Glass Walls: Experimental Evidence on Access Constraints Faced by Women

Ali Cheema, Asim I Khwaja, M Farooq Naseer, Jacob N Shapiro*

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Abstract

Access barriers can substantially constrain individuals from obtaining benefits. Using experimental evidence from Pakistan, we show distance poses a major hurdle for women in accessing a valued and subsidized skills training program. Women who have to travel a few kilometers outside their village for training are four times less likely to complete it than those whose village received a training center. This penalty is not readily reconciled with measured financial or time costs of travel and over half of it is incurred upon crossing the village boundary. Exogenous stipend variation reveals this "boundary effect" is costly to offset, requiring a cash transfer equivalent to half of household expenditure. While informational and social interventions don't ameliorate this barrier, reliable group transportation helps. The importance of secure transport and additional results suggest the boundary effect may be partly due to safety concerns. A notable share of the boundary effect is explained by having to traverse underpopulated spaces, a proxy for threats to safety in this context. Our work provides experimental confirmation that access constraints faced by women are significant, costly to address monetarily, but can be ameliorated through locally attuned interventions.

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*cheema@lums.edu.pk; khwaja@hks.harvard.edu; farooqn@lums.edu.pk: jns@princeton.edu. We thank Rosemary Berberian, Olivia DaDalt, Ismail Khan, Yanchuan Liu, Kunal Mangal, German Orbegozo, Guillermo Palacios Diaz, Nikolai Schaffner, Landin Smith, and Gabriel Tourek for outstanding research assistance in Cambridge. Zain Abbasi, Shahkar Ali, Danya Arif, Minahil Asim, Rehan Hasan, Hafsa Iqbal, Maheen Jahangir, Tanya Javed, Mahnoor Khan, Arqam Lodhi, Wafa Masood, Hassan Murtza, Anum Mustafa, Rania Nasir, Minahil Niazi, Shaiza Qayyum, Nouman Rasool, Minahil Raza, Zara Riaz, Sarah Shaukat, Sahaab Sheikh, Anam Shoaib, Sameem Siddiqui, and Ahmed Sultan for outstanding research and field assistance in Lahore. We are grateful to Jawad Khan, Ali Sarfraz, Ali Akbar Bosan, Shoaib Mohsin, Syed Farrukh Jafri and PSDF Board member for their support. We thank seminar participants at the AALIMS-Princeton Conference, CHW/RPDS-Princeton Conference, IDRC GrOW Conference, IZA/DfID Conference, Boston College, Cornell University, ITAM, Sussex University, Paris School of Economics, Toulouse School of Economics, Aix-Marseille School of Economics, Trinity College, UC San Diego, and USC for their comments. This research was supported by DfID Pakistan, DfID and IZA's GLM LIC programme, IDRC's GrOW program, and the WAPPP at the Harvard Kennedy School. The views expressed here are those of the authors and do not necessarily reflect those acknowledged above.

1 Introduction

Robust welfare systems provide economic opportunities to the needy through cash transfer, employment generation, and skills enhancement programs. Such policies are often directed towards those who have been historically excluded from state programs—the poor, rural inhabitants, and women. But the success of these efforts relies on these individuals being able to access the benefits provided to them. While there is acknowledgment that the same factors which led to these vulnerable populations' exclusion could also generate obstacles in accessing benefits, simple economic calculations are often used to dismiss the salience of access constraints. The assumption is that if the value is sufficient, then the needy will seek private benefits, and that travel costs can be compensated through small financial incentives. Yet in practice, we often see "money left on the table." Studies document how villagers do not obtain subsidized rice, widows fail to take advantage of monthly stipends, and women are unable to obtain vocational training, despite the large gains such programs may have (Banerjee et al. 2018; Gupta 2017; Dasgupta et al. 2015; Maitra and Mani 2017; Bandiera et al. 2020).

This paper uses experimental variation to precisely estimate the nature and value of one such access constraint—travel that requires a woman to move outside her community.[1] We study a skills development program in rural Pakistan, which is representative of many underdeveloped regions throughout the world where limited female mobility is a widely recognized barrier to development (Klugman et al. 2014; Jayachandran 2015). Understanding such access barriers is important, especially as emerging economies are introducing a plethora of programs to address substantial welfare gaps and skill shortages in their populations, many of which require traveling outside one's community. Unfortunately, insufficient attention has been paid to whether individuals can readily access such programs, and the trade-offs between distributing access points to nearby versus centralized locations.

Causally identifying distance-related access barriers is a challenge in the literature because the locations where benefits are accessed are likely endogenous to confounding factors. For example, if training facilities locate in impoverished areas, distance-related access constraints will be underestimated if the poor have lower demand (and hence lower program take-up rates) as compared to others (in richer/higher demand areas) that are farther away. Conversely, if the poor have higher demand, that placement would lead to overestimating

[1] In the same way as "glass ceiling" is a metaphor commonly used to describe systemic obstacles that keep women from rising up the career ladder (BBC 2017; Bertrand 2018), our title "glass walls" refers to systemic barriers that make it costly for women to travel beyond their own communities. We should emphasize that the word "glass" by no means implies that these barriers aren't real or tangible but rather that they may not always be given the import and recognition they warrant.

access constraints. Even if one could accurately identify the presence of access barriers, additional assumptions are needed in observational studies to capture the economic significance of such barriers and shed light on what factors may underlie them.

The program we study offers a compelling opportunity to address these identification challenges in the context of free-of-cost, high-quality, and in-demand skills training. We leverage training program design to make four contributions. First, by introducing exogenous variation in the location of the training centers, we provide what is, to our knowledge, the first precise and causally identified estimate of distance-related access constraints faced by women. Second, in doing so, we isolate a novel crossing-the-boundary cost (hereafter "the boundary effect") that occurs over and above the temporal and financial costs accrued per kilometer of travel. Third, by experimentally varying the stipend amount provided to compensate for travel costs and foregone wages, we can directly estimate the (substantial) financial compensation needed to overcome these travel-based access constraints. Finally, we provide a deeper understanding of these access constraints by experimentally introducing additional program variations designed to address underlying factors and leveraging geospatial data to assess likely mechanisms behind the access constraints.

Our study sample includes 243 villages where women were offered training in sewing and tailoring, skills for which a large majority (74%) had explicitly expressed a demand for in our baseline surveys (Cheema, Khwaja, Naseer, and Shapiro 2012a). The experimental design randomly allocated 108 training centers among the sample villages, thereby generating exogenous variation in distance between a trainee's home and the training center (while the training centers were located in certain villages, any woman from neighboring villages could also apply for a spot in the program). To enable estimation of the economic magnitude of distance constraints, we further introduced exogenous variation in the training stipend offered at the individual level. We also tested program design variations that included enhanced information, trainee and community engagement, and secure group transport in order to shed light on underlying factors that might contribute to access constraints.[2]

Our first main result documents the presence of a large distance-driven access barrier across the range of program take-up measures—from the initial desire to apply to course

[2] Earlier work with our implementing partner, the Punjab Skills Development Fund (PSDF), in 2011 revealed high demand for vocational skills: 90% of rural households were interested and nominated at least one male and one female member to participate in training. Yet only 10% of these individuals availed the opportunity of free training with a stipend when it was subsequently offered (Cheema, Khwaja, Naseer, and Shapiro 2012b). Quantitative analysis and information from focus groups revealed that women faced considerable travel-related access constraints. Based on this preliminary work, we designed a range of interventions in the subsequent program roll-out to isolate and estimate the size of any travel–based barriers and address the underlying concerns identified by women in the focus groups.

enrollment and completion. Specifically, we find that establishing a training center in the village increases course enrollment and completion *fourfold*. Our empirical design allows us to isolate what part of this distance penalty arises simply from crossing the village boundary and what is induced by the additional distance a woman must cover to attend an out-of-village training center. Our second result is striking: half of the access difference between in-village and out-of-village training is generated simply by crossing the village boundary. This strong boundary effect is hard to reconcile with standard travel costs: crossing the village boundary does not induce a discontinuous jump in either distance or time - there is no "village border" one has to wait to cross, nor any toll paid at entry or exit, and there is no discontinuity in transport wait times and other fixed costs.

We quantify these distance penalties (both the boundary effect and per-kilometer travel costs) in monetary terms using exogenous variation in stipends offered. We compare the increase in take-up induced by additional stipend with the distance penalties and provide an equivalence between the penalties and the stipend. Using these estimates, we find that a monthly stipend of PKR 6-8,000 is required to induce the average woman in our sample to attend training outside their village. Fully PKR 3.5-5,000 (51% of monthly household expenditure and 45% of monthly household income) of this is needed just to overcome the boundary effect—a sizable amount, especially since the course itself is free and valued. These compensatory stipend amounts are estimated to be 4-5 times the (generous) estimates of additional travel costs (fare plus opportunity cost of travel and wait time) that the median woman in our sample would have to incur in traveling outside her village for training. While distance-related access barriers have been recognized in the literature, our paper presents the first experimental evidence on the shape of those barriers as well as their economic significance in a manner that should inform decision-making about how to provide services, especially for women.

Finally, we take our analysis a step further and explore what type of factors may be underpinning distance-related access barriers. We focus on the three identified during our fieldwork: limited information, community-level attitudes, and travel-related safety and social concerns. In partnership with local training providers, we helped design and experimentally introduce three additional program variations: (i) more intense dissemination of course information to address informational gaps and trainee and household concerns, (ii) community engagement to discuss societal concerns, and (iii) secure group transport to address perceived safety and social concerns related to travel. We find little impact of the first two interventions, both of which are often introduced in such programs by state and non-governmental actors. Consistent with recent work highlighting the importance of female transport (Muralidharan and Prakash 2017; Field and Vyborny 2021; Borker 2020), we do find a sizable effect of offering group transport. Almost a half to two-thirds of the boundary effect can be compensated for by offering women group transport from their own village to a training center outside of their village. Furthermore, we find that the boundary-effect also holds *within* the village, when women cross settlements inside the village. In contrast, there is no additional boundary effect once the (first) village boundary is traversed. Further examination reveals that an analogous boundary effect holds in women's desired mode of transport. We find that, regardless of distance to be traveled, women are far less likely to prefer to walk if that entails leaving their own settlement/village. Consistent with safety considerations, we also find that women who report feeling unsafe are far less likely to cross a village boundary, while such safety perceptions do not impact take-up when the training is offered within the village. Finally, leveraging geospatial data on population density along the (exogenous) travel paths, we find that participation is lower for women who have to cross relatively underpopulated spaces to access training, and that such spaces account for a meaningful share of the boundary effect. Overall, these results highlight how individual and societal level concerns, especially regarding safety, that are triggered when women seek to move outside their communities, can severely limit their mobility. Somewhat encouragingly though, our findings also suggest that such barriers can be partly ameliorated through locally attuned interventions.

Our findings are especially noteworthy since our randomized evaluation of the overall program shows that there are substantial individual benefits arising from the skills training provided. In a companion paper, we show that within six months of completing training women report improved tailoring skills, stitch more clothes, show a 6.5 percentage points increase in the likelihood of being self-employed (an over threefold increase over baseline), and a drop of over 45% in clothing expenses. On average, they report an increase in earnings of PKR 153 over a three-month period from selling clothes. Furthermore, in line with the mobility barriers found in this paper, we see that women are constrained from employing their skills in wider markets. In villages where we combined skills training with a market linkage intervention, trainee earnings were significantly higher (by PKR 564) compared to women who received training only, facilitating an over 6% increase in household consumption (Cheema, Khwaja, Naseer, and Shapiro 2021). The large and sustained impacts from skills training underscore how the access issues documented in this paper are preventing women from building valuable skills that generate significant financial and non-financial benefits.

Our work speaks to a broad literature that studies barriers which prevent marginalized communities from utilizing social benefits, and public or private services. The role of distance as a barrier to the flow of goods and services has been well documented in the trade literature, and also noted across a wide range of other fields—including health, finance, and education—as an impediment to service take-up.[3] In spite of that, causal estimates are rare and few studies have used experimental variation to precisely estimate the size and shape of these costs or their economic value—let alone isolate a boundary effect or use further experimental variation to attempt addressing these access barriers.

Most randomized control trials which have studied the impact of travel distance do not explicitly randomize location or estimate distance's economic value. Rather, they examine heterogeneous effects by (potentially endogenous) distance. For example, Ashraf, Karlan, and Yin (2006) randomize access to bank deposits, Maitra and Mani (2017) to job training, and Phillips (2014) to job search assistance. All find that take-up drops with distance to the relevant service but do not isolate a boundary effect. Jacoby and Mansuri (2015) do so using OLS and instrumental variables regressions to highlight the costs of crossing a settlement boundary in Pakistan. They show that (high-caste) girls who have to cross a settlement boundary within their village to attend primary school have lower enrollment, while boys face no such boundary constraints. While compelling and consistent with our work, their paper does not use experimental variation to identify the shape of these costs nor assess the compensation required and interventions that can help in overcoming these boundary effects.

