wonderful! Then here are 2 sets of papers for the next 2 days in this current week you will be working. Within each set there are 5 sheets for 5 times during the day on which you will be working. You will get next week's work on the collection day (SPECIFY THE COLLECTION DAY). Here is the calendar that tells you exactly on which days we need you to complete these sheets. At the end of each day, please put the 5-sheet bundle/set in the collection box that will be kept in your block. We will check in with you throughout the week and collect these sheets at the end of the week and make your payment for that week. We have a few remaining questions to ask you, and then we will be on our way. Is that okay?

T2b: pay for work with uncertain schedule Congratulations! You drew a number that entitles you to 300 taka today plus a work opportunity where you can earn a total of 3600 taka over the next two months. [Enumerator: Please give three 100 taka bill to the respondent] This is yours to keep and do what you wish with the money. Now let me tell you about the work opportunity. As you know, we are conducting a research project in which we are trying to understand how you feel and how you spend your days in the camps. If we understand this well, we will be able to help you and your community by providing you with the things you need. Does it make sense to you? ENUMERATOR: BEGIN BLUE VIDEO HERE. Would you like to accept this work opportunity? Wonderful! Ok, now let me give you a few final details on your work task. For this coming week, you will have to work on *these two days*. At the end of the day you will have to submit your daily work in the collection box and attend a weekly collection session to collect your weekly payment based on your work. Here are 2 sets of papers for the next 2 days in this current week you will be working. Within each set there are 5 sheets for 5 times during the day on which you will be working. You will get next week's work on the collection day (SPECIFY THE COLLECTION DAY). At the end of each day, please put the 5 sheet set in the collection box that will be kept in your block. We will check in with you throughout the week and collect these sheets at the end of the week and make your payment for that week. Even though we'll

pay you this total amount at the end of every week, we don't know which twenty-four days you will work for us in the next 2 months. We will only be able to tell you at the beginning of each week. That means, when you return us your completed work and get your weekly payments, our collectors will tell you the next week's schedule. Your weekly schedule will be uncertain. We have a few remaining questions to ask you, and then we will be on our way. Is that okay?