Turning to the few papers that are able to introduce experimental variation in distance: Thornton (2008), Burde and Linden (2013) and Alatas et al. (2016) directly vary the location of public services—HIV test result centers, schools, and public benefits enrollment centers, respectively. These papers show greater distance-related barriers for women. Thornton (2008) finds a steep decline in the probability of obtaining HIV test results at 1.5 km, especially for women in regions with majority Islamic populations, consistent with socially conservative norms, and that the gender gap is not present in non-Muslim areas. However, the overall decline with distance and most of the gender gap are addressed by small incentive payments. Burde and Linden (2013) show that opening a primary school within a village in rural Afghanistan increased girl's enrollment rates by more than 50%, which erased most of the gender gap in enrollment, and identify social acceptability as a potential mechanism. Alatas et al. (2016) show that experimentally varying the distance to the registration site for a conditional cash transfer program in Indonesia adversely impacts take-up though does not

[3]Engel and Rogers (1996), Evans and Harrigan (2005), and Gallego and Llano (2014) examine the impact of distance on trade, and Keller (2002) on knowledge diffusion. Thornton 2008, Ekirapa-Kiracho et al. (2011), and Kremer et al. 2011 find distance impacts program take-up for medical services and Ashraf, Karlan, and Yin 2006 finds effects for financial services. Porter et al. 2011, Burde and Linden 2013, Jacoby and Mansuri (2015), Jayachandran (2015), Mukherjee 2012, Maitra and Mani 2017, Muralidharan and Prakash (2017), and Bandiera et al. (2020) consider how distance effects take-up of educational and training services.

differentially do so for the poor (vs rich). While compelling in highlighting the salience of distance, none of these studies uncover a clear access discontinuity at the village boundary, calibrate the economic value of the boundary, or provide additional experimental interventions and analysis that can shed light on underlying factors.

Our work also speaks to how safety concerns can impact women as they engage in socio-economic life and demonstrates the importance of dedicated transport services for women. In the context of developing countries, the risk of sexual harassment or sexual assault has been shown to reduce overall mobility, labor market participation for women (Chakraborty et al. 2018; Siddique 2021) and to force them to make worse educational choices (Borker 2020). When women venture far from their homes, they are frequently plagued by security concerns. Mitra-Sarkar and Partheeban (2011) find that 66% of women report being sexually harassed on their commutes to work in Chennai, India, and Porter et al. (2011) find parents were reluctant to send their girls to schools outside their village due to security concerns. Borker (2020) finds that female students in Delhi, India are willing to pay a substantial amount more in tuition for safer routes. As a result, lack of transportation is often cited as an important factor underpinning distance-related barriers for women, with studies noting women often lack reliable and secure means of transportation especially relative to men, and providing transport can help raise access.[4] Existing work suggests that in addition to safety considerations, a higher burden of care work and the absence of reliable transportation force women to limit their options for work and educational opportunities to those within walking distance of their homes (Thakuriah, Tang, and Menchu 2011; Babinard and Scott 2011). There is a more recent literature that shows how dedicated female transport can help. Muralidharan and Prakash (2017) utilize a compelling triple difference approach to show that a public program providing bicycles to girls in the state of Bihar, India significantly increased their secondary school enrollment, likely by reducing travel time and enhancing travel safety, but lack the experimental variation to give precise estimates about the compensation required to address distance barriers. In ongoing work, Field and Vyborny (2021) are conducting a randomized controlled trial of women's-only transport in Lahore, Pakistan, to rigorously test how such facilities impact women's mobility, labor force participation, and empowerment. Borker, Kreindler, and Patel (2020) also have ongoing work examining how women's mobility is impacted by a reform that made bus travel free for women in Delhi, India. Our work com-

[4] See Ekirapa-Kiracho et al. (2011) for how a lack of transportation impacts take-up of medical services. Starkey and Hine (2014), Thakuriah, Tang, and Menchu (2011), Babinard and Scott (2011), Uteng (2012), Porter et al. 2011, and Borker, Kreindler, and Patel (2020) discuss how a lack of transportation impacts women's employment opportunities and mobility.

plements this literature by experimentally introducing women-only secure transport services and examining whether this overcomes access barriers.

Beyond transportation constraints, lack of information on the program's potential benefits can also act as a barrier to taking up a service. For example, Jensen (2010) finds that providing information to students about the expected returns to education increased the average number of years Dominican students stayed in school. A similar study conducted by Nguyen (2008) in Madagascar finds that information increased both school attendance and test scores. By introducing additional experimental variation in information provided to women, we examine whether such informational gaps underlie the distance-related access barriers observed and do not find any evidence for this.

Our work also adds to a large literature that underscores constraints women face in socioeconomic life (World-Bank 2012). In both developed and developing countries, women face significant barriers in accessing labor market opportunities, with social factors playing a key constraining role (Bertrand 2011; Jayachandran 2015; Klasen 2019; Mammen and Paxson 2000; Olivetti and Petrongolo 2016). In developed countries, women's labor force outcomes are adversely affected by perceptions of women as homemakers or primary caregivers as well as occupation-related gender stereotypes (Fortin 2005; Fortin 2015; Goldin 1995; Kleven, Landais, and Sogaard 2019; Alon et al. 2020; Bertrand, Kamenica, and Pan 2015). Even the effectiveness of policies designed to promote female labor force outcomes is influenced by cultural attitudes toward gender roles.[5] In developing countries, these effects are more pronounced with gender norms such as social stigma regarding appropriate work for women or "motherhood penalties" serving to restrict women's access to economic opportunities (Bedi, Majilla, and Rieger 2018; Klasen and Pieters 2015; Bandiera et al. 2020). Norms regarding women's status relative to men's also adversely impact women in leadership roles (Macchiavello et al. 2020; Gangadharan et al. 2016; BenYishay et al. 2020). Moreover, in traditional societies, family obligations and dominant religious or caste values often tend to reduce women's mobility and social interactions beyond household boundaries, thereby repressing women's ability to benefit from services and opportunities (Bursztyn and Jensen 2017; Field, Jayachandran, and Pande 2010; Cho et al. 2013; Cheema, S. Khan, et al. 2021; A. Khan 1999; Mumtaz and Salway 2005). By examining a range of interventions, including those directly targeted at the community, we shed further light on the potential factors that

[5]Using data from 22 industrialized countries, Budig, Misra, and Bockmann (2012) found that parental leaves and public childcare are more effective in raising women's pay where maternal employment is widely accepted. In contrast, where cultural values favor the "male breadwinner/female caregiver model," the effects of these policies are less positive or even negative.

may underlie these broader constraints women face.

Finally, our paper directly contributes to the understanding of active labor market programs, such as vocational training, by focusing on their take-up rates, an aspect often neglected in the literature. Many papers examine the economic impacts of vocational training programs, in developed and developing countries (See Betcherman, Dar, and Olivas 2004 for a review). While the literature on U.S. job training programs has recognized take-up as a difficult challenge either in the overall population or in specific sub-groups (Bloom 1997; Sandell and Rupp 1988; Heckman and Smith 2004), it has not received the same attention in the literature on developing countries. Moreover, in both contexts, few studies track enrollment from the eligible population, making it difficult to know what the "natural" take-up rate should be for most programs. Studies that track self-selected applicants show course completion rates ranging from 21% to 95%, while those which consider general enrollment in the population find average take-up rates from as low as 5% to as high as 21% (Bloom 1997; Sandell and Rupp 1988; Maitra and Mani 2017; Bandiera et al. 2020).[6] Our paper confirms that program take-up is an important and addressable aspect that needs to be taken into account in such programs.

The remainder of the paper proceeds as follows. Section 2 describes the context and intervention. Section 3 outlines the experimental and empirical design. Section 4 presents our results, and Section 5 concludes.

2 Context & Intervention

2.1 Country Context: Gender, Human Capital, and Labor Markets

Human capital acquisition offers a pathway for many to improve their economic, social, and health outcomes. Women have historically faced systematic obstacles in accessing human capital enhancement opportunities. Encouragingly, the global gap between male and female education rates has steadily closed over the past two decades (World-Bank 2012). This progress has been made possible by systematically addressing barriers, both social and economic, that women face in pursuing education.

Pakistan is typical of many regions of the world where women still face substantial access barriers.[7] Socially conservative norms and related social and individual considerations are

[6] On a summary of results from the United States see Heckman, Hohmann, et al. (2000). For other countries see e.g. Hirshleifer et al. (2000) and Alzúa et al. (2021). Dasgupta et al. (2015) use an artefactual experiment to study behavioral traits that influence the selection process.

[7] Appendix Figure B1 shows how Pakistan compares to countries in MENA and South Asia along a range of

recognized as important factors limiting women's labor force participation and agency in such regions (Jayachandran 2021 provides a comprehensive discussion). Women must overcome such constraints against investing in education and finding work and therefore have relatively fewer educational and labor market opportunities. Unfortunately, this is not an especially unique context. In 2011, UN Women Watch published survey results from 42 countries showing that rural girls are more likely to be out of school than rural boys and are twice as likely to be out of school as urban girls. In our sample, we find that over 70% of women have never been enrolled in any form of formal education. Women are also reported to have much lower labor force participation relative to men, especially in lower-middle-income countries, where the gap in 2019 was 47 percentage points (Kuhn, Milasi, and Grimshaw 2019).

In addition to social norms, the literature highlights the importance of violence against women and safety concerns as posing serious threats to women's mobility and participation. The UN and World Bank have highlighted the high rates of perceived insecurity and risk for women in both developed and developing countries (Bhatla et al. 2013; Tavares and Wodon 2018). For instance, a large-scale survey on street harassment of more than 16,000 women from 42 cities around the world found that 84% of women experienced street harassment for the first time before they were 17 years old and that 82% of respondents reported taking a different route home/to their destination (Livingston, Grillo, and Paluch 2015). Similarly, the Punjab Commission for the Status of Women reports high rates of street harassment for women in Pakistan and finds that it creates perceptions of insecurity and fear that affect women's mobility and their access to economic opportunities (PCSW 2018). The literature on rural Pakistan shows that while women are relatively mobile within their villages, mobility outside villages remains limited and constrained by safety concerns, and that the lack of availability of safe transport options affects their access to opportunities (PCSW 2018; Jacoby and Mansuri 2015; Mumtaz and Salway 2005; A. Khan 1999; Salahub, Gottsbacher, and De Boer 2018). Recent works from other contexts have also tied the worse labor force and educational outcomes for women to real safety threats such as street harassment and sexual assault (Chakraborty et al. 2018; Borker 2020; Siddique 2021).

Our focus in this paper is on distance related barriers to *women's* mobility and skills acquisition and we explore solutions to their unique constraints. Not only do women traditionally face more substantial access issues, our work and the literature suggest the nature of the underlying factors that contribute to barriers for women and men are likely quite different. While access constraints could also be present for men, in prior work we found that distance

female outcomes (http://datatopics.worldbank.org/gender/).

appeared to be less of a constraint on men.[8] This is likely, since in addition to conservative norms, concerns regarding safety likely play an important and differential role. We have already noted how safety considerations are an important concern for women. This is likely exacerbated when women travel. Studies from India and Africa document how women report being sexually harassed when traveling for work and education (Mitra-Sarkar and Partheeban 2011; Porter et al. 2011; Phadke, S. Khan, and Ranade 2011; Borker 2020) and perhaps as a result, travel imposes more of a burden on women than men. As Borker (2020) documents, women in Delhi often undertake longer and costlier travel routes to avoid using more direct but potentially unsafe routes. Thornton (2008) finds that in Malawi men's decision to travel to a HIV testing center is less impacted by distance than women's, and Jacoby and Mansuri (2015) find that girls are more likely to see an increase in school enrollment than boys if a school is built in their village/settlement. Such differential effects also hold in developed economies. Roberts, Hodgson, and Dolan (2011) find that commuting has a detrimental effect on British women's psychological health, and not men's. Evidence from countries like the U.K., Denmark and France show that women display a preference for jobs with shorter commutes relative to men and are willing to accept lower wages for such jobs (Petrongolo and Ronchi 2020; Le Barbanchon, Rathelot, and Roulet 2021; Fluchtmann et al. 2021).

Given the literature has already highlighted differences across gender, we made a conscious choice in our study: rather than compare differences in access across women and men, it would be more instructive to focus on comparisons *within* women that experience different (and experimentally induced) constraint alleviation strategies, thereby allowing us to better isolate the mechanisms that may be behind these effects by holding constant any unobservable variables that are unique to all women (but are different for men).[9]

[8]Appendix A provides details. In pilot work, randomized training opportunities were offered to both men and women. While both take-up rates were low for both, factors such as current employment status and future perceived employability were more salient for men. Notably, distance was not a major constraint for men. While distance was not randomly assigned in this prior work, there was a strong negative relationship for rural women between physical distance and voucher acceptance, course enrollment, and course completion, controlling for a host of individual-level characteristics such as monthly income, education, and employment status. Distance was not statistically significant for men and the point estimates of the distance penalty for women were around 10 times larger than that for men.

[9]It is common in other contexts to study the effects of a constraint on women by using men as a benchmark. For instance, to understand the gender wage gap, one must necessarily include men's wages as a baseline. However, in our case, a more natural benchmark is that women who express a demand for training should (eventually) be able to access it. This benchmark then allows us to consider a range of design variations for women skill building programs. Each variation is designed to address an underlying factor/mechanism. By examining the impact on program take-up, we can shed light onto the particular factors that lead to women's access constraints and can then seek to ameliorate these factors. Within a fixed budget, there is an inherent trade-off between going deeper on mechanisms for women vs. comparing cross-gender differences in access constraints. Given the robust literature on the additional constraints women face, we preferred the former

2.2 Program Background and Design

The skills training program we study was implemented by PSDF, a not-for-profit company set up as part of the Punjab Economic Opportunities Program (PEOP)—a Government of Punjab program implemented in partnership with the UK Department for International Development (DfID) that aimed to increase employability and earnings of low-income and vulnerable families by augmenting human capital through vocational training.

The program design was informed by prior work by the Center for Economic Research in Pakistan (CERP) that revealed low take-up rates for vocational courses, especially for women (see Appendix A for details). Such low take-up was surprising given the high reported demand for training—over 90% of the households nominated a female member who wanted to receive the training—as well as strong expectations that this training would lead to increased skills and returns, a belief borne out in our subsequent work.[10] This suggests that women were likely facing barriers in realizing their demand and that these access barriers were costly, which makes understanding and alleviating these constraints important. Below we describe the main program, as well as five (experimental) variations introduced to separately study the impact of various constraints revealed through our qualitative work.

The training program focused on teaching tailoring as a vocational skill along with basic literacy, numeracy, and financial literacy.[11] The training was delivered over a four-month period, five to six days per week in the morning, typically from 9 am to 1 pm, and each trainee was required to maintain an attendance rate of 80%. Each trainee admitted to the course had a workstation with a desk and a sewing machine to use for the length of the course. The courses were implemented by established training service providers. Trainees reported the training was high quality in post-treatment surveys: 55% reported that the quality of the course content, training conduct, and facilities was high or very high; 69% of trainees said the course met or exceeded their expectations; and 74% reported that the training helped them improve their tailoring skills.

To better understand the low take-up rates noted previously, a series of field visits were

approach and focused on understanding women's constraints and how to alleviate them.

[10]Given this high expressed demand, lower take-up rates can be interpreted as deviations from women's preferred outcomes. From a welfare perspective, it is important to also note that these beliefs (regarding positive returns to training) appear to have been correct. As noted in the introduction, in a companion paper on the impact of the skills training program, we confirm such positive returns (Cheema, Khwaja, Naseer, and Shapiro 2021).

[11]Initially a wider range of vocational skills training was offered. However, with the vast majority of women picking tailoring, PSDF chose to focus on that skill. The additional literacy and numeracy components were added as pilot work revealed most women who desired such training lacked requisite skills needed for tailoring (writing down orders, taking measurements, preparing budgets, opening a bank account etc.). So rather than make those a precondition, and lower access, PSDF included them as part of their training.

carried out to elicit qualitative feedback encompassing different limitations that women face in accessing skills training as well as to assess the practicality of different solutions aimed at alleviating these constraints. Interviews were conducted with household members (both males and females) and influential community members. These visits identified five primary constraints to resolve: distance, information, societal concerns, safe and reliable transportation, and money.[12] Each of these constraints were then directly addressed through the following program variants:

Distance - Given the importance of distance, a subset of program villages were (randomly) selected to house a training center in the village itself. As a result, households in these villages were, on average, closer to their training center than households in other villages: the median travel distance for trainees in villages with and without a training center was 1.1 kilometers and 9.25 kilometers, respectively. We will refer to the former sample villages as Village Based Training (VBT) villages and the latter as non-Village Based Training (nVBT) villages.

Financial Constraints - For rural women, participation in the training program may imply additional travel costs or potential income loss due to the opportunity cost of time allocated to the training program. Lack of financial compensation for such costs was the second-most cited reason for course dropout in prior program roll-outs (Cheema, Khwaja, Naseer, Shapiro, et al. 2013). To address this, every trainee was offered a base stipend of PKR 1,500, paid monthly. To rigorously test the impact of these stipends, a (randomly selected) subset of households was provided additional stipends as high as PKR 4,500, resulting in a final variation in monthly stipend amounts from PKR 1,500 to 6,000.[13] Stipends were disbursed four times and were only given to individuals still enrolled in the program with a minimum attendance rate of 80%.[14]

[12]Interestingly, while our prior assumption had been that child care would be an important issue, our qualitative field visits demonstrated little demand on the part of women for such a service. Women were either confident that their own family members could take care of their children or, even when they did not have such help, not comfortable with it being provided by non-family members.

[13]Stipend randomization happened in two stages. First villages were randomized into a midpoint for the additional stipend of PKR 500, 1000, ... , 4000. Then potential trainees were randomized into receiving that amount, PKR 500 more, or PKR 500 less. This approach kept the within-village stipend range modest to avoid a "disengagement" effect from those offered lower stipends.

[14]To make payments easy for trainees stipend top-ups were provided in four monthly installments through EasyPaisa, a mobile payment service which allows withdrawal free of charge at retail outlets. Our team helped households set up accounts when necessary, made calls to ensure households received their top-ups, maintained a helpline to resolve issues, and hand-delivered withdrawal codes to household that did not have a mobile phone. Control over money is often a concern in such settings. At endline 91% of trainees reported having either a large (54%) or moderate (37%) influence over where the money was spent. Trainees did not always directly retrieve the money: 44% of women reported that their spouse/fiance did so and 25% their parents.

Information - Pre-treatment interviews with the sample population revealed that there was interest and need among potential applicants to learn about the skills being taught, the quality of the training provider, and the logistics of the training. To address this issue, PSDF worked with local training organizations to design a Trainee Engagement (TE) arm administered in a (randomly) selected subset of villages. In TE villages, applicable households were first invited to hour-long, female-only information sessions with potential trainees about the training program and notified of the program's date, time, and location. Two to three days later, information sessions were held which disseminated information regarding course content and quality, female instructor credentials, course timings and duration, training center facility standards, and application submission protocol. Sessions shared success stories of three trainees from previous trainings. These testimonies emphasized the lifelong value of the tailoring course, showing how past trainees used their skills to earn or save money by making higher-quality clothes for themselves, their families, and their neighbors, and by teaching fellow villagers how to stitch. The session included a Q&A, which allowed attendees to ask any logistical or informational questions regarding the course. Attendees were given details regarding a three-day Open Period, during which they could visit the training center to see the facilities, meet the trainers, and ask any remaining questions about the course. Finally, a few days later, each household invited to the sessions received a follow-up visit, whereby visitors redistributed written information and answered any remaining questions. The TE treatment was designed to address the kinds of information gaps identified in our preliminary work as well as the literature as barriers to training (Jensen 2010; Nguyen 2008; Dinkelman and Martinez A. 2014)

Societal Constraints - Restrictive community constraints present an additional barrier to access for rural women. In our context, men may see the transgression of restrictive gender norms by women associated with them as impacting their own reputation directly (Jamali 2009) and therefore be unwilling to allow women of their household to participate in training, even if they see its value (Naqvi, Shahnaz, and Arif 2002). Women's travel often also evokes security and safety related concerns (Mumtaz and Salway 2005; PCSW 2018). Such barriers were often mentioned in our fieldwork and surveys with household heads citing social reasons as one of the factors behind a reluctance to have female household members apply for skills training. PSDF worked with local training organizations to address this constraint by conducting 75- to 90-minute community-level information sessions—–the Community Engagement (CE) treatment—–separately for males and females in 81 villages. Respected community members and elders were invited to attend these sessions. In addition to providing all of the information communicated in the TE treatment, the CE information sessions aimed to engage the wider community. They discussed the societal challenges women face in accessing and benefiting from the training as well as ways in which the community members could facilitate female members to overcome these access barriers. Trained community mobilizers moderated the conversation. Community members and meeting attendees were also offered free transportation to the training center during the Open Period so that everyone (potential trainees and respected community members) could see that the facilities were indeed appropriate and safe. As with TE, subsequent follow-up visits redistributed written information and answered any additional questions. This treatment was designed to address potential barriers due to community-level constraints and was analogous to interventions that aim to enhance female employment by addressing societal concerns.[15]

Safe & Reliable Transport - In the context of rural women, a lack of safe and reliable transportation as well as norms surrounding what is considered to be appropriate means of travel may compound the physical distance constraint. Male household members often cited such concerns and would refuse permission for women to visit training centers in other villages unless they were accompanied by others. To alleviate this concern, free Group Transportation (GT) to the training centers was offered in a (randomly) selected subset of villages. Care was taken to ensure that the transportation was seen as safe, reliable, and socially acceptable by the villagers. Based on focus group feedback, this transport consisted of women traveling in small groups of 5+ on "qingchis" (a common type of auto-rickshaw) using male drivers from the same community the women were from. This was implemented by first holding a meeting with men where they nominated local drivers and suggested logistical arrangements of the facility. The proposed arrangements were shortlisted and then confirmed with female household members after eliciting their preferences regarding the provision of group transport. A final meeting helped finalize these arrangements. Households were then provided with printed information about the group transport facility, including the driver's name, mode of transport, pick-up and drop-off locations, and schedules. This service was offered in a randomly selected set of nVBT villages only, as the distance needed to travel for households in VBT villages was deemed too short for transportation to be a salient constraint.

[15] See Jayachandran (2021) for a review on approaches to shifting underlying gender norms; Dean and Jayachandran (2019) and McKelway (2021) for their analysis of how direct attempts to change gender norms can improve female employment outcomes; and Levy et al. (2020) for a review of health interventions that rely on affecting gender norms.

3 Experimental Design, Data and Empirical Strategy

3.1 Sample & Experimental Design

Our sample frame comprised rural areas from the three districts in southern Punjab (Bahawalnagar, Bahawalpur, and Muzaffargarh). These are fairly typical of the country's agrarian regions, though slightly poorer than the typical district in Punjab. Power calculations for detecting differential take-up between treatment arms using the intra-cluster correlation observed in earlier pilots showed that approximately 240 villages and 4,500 households were required to provide at least 80% power to detect a 0.2-0.3 SD impact at the 5% significance level. To be conservative, we expanded to 243 villages and 6,200 households.

Villages were randomly selected. Within each village, we randomly selected 25 households for the study. These households were surveyed and received a training voucher they could use to nominate a female member for the training. We randomly assigned each village to one of eight treatment branches based on the constraint alleviation strategies (referred to here as treatments) described above in Section 2.2. Table 1 provides a breakdown of the number of villages and households in each treatment branch.

We conducted the randomization in multiple stages. First, we divided the three districts into 27 total grids based on geographical proximity, each containing nine treatment villages. Four of these nine villages were then randomly selected to have a training center in the village (VBT) with the remaining five to have no training center located directly in the village (nVBT); we refer to these two primary treatment branches as the standard intervention.[16] All households in the standard intervention (i.e., all households in this study) received basic information about the course through a house visit, during which we offered the households basic information about PSDF, the training organization as well as the course being offered (verbally and in writing), communicated information regarding the base stipend, and asked them to identify an eligible female member to participate. If the household accepted the training offer, another visit was conducted during which each household received a printed voucher in the name of the prospective trainee.

Stratifying on this primary randomization, we then further randomly assigned the five nVBT villages to receive either trainee engagement (TE), community engagement (CE), reli-

[16]An additional three villages per grid were surveyed as pure controls. These are used to evaluate the impact of training on economic outcomes in related studies (Cheema, Khwaja, Naseer, and Shapiro 2021) but are not used in this paper. Neither vouchers nor basic information about the training opportunity were distributed in these villages. Given the spatial spread among sample villages, it is unlikely that information about the trainings offered even reached these villages and unsurprisingly, no one from these "pure" control villages enrolled in the course.

able group transport (GT), a combination of CE and GT, or no additional treatment (standard intervention only). The four VBT villages were randomized into the CE, TE, or standard-intervention-only branch, and the fourth was randomly assigned to either the TE or standard-intervention-only treatment branch. Note that no VBT villages were randomized into the GT treatment, as we deemed a transportation service less relevant in VBT villages, given that within-village travel distance is much smaller.

Appendix Table B1 shows balance tests for the simpler VBT and nVBT comparisons are as expected— only two of the 40 baseline variables are significantly different between the two types of villages. Amongst others, given the importance of distance in our subsequent results, it is noteworthy that there is also no imbalance in the availability and wait times of different public transport modes. Similarly, balance tests across the full eight treatment types in Appendix Table B2 shows balance as expected between these treatments.

We also randomly assigned the total stipend amount at both the village and the household level. As noted above, in addition to a base stipend of PKR 1,500 per month, a randomly selected subset of households received an additional stipend top-up as high as PKR 4,500. We determined this range through analysis of previous pilot data, which indicated that stipends in this range were most cost-effective at increasing take-up. Table 2 reports the total number of households which received each level of stipend top-up. Note that while stipend amount was allocated randomly, the probability of being assigned each amount varied throughout the range of possible amounts. In particular, budgetary constraints limited additional top-ups to only a limited number of the (surveyed) households.[17]

Finally, we randomly selected a subset of our original households (from among all eight treatment arms) and additionally offered a voucher to a neighboring household. For each sample household selected to receive the additional neighbor treatment, we visited the sample household's address and identified the closest neighboring household that fulfilled the following criteria: it was not an existing sample household, consented to being interviewed, and contained an eligible female household member. We included this treatment to test whether

[17] A potential concern is that those allocated a smaller stipend may perceive the allocation as unfair and this may adversely impact their enrollment. However, field interviews suggested that households were comfortable with stipend variation as long as each received a minimum stipend and any extra amount was determined through a fair ballot process. A review of literature also supports this observation (Blount (1995) and Bolton, Brandts, and Ockenfels (2005)). In order to ensure our process was viewed as fair, the stipend variation was randomized in stages and the outcome provided in a sealed, marked envelope opened in the household head's presence. We first randomly selected the 10 households to receive only the base stipend. We then randomized the remaining households in each village into one of 8 "stipend buckets." Each bucket allocated one of three stipend amounts (low, medium, or high), where the difference between the high and low additional stipend amounts within a bucket (i.e., within a village) was always PKR 1,000. There were no reported cases of discontent regarding the difference in stipend values.

simultaneously inviting neighboring women would decrease the potential resistance by family members concerned about public perceptions of a woman traveling and training alone. Note that while these additional neighboring households were selected to receive vouchers after the original households, all vouchers were delivered at the same time in order to eliminate any effect of timing or revisits on take-up. We randomly selected neighboring houses stratifying on our primary VBT randomization, thus inviting the neighbors of 550 (20%) of VBT households and 550 (16%) of nVBT households.

3.2 Data Collection

Our data comes from three sources—household surveys, administrative data, and a distance-mapping exercise. Appendix A provides a timeline of surveys and field visits (Figure A1) as well as a brief summary of all data collected in each. The baseline household survey consists mainly of information on demographic and outcome variables about the household and the nominated female member. During subsequent household visits for intervention rollout, we conducted surveys both to verify voucher acceptance and to ensure that households had been informed of all treatment activities within their village. The follow-up household survey (six months after the training concluded) helped verify the take-up status recorded through the previous surveys and administrative data and collected information on the impact of the course on the trainee and her household.

Throughout the intervention, our team and the training service providers continued collecting extensive administrative data, including voucher submission lists, initial enrollment status, and regular attendance records, in order to accurately form rosters and disburse stipends. Continuously collecting administrative data also allowed us to track each respondent's take-up status independently of their self-reported status. Given our primary outcome of interest is program take-up, we measured it in four stages (of increasing commitment): (i) voucher acceptance, (ii) voucher submission, (iii) course enrollment, and (iii) course completion. Appendix A provides further details on how these measures were elicited. Briefly, the first was collected during a household visit ("voucher delivery") after the baseline survey and indicated whether a household had nominated a specific member for training. The second measure captured whether the household then submitted their voucher at the training center during the open enrollment period. The last two measures captured whether the individual actually showed up when the course started and eventually completed the course.[18]

[18]As Appendix A details, training was open to any woman in the village (whether she was a voucher holder or not—the voucher process was just implemented for our sample households to enable tracking them). For the

Given that distance to training center is one of our key explanatory variables, we conducted a distance mapping exercise in order to accurately measure the route each respondent would take from an informal cluster of houses where her home is located (i.e., colocational neighborhoods in this context) to the nearest training center. During this exercise, we recorded both the distance to the training center and the anticipated time and cost of travel for multiple modes of transportation. We measured distance in three different ways, First, a "straight-line distance" from each nVBT village's centroid to the nearest VBT village's centroid based on GPS. Since it was not feasible to assign training center randomly *within* a village, we set this measure of distance to be zero for VBT villages. Since a "straight-line" measure underestimates the actual distance a trainee would need to travel, we also constructed a "Cluster-level travel distance" based on grouping households into geographic clusters and conducting an detailed distance mapping exercise, in which distance was physically measured from each cluster to the training center by a surveyor on a motorcycle (for details on this surveying procedure, see Appendix A); Since the training center location *within* the village is not randomly assigned, this second measure may create an endogeneity problem (for example, if rich households have the center located closer to them). In order to address this, we constructed our third (and preferred) measure, "Travel distance", which averages the cluster-level travel distance measure within each village to find the distance from the village's population centroid to the training center. By averaging the cluster-level travel distance, this third measure removes any parts of distance that could be endogenous within the village, while still allowing us to construct a non-zero travel distance measure, even for VBT villages.

Table 3 provides basic summary statistics. We see that the average household in our sample has a monthly income of PKR 11,000 and has between six and seven members. Roughly half of the households are ethnically Punjabi, while the other half are primarily Seraiki (the remaining 3% belong to other minority ethnicities). As for the prospective trainees themselves, we see that 70% are married and only 34% have any formal education. Additionally, 33% are involved in paid work, 33% have any ability to stitch, and only 6% engaged in any form of stitching in the last month. These basic statistics show that our course offered an opportunity with high potential value for our sample.

Table 3 also reports our three main distance measures. Note that while average distances to a training center are not that large (a 3.2 km straight-line distance including villages where

few training centers which had more applicants than they could accept, a ballot was used to generate enrollment rosters and waitlists. Enrollment status for individuals who never had a chance to get off the waitlist (less than 10% of our sample) is defined to be missing since we cannot assume what their enrollment status would have been had they been given a chance to actually enroll. Since the (waitlist) order was randomized (and the individuals are effectively excluded from our sample), this does not affect our analysis.

the training center is in the village; excluding them gives an average of 5.8 km), there is still sufficient variation to estimate distance effects on take-up rates. Moreover, not surprisingly, traveled (measured) distance is larger than straight-line distance by almost a factor of 2. We also show our main outcome variables on program take-up. While voucher acceptance rates are reasonably high at 63%, class completion rates are quite low. Only 22% of the population completed the course. This average masks substantial variation across villages, a point that we will explore in more detail below.

3.3 Empirical Strategy

Because treatment status was assigned randomly, we interpret the differences in take-up rates between treatment branches as the causal impact of the treatment. We estimate the effect of our primary treatment, village-based training (VBT), with

$$Y_i = \alpha + \beta_1 VBT_i + \rho X_i + \varepsilon_i \tag{1}$$

where Y_i is an indicator for one of our four measures of take-up for individual i; VBT_i is an indicator for individual i living in a village assigned to the VBT treatment branch; X is a matrix of individual-level controls measured at baseline; and ε_i is a random error term. In order to account for any intra-cluster correlation and for the correlation we mechanically create through our stipend treatment design, we cluster this error at the village level. The coefficient β_1 gives the average treatment effect of placing the training center inside the village. Since VBT_i is randomly assigned, we do not require X_i for an unbiased estimate of β_1, but adding controls can help provide tighter standard errors. We present results from specifications with and without X_i.[19]

While the above specification cleanly identifies the effect of locating a training center in the village, we can further decompose this effect into two components—an indicator for leaving the village itself (i.e., crossing the village boundary) and a continuous variable for the actual per-km distance traveled—by estimating

$$Y_i = \alpha + \beta_1 VBT_i + \beta_2 Dist_i + \beta_3 AveDist_i + \rho X_i + \varepsilon_i \tag{2}$$

where $Dist_i$ is a measure of distance to the closest training center. In this specification β_1 now

[19]As noted previously, it did not make sense to provide group transport in VBT villages. Therefore our treatment design is not fully cross-randomized (see Table 1), and in order to correctly estimate the VBT effect, we need to control for the group transport treatment. We do so in all specifications but suppress reporting it for expositional clarity except when we explicitly examine the impact of different design variations.

isolates the "boundary effect" and β_2 captures the per-km travel costs incurred by moving the training center further from a respondent's house. Recall that since the training center location was randomly assigned, distance to the nearest training center ($Dist_i$) is exogenous as long as we condition on the average distance between a village and all other villages in our sample ($AveDist_i$).[20] We run variations of this specification, including higher order polynomials in distance as well as discrete distance bins, to ensure that we properly account for the role of distance. In these specifications, we always control for $AveDist_i$ using the same functional form as used for $Dist_i$.

Since our design introduced exogenous variation in stipend, we can estimate the impact of money on take-up and compare it to the impact of VBT to determine economic magnitude. To do so we estimate

$$Y_i = \alpha + \beta_1 VBT_i + \beta_2 Dist_i + \beta_3 AveDist_i + \beta_4 Stipend + \rho X_i + \varepsilon_i \tag{3}$$

We can now determine the stipend amount needed to create the same impact on take-up as the VBT treatment by calculating $\frac{\beta_1}{\beta_4}$ and the "marginal rate of substitution" between distance and stipend with $\frac{\beta_2}{\beta_4}$.We also extend our analysis to the effects of our other treatment arms by including an additional indicator for each in our main specification in the equation

$$Y_i = \alpha + \beta_1 VBT_i + \beta_2 Info_i + \beta_3 Comm_i + \beta_4 GT_i + \beta_5 Dist_i + \beta_6 Dist_i^2 + \beta_7 AveDist_i + \beta_7 AveDist_i^2 + \rho X_i + \varepsilon_i \tag{4}$$

where VBT_i, $Dist_i$, and $AveDist_i$ are the same as they appear in equation 2; $Info_i$ is an indicator for the trainee engagement (TE) treatment, $Comm_i$ is an indicator for the community engagement (CE) treatment; and GT_i is an indicator for the group transport treatment. It is worth mentioning that α in this specification now represents the mean take-up in the nVBT

[20]To see why the $AveDist_i$ control is needed, consider an example of three villages being jointly randomized (one to VBT, two to nVBT). Imagine that two are within 1 km of each other, but the third is located 10 km from the others. It is clear that while each has an equal probability of being assigned to the VBT treatment, the respondents in the villages within 1 km of each other have a higher probability of having the training center being within 1 km of their home. Moreover, to the extent that the farther away village varies on other characteristics (e.g. income, industry, etc.) that can impact course applications and enrollment, this can introduce a bias into our estimates if not controlled for. This is precisely what the $AveDist_i$ control accomplishes. In our example, it will assign a higher $AveDist_i$ value for the village that is further from the other two so that the distance term of interest ($Dist_i$) will only reflect the random component of the distance variation induced by our assignment. While we can compute $AveDist_i$ for different radii, we consider only the average distance of the village to all sample villages within 15 km (a reasonable radius beyond which travel is likely not feasible). We checked robustness of our results by using average distance to all villages within 5 km, 10 km, 20 km as well as averaging the distance to all sample village within the village's randomization grid. None of these alternative controls affected our main results, which is not surprising given that these controls themselves are rarely significant.

baseline intervention villages (refer to Table 1) so that each β on a treatment indicator represents the difference in take-up between those villages and the treatment villages, controlling for distance.

4 Results

4.1 Distance Constraints & the Boundary Effect

We first establish the critical role that distance plays in women's decisions to take up skills enhancement opportunities. In doing so, we take advantage of our experimental design, which induces exogenous variation in both the placement of in-village training centers and (conditionally) the distance to the nearest training center for villages without an in-village training center.

Table 4 Panel A first examines the impact on take-up rates when a training center is set up in a village. We find large positive effects on all four take-up measures, including intent measures (voucher acceptance and voucher submission), course enrollment, and eventual course completion. The odd number columns present our basic specification, and the even number columns add a host of additional controls. As the measures of take-up move from intent to enrollment to completion, we find increasingly substantial impacts in both the absolute magnitude of the effect and its relative size. For voucher acceptance (i.e., an individual expresses intent to take a course), women in VBT villages show a 22 percentage points higher take-up than counterparts in nVBT villages (Column 1), which reflects a nearly 36 percent increase compared to nVBT reference villages (the "control" group). Women in VBT villages have 32 percentage points higher voucher submission rates (more than double the control mean), 34 percentage points higher course enrollment rates, and 27 percentage points higher course completion rates (these effects represent a three to fourfold increase relative to the control group). As the mean travel distance of a training center for nVBT women is 9.6 km (6 miles), our results emphasize how severely travel can impact female access to training opportunities, even for relatively short distances.

While take-up differences between VBT and nVBT villages are striking, they do not explain why such severe distance penalties exist. For example, it is possible that large economic costs of travel could explain these magnitudes. Although we return to this possibility in Section 4.2, Table 4, Panels B to D shed further light on this, unpacking the distance penalties by examining its functional form. Recall from Section 3.3 that since the location of a village training center is randomized, we can include distance controls in the basic specification in

Panel A. Accounting for distance traveled allows us to separately identify the continuous per-km travel costs and any "boundary effect" (a penalty paid simply for leaving one's village for the training).[21] Such boundary effects, unlike per-km costs, are not readily explained by standard costs of travel since there are no economic "tariffs" charged for crossing village boundaries or other such discontinuities at the boundary. Panels B to C look at the straight-line distance of the closest training center to the nVBT village's geographical centroid (this distance measure uses the respective GPS coordinates and is defined as zero for households within VBT villages).[22] Panel B introduces a linear control for distance, while Panel C adds a quadratic term to allow for a concave per-km travel cost function. Both panels demonstrate that the distance penalties increase with distance; for example, Panel B shows that class completion rates drop by 2 percentage points for each additional km. However, after accounting for distance, the village boundary effect persists, ranging from 9-23 percentage points for different take-up measures (a slightly smaller effect than Panel A's specification without distance). There is a persistent additional effect of (crossing) the village boundary above and beyond the economic costs of traveling captured through the per-km measure.

Figure 1 illustrates both the intercept shift in take-up resulting from the village boundary as well as the additional effect of distance on take-up for women traveling from other villages. Note that the non-parametric fit in the graph suggests that the boundary effect is likely to remain robust to different functional forms of the distance term (more on this below). A concern in our results so far is the possible overestimation of both the intercept term as well as the per-km travel costs due to using the straight-line measure of distance, which is, by definition, a lower bound to true travel distance. We address this next.

4.1.1 Actual Travel Distance

In order to obtain a more precise measure of actual distance traveled, we conducted a field exercise where surveyors measured the distance physically traveled using the actual routes that a villager would most likely take (details in Section 3.2 and Appendix A). Since we also utilize distance traveled inside the village (with a training center) this measure is defined (& non-zero) for both VBT and nVBT villages.[23] Table 4, Panels D and E present our

[21]Note that all regressions which include distance also include our control for remoteness (average distance), though they are suppressed in all the tables.

[22]We can also look at distance to closest two or three training centers, but doing so does not change our results. Since it is the closest training center's distance that matters, we will stick with that for the remaining analysis.

[23]As detailed in Section 3.2 the underlying measure is the physically traveled distance between households in a given geographical cluster (i.e., a small set of households located right next to each other) in a village. Recall

results using this more accurate measure of the distance traveled by households to the nearest training center, either inside or outside their village. We find somewhat smaller per-km costs than in the straight-line distance case (i.e., the coefficient on the linear distance term in Panel D is somewhat smaller than that in Panel B), which we expected, since the travel distance measure is on average 1.5 times the straight-line distance measure. However, the boundary effect remains quite large, ranging from 13 to 22 percentage points in Panel D. Interestingly, in contrast to the straight-line distance measure, the travel distance measure captures a slight degree of non-linearity in the take-up-distance relationship (i.e., Panel E shows the quadratic specification fits better than the analogous one in Panel C). Allowing for the quadratic term and actual travel distance does attenuate the boundary effect somewhat, but across all take-up measures, it remains between 11 and 18 percentage points.

Together, the results in Table 4 show that the effect of crossing a village boundary is far from negligible. The effect is one-third to over a half (depending on the outcome and specification) of the total VBT effect reported in Panel A. In Panel E, we see an impact of 11-18 percentage points of crossing the boundary across all outcomes, suggesting that typically, as much as half of the total distance penalty is paid right at the point of leaving the village.

4.1.2 Robustness to Functional Form

Table 5 shows that both the per-km travel costs and boundary effect are robust to a range of more flexible functional forms. Panel A of Table 5 uses a log specification for travel distance, often used in the literature on commuting (Heblich, Redding, and Sturm 2020) and shows that our results are effectively unchanged from those in Table 4 (Panels D and E). Panel B allows for polynomial forms up to a 5th order (controlling for a similar 5th order polynomial in $AveDist_i$). This exercise tests whether a highly flexible (and perhaps implausibly so) functional form in distance would substantially reduce the boundary effect estimated in Table 4. It does not, the VBT coefficient is largely unchanged. Moreover, since the higher order terms in the polynomial are not individually significant, we conclude that the underlying relationship between distance and travel is best estimated as quadratic.

the training center location was randomized at the village but not cluster level (i.e., we randomly selected which village received a training center but did not specify the exact location within the village received it, as this was not logistically feasible). Since location *within* a village is not randomly assigned, directly using the "cluster-level" distance measure can result in an endogeneity issue (i.e., poorer households in the village may live farther away from the training center). In order to address such concerns, the measure used in our analysis - "travel distance" - averages the cluster-level distance measure *within* each village to find the distance from the village's population centroid to the training center. In practice, both measures give very similar results suggesting that the endogeneity concern is not important in our setting (see Appendix Table B3).

Panel C takes an alternative approach. Rather than assuming a smooth functional form in distance, Panel C flexibly controls for travel distance bin fixed effects. To do this, we first divide individuals from nVBT villages into decile bins based on their village's average travel distance to the training center. We exclude VBT villages when creating the distance thresholds for these bins so that the first bin is not too small. We then use the bin thresholds to categorize all individuals (from both VBT and nVBT villages) into a given travel distance bin (we control for analogous $AveDist_i$ bins using the bin cutoffs for the $Dist_i$ measure). This process ensures that an adequate number of individuals from villages both with and without training centers fall into each bin to calculate an impact of the village boundary. This more demanding specification shows similar boundary effects to the main regressions in Table 4 along all four stages of take-up.

Finally, Panel D of Table 5 takes this specification a step further by implementing what is akin to a "Regression Discontinuity" style design. Note that this is unnecessary for causal inference—distance is exogenous given our intervention design, so we obtain correct causal inference in our basic specification. However, in order to further minimize concerns about the true functional form of distance and its implication for the measured boundary effect, we restrict the comparison to those villages where a training center is located less than 4 km from the population center, either within the village boundary or outside (i.e., within the first two travel distance bins), so we are comparing households that face similar (and relatively small) travel distance to the training center. We also control for travel distance within this narrow bin—analogous to an RD design where one also controls parametrically for the running variable and looks for a "jump" at the discontinuity (i.e., the village boundary). Panel D shows that the boundary effect remains robust and is, in fact, even slightly larger. Figure 2 presents the results non-parametrically by plotting the distance means of each village within these bins, showing a clear gap in take-up between VBT and nVBT villages with similar travel distance. This final test provides further evidence of how robust the boundary effect is.

4.1.3 Additional Boundaries

While our results so far demonstrate the large, negative effect of crossing a village boundary on take-up rates, the village boundary is potentially just one of several "boundaries" women may have to cross when leaving their households. Our focus on the village boundary is driven both by our prior belief that this is likely to be significant, but also by our ability to cleanly isolate the impact of this boundary through the experimental variation induced in our interventions. In this section we explore additional boundaries *within* the village and *outside* of the village. Our results for the former employ non-experimental variation. The latter exploits experimental variation arising from our design.

Within Village Boundaries: A typical village has several settlements—smaller groupings of households that signify sub-communities in the village—separated by empty or agricultural land; the median village in our sample has eight settlements.[24] Therefore, settlements present a natural and potentially salient boundary. Using the same strategy as described in Section 4.1, we can estimate the impact of crossing a settlement border to reach a training center in addition to the effect of crossing the village border. Table 6 reports results similar to those in Table 4 and includes an additional indicator variable for a training center located within the individual's settlement (SBT). Since training centers were not randomly assigned to settlements within villages, these results should be interpreted with some caution.

Panel A shows that there is an additional SBT effect for all outcomes except voucher acceptance. Positioning the training center in a woman's own settlement leads to a 9-12 percentage points higher take-up rate (for voucher submission and class enrollment/completion) over and above the 21-30 percentage point increase due to its presence in her village. For example, Column 7 shows that for course completion rates, positioning a training center in a woman's settlement leads to a 33 percentage points higher enrollment (21 for the in-village effect and an additional 12 for the in-settlement effect). Panels B includes linear cluster-level travel distance controls to better isolate the settlement and village boundary effects and the per-km costs.[25] Panel A in Appendix Table B4 shows similar results when using a quadratic specification. Overall, the suggestive evidence of a settlement boundary effect is strongest and most robust for our final measures of take-up—course enrollment and completion.

Outside Village Boundaries: Apart from boundaries *within* a village, there are also boundaries outside one's village. For example, if a woman has to pass through multiple villages on her way to a training center, each additional village may present another boundary that could influence her take-up. Given our experimental design, the number of village borders between each pair of sending and receiving villages is also random. To explore the role of village borders, we used Google Maps to identify the likely routes that a woman could take to reach the closest VBT village and counted the number of villages that she would encounter en route (inclusive of her destination village). Panels C-D of Table 6 presents the results of regressing program take-up on the number of boundaries one has to cross to get to the training

[24] We use settlement definitions used in the national census exercise conducted by the Federal Bureau of Statistics of Pakistan.

[25] Recall that the cluster-level distance measure is based on a smaller (than settlement) grouping of households identified by our data collectors. Using it as the distance control allows to introduce finer variation.

center. For ease of interpretation, we set the training villages (the VBT group) as the omitted category (hence the sign of the boundary effects will be reversed) and separate the villages without a training center based on how many village borders a woman would have to cross before reaching the training facility. We find that it is really only crossing the first border that matters i.e., the negative effect on take-up shows up on crossing the first (village) boundary and there is no consistent additional negative effect after that. In other words, it is the action of *leaving* one's village, rather than the number of villages one has to cross after the initial departure, that has a negative relationship with program take-up. Panel B in Appendix Table B4 shows similar results when using a quadratic specification in distance. While in our primary table we only consider one versus two and more borders, our results are similar if we separately consider the impact of crossing additional borders.[26]

Together, our results present an interesting and nuanced picture. Boundaries at and within a village matter, whereas once a woman leaves her village, while distance traveled still matters (take-up drops with distance), additional (village) boundaries do not seem to have a detectable adverse impact. This provides further evidence that the distance penalties we observe arise from concerns that are generated as a woman exits the confines and safety of her community/village. We will further examine these and related factors in Sections 4.3 and 4.4

4.2 Economic Significance of the Boundary and Distance Constraints

Our experimental design allows us to leverage exogenous individual-level variation in the monthly stipend amount to estimate the economic magnitude of the distance and boundary effects. In order to do so, we first estimate how much take-up rates (for each of our four different measures) are impacted by an increase in stipend amounts. Using the resulting estimate of the causal impact of money paid on individual take-up rates, we can then calculate how much extra stipend must be offered to induce a similar take-up rate change as the distance and boundary effects.

Panel A of Table 7 shows the causal impact of stipend on take-up rates by including the (exogenously assigned) monthly stipend amount in our primary specification. A PKR 1,000 (~$10) increase in the monthly stipend raises take-up rates by 4, 5, 4, and 4 percentage points

[26] Appendix Table B5 also shows results where we divide the villages without a training center into roughly five equally sized bins, where we separately consider the effects of crossing one, two, three, four, or five and more borders. Note that these bins are "nested" for the sake of readability. Thus the first indicator "Crossed 1st Boundary" will take a value of 1 for all villages which did not have a training center (i.e., what we referred to as nVBT villages before). Therefore each subsequent measure captures the *additional* impact (if any) of crossing an *additional* border—which is what we are in fact interested in isolating. While we use travel distance in these tables, our results are similar if we use straight-line distance.

respectively for the four increasingly demanding take-up measures.

Panel B then translates the stipend effect into the monthly stipend amount needed to replicate the full effect of having in-village training. Women in the average village would have to be paid an additional PKR 6,308-7,951 per month to achieve the same level of take-up as women who had a training center in their village. This additional monthly stipend corresponds to 66-84% of average monthly household expenditures reported in our pre-training survey and would imply an additional transfer of PKR 25K-32K to each individual over the four-month training period.

Panel C separates the implied economic value of VBT treatment into the financial transfers needed to overcome the boundary effect and the per-km costs (using coefficients from Table 4, Panel D and Table 7, Panel A). We find that the additional stipend necessary to induce a woman to simply cross a village boundary is PKR 3,686-5,212 per month, approximately the median monthly household non-food expenditures in our pre-treatment survey. Once past the boundary, she would then require PKR 273-402 per additional km traveled. Since we account for distance in this estimation (Table 4, Panel D), the boundary-crossing compensation does not represent compensation for standard travel or time costs, but rather an economic measure of the additional and discontinuous access barriers faced by women in our context.[27] To our knowledge this is the first precise estimate of the economic magnitude of such access barriers in the literature.

The boundary effect already implies that these costs are not readily reconciled with standard economic costs of travel and (opportunity cost of) time. However, we can go a step further and compare the stipend compensation estimated in Table 7 with plausible estimates of travel costs. To do this, we take advantage of the fact that our distance mapping exercise also measured commute and wait times for the various public transport facilities (bus, qingchi/auto-rickshaw, and motorbike) available in each sample village to travel to the (nearest) training center as well as the transport fares paid. Our results show that our stipend compensation amounts are substantially larger than (generous) estimates of travel costs (fare and time) when using public modes of transport.

We estimate that the median woman in our sample would incur additional costs of approximately PKR 1,500 per month if she were to travel outside her village for training using public qingchi (one of the most common modes of transport), compared to attending training

[27] These estimates are even larger if we include the settlement boundary effect we noted in Section 4.1.3. Appendix Table B6 uses the estimates from Panels A and B in Table 6 to provide the equivalent economic magnitude of crossing the village and settlement boundaries. For example, using Panel A Column 8 shows that a household must be paid 7,689 PKR a month (5,119 for the in-village effect and an additional 2,570 for the in-settlement effect) to allow a woman to attend a training that is both outside her settlement and village.

in her own village. Even having included generous assumptions on the opportunity cost of time (valuing wait and travel time for each trip at the hourly wage during peak labor season), these total travel and wait costs are only a fourth to fifth of the compensatory stipend estimates obtained in Table 7.

Moreover, our results suggest that even the $per-km$ travel compensation (over and above the boundary-crossing compensation) may be hard to reconcile with standard travel costs. In order to see this, Appendix Table B7 presents reported data on actual fares (per trip) paid for different modes of transport. Columns 1 to 3 show the *additional* per-km fare that needs to be paid for the three public transport modes, which at PKR 57-73 per-km traveled each month are substantially smaller than the PKR 273-402 per-km extra compensation we estimated in Panel C of Table 7.

4.3 Understanding & Addressing the Access Constraint

The previous sections have demonstrated the effect, size, and economic significance of the distance penalties in terms of both the per-km travel costs and the boundary effect. Our results also suggest that the boundary effect (and possibly the per-km costs as well) captures a cost other than standard economic costs associated with travel. We now turn to experimental evidence from the (three) other interventions designed to address the distance-induced access constraints. While these interventions are of independent interest, they also shed light on what factors may underlie these distance barriers especially societal and safety constraints regarding travel outside the community.

The additional interventions are intended to alleviate access barriers that could arise from information, social, and transportation concerns that are exacerbated when training is outside one's village. These interventions were designed in consultation with the major local training service providers: (TE) a trainee engagement session conducted in each village to increase knowledge of what the training involved; (CE) a community engagement exercise to address societal level constraints by inviting community elders and others to a village-level meeting to discuss their concerns with the course; and (GT) ameliorating transportation concerns by providing secure and reliable group transportation for women to attend training outside their villages.[28] The efficacy of these interventions (or lack thereof) sheds light on potential channels at play in generating the per-km distance effect and the boundary effect documented

[28] Importantly, both TE and CE are representative of a broad set of interventions in regular use by training organizations that have begun to attract attention from researchers (Klugman et al. 2014; Dean and Jayachandran 2019; Jayachandran 2021; McKelway 2021).

above. Table 8 presents the impact of each of these treatments on our four take-up measures and allows us to contrast them with the per-km distance and boundary effects observed.

Information: We first consider informational failures. Addressing informational gaps as well as any related questions by potential trainees was a key part of the Trainee Engagement (TE) treatment. The lack of any discernible (positive) impact of TE across all of the take-up measures shows that information failures were unlikely to have been important factors behind access barriers. Moreover, because TE was cross-randomized with village-based training, we can interact it with the VBT dummy to check whether information provision under TE was especially effective when the training was outside one's own village. As shown in Appendix Table B8, we find no evidence that TE was more helpful when the training was outside the village.

Community: The Community Engagement (CE) treatment variation added engagement with the wider (village) community in an effort to address any questions and concerns they might have. While CE did not have any impact on voucher submission, class enrollment or completion, it did have a fairly large but *negative* impact on voucher acceptance (9 to 10 percentage points). When we look at the fully interacted model (Appendix Table B8), we find that this negative impact of CE on voucher acceptance is driven entirely by villages where the training was outside the village (nVBT villages). CE suppresses voucher acceptance by over 19 percentage points in such villages. While the fact that this treatment did not improve eventual course completion is disheartening from a policy perspective,[29] these results are quite revealing in interpreting the access barriers we find. First, they demonstrate that social factors are at play (given TE had no overall negative effect and CE, which simply added wider community members to the engagement, did). Second, given the negative impact only occurs when the training course was located outside the village, this suggests that the social concerns were related specifically to a woman's leaving her village for the training (as opposed to social concerns regarding another aspect of the training). Third, the fact that the negative impact of CE does not arise for subsequent stages of take-up suggests the meetings raised concerns (earlier) that these women would have faced subsequently in any case (even before they were able to submit a voucher), i.e., the CE treatment dissuaded the subset of women who would have ultimately dropped out from even accepting the voucher.

Transportation: Finally, we turn to the constraints that arise from transportation con-

[29]We should acknowledge that a stronger form of community engagement, perhaps one which lasted over a longer period and was more involved, might have been impactful. That said, these meetings were organized and delivered by local organizations that routinely conduct such mobilizations and followed best practices. Our results offer a sobering reminder that addressing social barriers, especially those that may entail changing (restrictive) social norms, is a difficult and costly exercise and one that may take months if not years to materialize.

cerns. We find that the secure group transport (GT) intervention has a large, positive impact on all but the first stage of take-up (Table 8). For course completion the GT impact is roughly two-thirds the size of the village boundary effect. Recall that the GT treatment is only offered in villages that did not have a training center. Therefore, providing appropriate group transport goes a long way in compensating for the penalty that women faced when crossing the village boundary, reducing the gap in course completion rates between VBT and nVBT villages by more than two-thirds. Interestingly, the importance of such dedicated transport is consistent with our previous results where we estimated that the amount of stipend women needed to compensate them for travel outside the village. While we estimated the compensatory amount was 4-5 times the cost of *public* transport (fare plus opportunity cost of wait and travel time), it was closer to the cost of travel via a *private* mode of transport. Specifically, using the fare estimates from Column 4 in Appendix Table B7, along with valuing commute time at the prevailing wage rate, we estimate that the median woman in our sample would incur additional costs of around PKR 5,000-6,000 a month if she were to travel to training on a private motorbike. While still a bit lower, this is closer to the PKR 6.5-8K monthly stipend compensation we obtained in Table 7. This suggests that group transport partly helped by providing a dedicated, safe, reliable, and socially acceptable mode of transport—much like a private transport mode would.

An alternate reason why group transport works (even when public transport services are available) is that by offering such a service, we may be capturing positive peer effects instead of transportation effects (i.e., as women travel to the training together, perhaps such pairing of women encourages them to overcome the access barriers they face). While the fact that the stipend compensation needed is similar to the cost of private transport already suggests such group effects may not be first order, we can test this further by taking advantage of an additional individual-level randomization in which we also provided a voucher and stipend to the neighbors of a (randomly selected) subset of women. If peer effects are driving the positive GT results, we would expect the neighbor's offer to positively impact an individual's take-up decision. However, we find no such effect (Appendix Table B9), suggesting that peer effects cannot adequately explain the GT effect. In addition, we can also take advantage of the fact that while stipend varied at the individual level, there was also (random) variation in stipend across villages. Thus, we can look at the effect of both the individual and average (village-level) stipend. We know that the individual stipend positively affects take-up. If peer effects (at the larger village level) were important, one would expect the average stipend in a village (which affects village-level take-up) to have a positive impact on an individual's take-up over and above the effect of the stipend she received. Appendix Table B10 shows this is not the case, offering further evidence that peer effects are not as relevant in affecting take-up.

We can gain further insights into boundary effect by examining interactions between GT and other (randomized) interventions. While we did not offer GT in VBT villages, we assigned both GT and CE simultaneously to some nVBT villages. Appendix Table B8 shows that the interaction between GT and community engagement is positive and marginally significant at the voucher acceptance stage (p-value of 0.12). Recall that the negative impact of community meetings at the voucher acceptance stage was not present for women in VBT villages. Analogously, we see that this negative effect of community engagement on take-up is also mitigated for nVBT villages that received group transport. Community engagement only negatively impacted voucher acceptance in villages that received neither a training center (in the village) nor reliable transport, suggesting that providing *either* in-village training or secure group transport mitigated whatever objections to training the community members raised.

Finally, we dig a bit deeper into why transport matters by taking advantage of the fact that before women decided on their course choices, we asked them what mode of transport they would likely use if they were to attend the training. Since the location of the training center was provided to them at the time (including whether it was in their village or outside and what distance it was located at) women responded with the specific mode they would likely use for the actual location. This allows us to examine whether women also display a "boundary effect" in their desired mode of transport. Table 9 shows that this is indeed the case. Columns 1 and 2 (specifications with and without controls respectively) of Panel A shows that while the likelihood that a women intended to walk to the training center is indeed dropping in distance as one would naturally expect, there is still a boundary effect i.e., even adjusting for distance traveled, women are significantly more likely to say they would walk if the training center is located inside their village.[30]

A potential concern here may be that there is a mechanical heuristic/physical constraint that creates a discontinuity, and this coincides with the village border i.e., as long as the distance is less than "X" kms one can walk but beyond that one has to take some other form of transport. Since our sample villages vary a fair bit in size and households also vary in terms of how far from the village border they live, we do not think this mechanical effect is

[30] While our data has multiple modes of transport ranging from walking, bicycling, taking a (private) motorbike/qingchi, and taking public transport (bus/qingchi), in reality the commonly used transports are split between walking, and (private) motorbike and qingchi. We therefore focus in our analysis on the decision to walk or not as that presents the biggest cost contrast with the others modes.

likely (since the distance to village border will constitute a fairly large band and not present a sharp discontinuity at a fixed distance). Nevertheless, Columns 3 & 4 of Panel A can test directly for this by taking advantage of our smaller "RD-sample". Recall that we can restrict our sample of VBT and nVBT villages to those where a training center is located less than 4 km from the population center, either within the village boundary or outside, so we are comparing households that a relatively small (and physically walkable) travel distance to the training center. We also control for travel distance within this narrow bin—analogous to an RD design where one also controls parametrically for the running variable and looks for a "jump" at the discontinuity (i.e., the village boundary). Our results in Columns 3 and 4 show that the boundary effect, while slightly smaller, remains robust. This suggests that the boundary effect observed in the desired preference to walk is not just due to a physical distance consideration but is impacted by a woman having to leave her community.

Panels B-D takes these checks even further by adding more demanding distance controls (logarithm, quadratics, and even discrete distance bins to capture further discontinuities). These additional checks show that even in the limited RD sample and with such extensive distance controls, the boundary effect for desired transport mode remains. The lower likelihood of walking as the intended commuting mode is therefore unlikely to be due to simple distance effects but rather driven by considerations regarding what is safe & appropriate when traveling outside one's village. [31] We turn to the issue of security in more detail next.

4.4 Boundary Effect and Security

To the extent that leaving the village exposes women to less populated and potentially unsafe and unmonitored areas, these concerns could be driven by both real and perceived safety issues. We shed light on this by drawing on both non-experimental and experimental evidence.

First, we check whether women who (at baseline) reported they were more concerned with safety issues show a differential boundary effect. Appendix Table B12 suggests that this may indeed be the case. Specifically, women who self-report feeling unsafe are 7 to 10 percentage points less likely to take up the training when it is outside their village. However, when the training is in their own village, these women show no difference in take-up rates compared to other women. What is important here is both that the coefficient on the interac-

[31] We can also replicate Table 6 and Appendix Table B4 by seeing if the intended mode of transport also shows additional boundary effects. Appendix Table B11 shows that are results are very similar to before. We do see a boundary effect for both settlement and village boundaries (walking is less likely to be preferred when one has to cross either) and this effect only shows up when crossing the first (village) boundary and not for subsequent village boundaries.

tion term between safety concerns and the VBT dummy is positive and that it is comparable in magnitude and of the opposite sign to the negative coefficient on the safety concerns variable itself. In other words, our results show this factor (safety concerns) ONLY matters when the training is outside the village. Taken together this is highly suggestive that the boundary effect is indeed partly due to such safety considerations. Since such concerns don't seem to matter when the training is inside the village, this suggests that these security concerns are primarily evoked once women have to cross their village boundaries and travel outside. [32]

Second, we utilize experimental variation to further explore the role of insecurity as a mechanism. To do this, we require an external and measurable proxy for insecurity. The literature on gender-based violence has underlined how verbal and physical sexual harassment by strangers often occurs when women are alone (Mahajan, Sekhri, et al. 2020; PCSW 2018; Simic 2021). In terms of physical geography, the literature on developing countries shows that the risk of violence is higher when facilities are located far from home and women must traverse isolated, open and secluded places (McIlwaine 2013; Moser and McIlwaine 2004; Bapat and Agarwal 2003; Jewkes and Abrahams 2002). Accordingly, we use underpopulated spaces as a proxy for the risk of physical insecurity for women. To identify such spaces, we use WorldPop geo-spatial population data which draws on census data and a range of physical features to predict population density of each 100m$\times$100m grid cell on earth (Stevens et al. 2015).[33] We use these data to calculate population density at each cell along the straight-line paths from the cluster-level centroids to the nearest training center.[34] Then, to characterize insecure paths we define a dummy variable equal to 1 when the path has at least 500 meters of

[32]Interestingly, we do not find similar effects for male perceptions of safety or reported crime rates in the community. We should caution that these results are speculative since they make use of non-experimental variation and was not something we had anticipated prior to analyzing the main experimental results in the paper. In light of the large and robust boundary effect, we realized examining such heterogeneous boundary effects could provide additional insight into the mechanisms at play and therefore filed an analysis plan (see https://www.socialscienceregistry.org/trials/4068) before examining these results to discipline the analysis. Interestingly, the only pre-specified variable which seem to part of the boundary effect (i.e., has an impact in nVBT villages but not in VBT villages and therefore is a factor that is likely related to crossing the village boundary) was female perceptions of safety. While a range of other variables (like women's stated desire to enroll, socio-economic status, household size, and agency within the household) affected take-up in VBT villages, they did not show any robust impact in nVBT villages (i.e., they do not display the same pattern as women's safety perception where the sign on the interaction term with the VBT dummy is of equal magnitude but opposite sign to the main effect). This suggests that these variables, while important for take-up in general, were unlikely to be related to concerns raised when crossing the village boundary (regressions not shown).

[33]The population density raster has a 3 arc second resolution (approximately 100m at the equator).

[34]Since we do not have the actual traveled paths charted on a digital map (as measured by the travel distance variable), we can only construct these measures for straight-line distance measures. To the extent that this generates a noisier proxy for underpopulated segments on the actual travel path a woman would have to take, we believe our estimates will be attenuated and therefore likely provide underestimates of the importance of this underpopulation factor.

an underpopulated segment, which we define as path segments through grids with population density below the median population density observed along all travel paths in our sample.[35]

Table 10 includes this variable in our primary specifications from Table 4 to examine how its inclusion affects the boundary effect. Specifically, one way to think about how much of the VBT effect is due to such security risk is to examine how much the main VBT effects are attenuated by its inclusion. To make the comparison straightforward we report in the bottom part of Table 10 the percentage change in the main VBT coefficients from controlling for underpopulated travel segments. [36]

Across all the specifications, we find that whether the travel path includes at least a 500m underpopulated segment has a large negative effect on take-up, and even more tellingly, it noticeably reduces the VBT effect, even when controlling for distance very flexibly. For example, Columns 7-8 in Panel A show that having to travel through an underpopulated segment depressed course completion rates by 9-10 percentage points and led to the main VBT effect dropping by 22%. In fact, Panel C shows that the boundary effect drop is as large as 19-41% when we control for quadratic straight-line distance effects. While including these population density controls do not eliminate the boundary effect, this is expected as we do not have an accurate measure of true security exposure on the actual path traveled by women. However, the fact that the boundary effect is attenuated, does strongly suggest that concerns due to traversing underpopulated areas are indeed quite important. As a further exercise, we also assess the impact of including this measure in Tables 5 and 6, as shown in Tables B14 and B15.[37] As before, we find that the VBT coefficient is always attenuated when accounting for these underpopulated areas. We also find similar reductions in the settlement boundary (SBT) effect (Table B15). What is particularly compelling is that even in our "RD" design (Panel D of Table B14) including the underpopulated travel paths control notably reduces the boundary effect. These results are robust to using 250 meters to define the underpopulated

[35]The median is calculated from the distribution of the mean population density of each path. The median value used as cutoff for our dummy is 3.44 people per 100 square meters. The average number of people per cell in the whole raster is 3.8. To give a sense of cardinality, this compares to the mean population density of Lahore and Karachi, which have a mean population density of 39 and 29 people per 100 square meters, respectively. Using this definition there are 3,012 households (59% of the sample) with at least 500 meters of underpopulated space across the paths.

[36]Table B13 in the Appendix re-estimates Table 4 (not including the underpopulated travel paths dummy) using the same restricted sample as in this Table 10. The sample size is reduced from the main table as not all observations had GPS data. We report reduction from the Table B13 coefficients as that is the appropriate comparison to make. Standard F-test for nested models show that including the underpopulated dummy in the main model results in a statistically significant increase in model fit in all regressions.

[37]As before we compare the change in the VBT effect using the estimates in the restricted sample of households for which we have GPS coordinates. Tables B16 and B17 reproduce tables 5 and 6, respectively, using the restricted sample.

dummy. Table B18 in the Appendix reproduces Table 10 while reducing in half the required length of the paths across underpopulated spaces -from 500 to 250 meters- for our dummy to be equal to 1. Results from this modification are qualitatively the same. Further examination reveals that it is really whether one crosses an underpopulated segment on the travel path that matters rather than the average population density along the path. Specifically, Table B19 in the Appendix shows that including both the underpopulated segment dummy variable and average population density on the straight-line path shows only the former having an effect.[38]

In summary, our analysis of the impact of the additional randomized interventions, the importance of secure group transportation, and results in this section on travel security further our understanding of the boundary effect observed. First, this effect seems to be less about informational failures or the standard financial cost of travel. Women are less willing to walk when the course requires them to move outside of these boundaries and offering secure transport goes a long way in overcoming these travel and boundary constraints. Second, our results suggest that group transport likely mattered because it was designed in a manner (based on community feedback and employing community-based male drivers) that addressed (community and individual) concerns related to safety issues that arise when women travel outside their communities. In direct support of this, we find that both perceptions regarding safety and whether the travel path is underpopulated affect the boundary effect. Taken together, these results suggest that one reason settlements and villages are places of reduced risk is physical geography; when there are many residences nearby, women are less likely to be harassed or suffer worse crimes. Some, but perhaps not all, of the boundary effect is likely driven by such safety considerations.

5 Conclusion

Our paper highlights the importance of access constraints women face in emerging economies, especially those related to travel outside of their communities. We find that these barriers are large and not readily reconcilable with standard costs of travel and document a stark "boundary effect," whereby training take-up for women falls substantially when they cross the village boundary. As women continue past the boundary, they also experience per-km travel

[38] To see why our measure and mean density both measure different features of the world imagine two paths with 5 segments. Along path A the 2nd and 3rd segments have population density 0.5, while the rest have a population density of 8. On path B, all segments have a population density of 5. Even though the mean population density for both paths is 5, the two segments would be entirely different in terms of security for women. The first would require them to travel through underpopulated space and thus be exposed to higher risk.

costs substantially greater than standard economic costs would imply. Our results suggest that these large costs are likely generated by individual and societal constraints that women face, especially regarding safety, when leaving their own community. These barriers have important welfare and distributional consequences for rural women and their households. Our related work shows that the skills training studied here has economic and non-economic benefits for the trainees and their households. And the same access issues women face in acquiring skills may also prevent them from deploying skills. Our results show that connecting female trainees to external-to-village (input and output) markets substantially increases their returns (Cheema, Khwaja, Naseer, and Shapiro 2021).

Our analysis highlights a critical program design trade-off. Distributing training and other services to small rural villages is expensive as one loses economies of scale and has to pay for more travel and distribution of training inputs. Yet without substantially compensating women for the additional costs of travel we have highlighted, take-up will be quite low outside the immediate area around a training facility. By cross-randomizing service accessibility and stipend, implementers can quantify such trade-offs to make better informed program design decisions.

More broadly, our paper also shows that while it may be quite hard to change such constraints in the short run, there is room to work creatively within them. Although our efforts to work with the community to address their concerns regarding female mobility had limited impact, providing a community-vetted and safe transport service for women to travel outside their village did help mitigate the boundary effect.[39] It remains to be seen whether doing so will enable creating safer spaces for women and changes in norms and attitudes regarding female mobility in the long run. We hope to shed further light on this in subsequent work.

[39]Preliminary cost-benefit calculations suggests that our projects costs are quite comparable (in achieving similar take-up rates) whether we set up a training center in a village, or arrange appropriate group transport for them to do so (the latter is a bit higher). In contrast, paying women an additional stipend to travel to another village is substantially more expensive (about 30-40% higher). Since our group transport was not done at scale or cost-efficiently relative to the village-based training, it is plausible that the transport option may ultimately offer the most cost-effective solution, especially if the increased mobility generates other (longer-term) benefits.

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Main Tables and Figures

Figure 1: Effect of Distance on Take-up

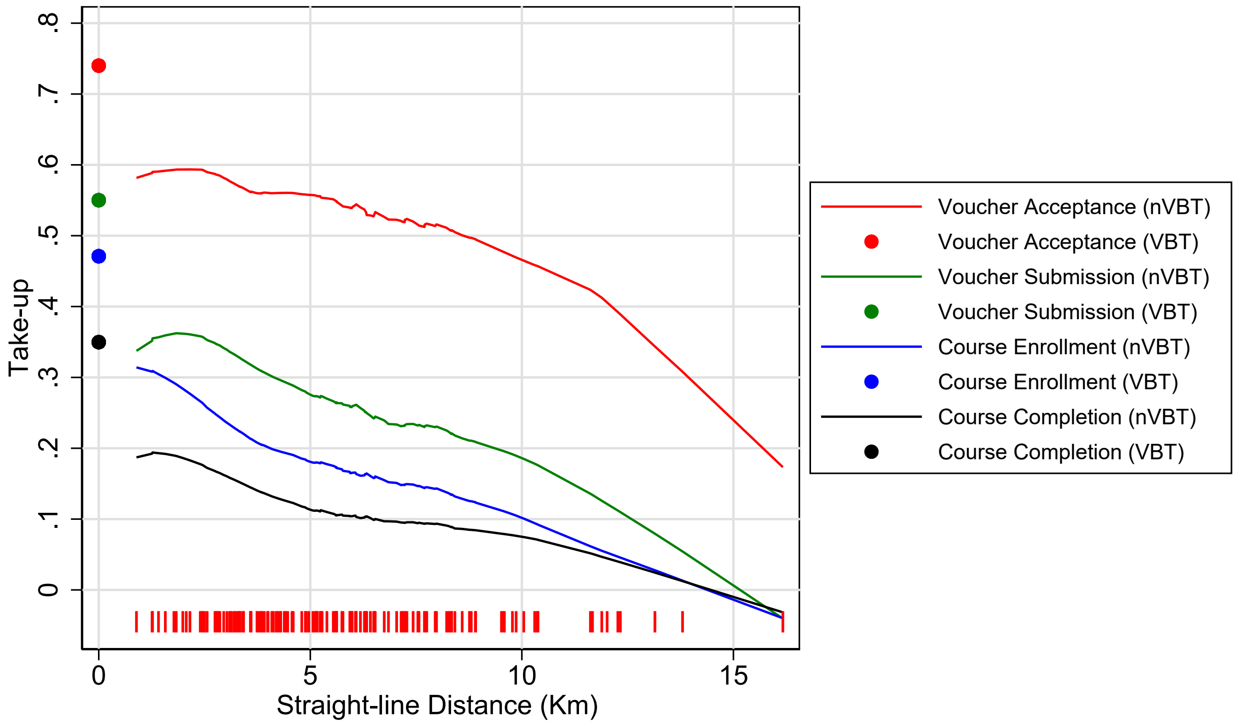


Figure 2: Outcome Mean by Distance (Travel Distance to Training Center <= 4 km)

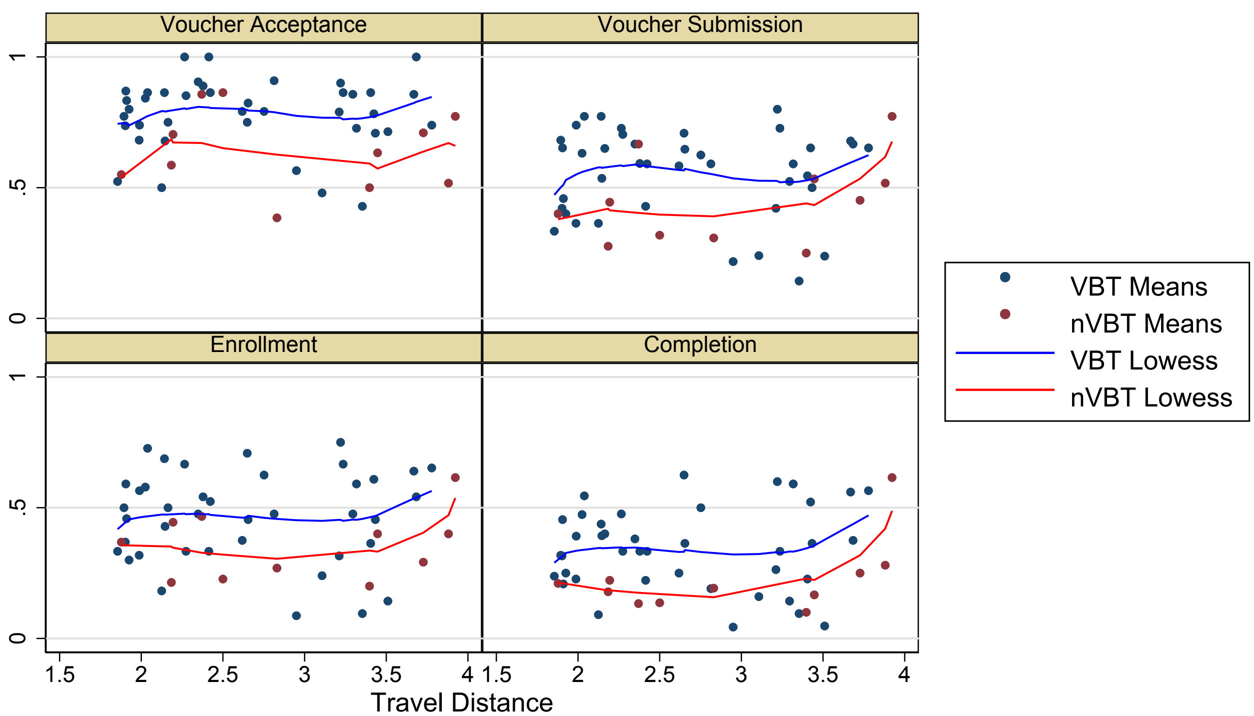


Table 1: Village and Household Count by Treatment Branch

	Village Based Training	non-Village Based Training
Baseline Intervention	42 (1052)	27 (692)
Trainee Engagement	39 (980)	27 (663)
Community Engagement	27 (687)	27 (704)
Group Transport		27 (704)
Group Transport + Comm. Engage.		27 (672)

Notes: Each cell reports the number of villages in each treatment branch. The number of households in each treatment branch is shown in parenthesis. Group transport was not provided in VBT villages by design.

Table 2: Village and Household Count by Stipend Bucket and Amount

Top-Up Amount (PKR)	Household Count
0	2,563
500	280
1000	413
1500	563
2000	544
2500	529
3000	406
3500	419
4000	293
4500	144

Notes: The table reports the total number of households which received each level of stipend top-up.

Table 3: Summary Statistics

	Mean	Std. Dev.	Min	Max
Household Variables:				
Monthly Income (000s in PKR)	11.56	7.00	0.00	150.00
Size	6.57	2.87	1.00	31.00
Punjabi	0.47	0.50	0.00	1.00
Asset Index	-0.00	0.96	-1.13	9.56
Trainee Variables:				
Married	0.69	0.46	0.00	1.00
Has Formal Education	0.34	0.47	0.00	1.00
Paid Work	0.33	0.47	0.00	1.00
Able to Stitch	0.33	0.47	0.00	1.00
Stitched Last Month	0.06	0.23	0.00	1.00
Village Distance Variables:				
Straight-Line Distance (Km)	3.22	3.64	0.00	16.17
Cluster-level Travel Distance (Km)	6.14	5.59	0.04	36.20
Travel Distance (Km)	6.10	5.29	0.17	24.21
Outcome Variables:				
Voucher Acceptance	0.63	0.48	0.00	1.00
Voucher Submission	0.40	0.49	0.00	1.00
Class Enrollment	0.30	0.46	0.00	1.00
Class Completion	0.22	0.41	0.00	1.00

Notes: Table reports summary statistics for all variables used in analysis. Married, Formal Education, Able to Stitch, Stitched Last Month, and Engaged in Paid Work are dummy variables repsenting the share of our sample belonging to that category. Straight-line distance is the distance from each nVBT village's centroid to the nearest VBT village's centroid based on GPS. Cluster-level Travel Distance is the physically measured distance from each cluster to the training center by a surveyor on a motorcycle. Travel Distance is the measured distance from the population centroid of the village to the training center.

Table 4: Effect of VBT

	Voucher Acceptance		Voucher Submission		Class Enrollment		Class Completion	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
No Distance Measure								
Panel A: Boundary Effect only								
Village Based Training	0.22***	0.23***	0.32***	0.33***	0.34***	0.35***	0.27***	0.28***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)
Distance Measure 1: Straight-Line distance								
Panel B: Linear specification								
Village Based Training	0.11**	0.09*	0.19***	0.19***	0.21***	0.23***	0.19***	0.20***
	(0.05)	(0.05)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)
Straight-line Distance	-0.02***	-0.02***	-0.02***	-0.02***	-0.02***	-0.02***	-0.01***	-0.02***
	(6.88e-03)	(6.76e-03)	(4.91e-03)	(4.88e-03)	(3.97e-03)	(3.86e-03)	(3.26e-03)	(3.09e-03)
Panel C: Quadratic specification								
Village Based Training	0.21***	0.22***	0.20***	0.24***	0.18***	0.23***	0.15***	0.19***
	(0.07)	(0.07)	(0.07)	(0.07)	(0.06)	(0.06)	(0.05)	(0.05)
Straight-line Distance	0.02	0.02	-0.02	-0.01	-0.03**	-0.02	-0.03**	-0.02
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)
(Straight-line Distance)^2	-2.57e-03**	-3.10e-03**	-2.19e-04	-1.16e-03	7.55e-04	-1.69e-04	8.65e-04	7.52e-05
	(1.28e-03)	(1.20e-03)	(1.02e-03)	(1.04e-03)	(9.20e-04)	(9.44e-04)	(7.07e-04)	(7.40e-04)
Distance Measure 2: Travel distance								
Panel D: Linear specification								
Village Based Training	0.13***	0.13***	0.17***	0.19***	0.20***	0.22***	0.17***	0.19***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)
Travel Distance	-0.01***	-0.01***	-0.02***	-0.02***	-0.02***	-0.02***	-0.01***	-0.01***
	(4.19e-03)	(4.13e-03)	(3.12e-03)	(3.17e-03)	(2.58e-03)	(2.66e-03)	(2.07e-03)	(2.20e-03)
Panel E: Quadratic specification								
Village Based Training	0.15***	0.16***	0.11**	0.14***	0.15***	0.18***	0.12***	0.16***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)
Travel Distance	-0.01	0.00	-0.04***	-0.04***	-0.04***	-0.03***	-0.03***	-0.03***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
(Travel Distance)^2	-2.85e-04	-6.68e-04	1.14e-03***	9.16e-04**	1.04e-03**	8.70e-04**	9.01e-04**	7.14e-04**
	(5.19e-04)	(5.01e-04)	(4.39e-04)	(4.30e-04)	(4.19e-04)	(4.00e-04)	(3.56e-04)	(3.44e-04)
Obs.	5873	5348	5873	5348	5393	4900	5393	4900
Mean of nVBT (Info) Group	0.61	0.63	0.24	0.25	0.12	0.13	0.08	0.08
Controls		X		X		X		X

Notes: OLS regressions of take-up variables on treatment and distance. Group Transport dummy control included in all specifications, and an Average Distance control included with the same functional form as distance. Straight-Line Distance is the GPS distance from the voucher holder's house to nearest training center and is constrained to be 0 for all VBT voucher holders. Travel Distance is the measured distance from the population centroid of the village to the training center. Controls include other treatment dummies, stipend amount dummies, household assets, household income, stitched last month, individual skill/employment/education/marital status, as well as indicators of female empowerment. Within outcomes observations change due to missingness in control variables. Moving from Submission to Enroll/Complete, observations change because respondents had to be randomly balloted out after submission due to course capacity constraints. Standard errors clustered at the village level reported in parentheses. * $p<0.10$, ** $p<0.05$, *** $p<0.01$

Table 5: Alternative Distance Controls

	Voucher Acceptance		Voucher Submission		Class Enrollment		Class Completion	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Logarithmic specification								
Village Based Training	0.16***	0.17***	0.15***	0.18***	0.19***	0.21***	0.16***	0.18***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)
Log. Travel Distance	-0.03*	-0.03*	-0.09***	-0.08***	-0.08***	-0.08***	-0.06***	-0.06***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)
Panel B: Fifth order polynomial of travel distance								
Village Based Training	0.14***	0.17***	0.11**	0.15***	0.16***	0.19***	0.13***	0.16***
	(0.05)	(0.04)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)	(0.04)
Travel Distance	0.04	0.03	-0.03	-0.03	-0.04	-0.05	-0.04	-0.04
	(0.05)	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)	(0.04)
(Travel Distance)^2	-1.57e-02	-8.01e-03	-1.55e-03	1.92e-03	6.21e-03	8.73e-03	5.26e-03	9.91e-03
	(1.71e-02)	(1.71e-02)	(1.50e-02)	(1.49e-02)	(1.30e-02)	(1.30e-02)	(1.08e-02)	(1.07e-02)
(Travel Distance)^3	1.93e-03	8.07e-04	1.36e-04	-2.79e-04	-9.61e-04	-1.22e-03	-7.89e-04	-1.38e-03
	(2.17e-03)	(2.19e-03)	(1.81e-03)	(1.80e-03)	(1.53e-03)	(1.54e-03)	(1.27e-03)	(1.27e-03)
(Travel Distance)^4	-1.01e-04	-3.98e-05	8.92e-07	1.97e-05	6.11e-05	7.05e-05	5.01e-05	7.84e-05
	(1.13e-04)	(1.15e-04)	(9.14e-05)	(9.12e-05)	(7.60e-05)	(7.70e-05)	(6.31e-05)	(6.37e-05)
(Travel Distance)^5	1.87e-06	7.20e-07	-1.27e-07	-4.21e-07	-1.25e-06	-1.36e-06	-1.02e-06	-1.49e-06
	(2.04e-06)	(2.09e-06)	(1.61e-06)	(1.62e-06)	(1.33e-06)	(1.35e-06)	(1.10e-06)	(1.12e-06)
Panel C: Distance bins								
Village Based Training	0.10**	0.13***	0.11**	0.14***	0.16***	0.19***	0.13***	0.17***
	(0.04)	(0.04)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)	(0.03)
Bin 2	-0.14***	-0.09*	-0.18***	-0.15***	-0.12***	-0.10**	-0.09**	-0.06
	(0.05)	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)	(0.04)
Bin 3	0.05	0.10*	-0.04	-0.01	-0.06	-0.04	-0.08*	-0.05
	(0.05)	(0.06)	(0.06)	(0.06)	(0.05)	(0.05)	(0.04)	(0.05)
Bin 4	-0.18***	-0.15**	-0.21***	-0.19***	-0.16***	-0.15***	-0.12**	-0.10*
	(0.07)	(0.06)	(0.07)	(0.06)	(0.06)	(0.06)	(0.06)	(0.05)
Bin 5	-0.06	-0.02	-0.22***	-0.19***	-0.19***	-0.16***	-0.16***	-0.13***
	(0.06)	(0.06)	(0.06)	(0.06)	(0.05)	(0.05)	(0.04)	(0.04)
Bin 6	-0.15**	-0.13*	-0.22***	-0.19***	-0.19***	-0.16***	-0.16***	-0.13***
	(0.07)	(0.07)	(0.07)	(0.07)	(0.05)	(0.06)	(0.05)	(0.05)
Bin 7	-0.11*	-0.08	-0.32***	-0.27***	-0.26***	-0.20***	-0.21***	-0.15***
	(0.06)	(0.07)	(0.07)	(0.07)	(0.06)	(0.06)	(0.05)	(0.05)
Bin 8	-0.13**	-0.11*	-0.27***	-0.26***	-0.28***	-0.27***	-0.23***	-0.22***
	(0.06)	(0.06)	(0.05)	(0.05)	(0.04)	(0.05)	(0.04)	(0.04)
Bin 9	-0.28***	-0.25***	-0.37***	-0.34***	-0.33***	-0.29***	-0.25***	-0.21***
	(0.08)	(0.08)	(0.06)	(0.06)	(0.05)	(0.05)	(0.04)	(0.04)
Bin 10	-0.20***	-0.19**	-0.31***	-0.30***	-0.25***	-0.23***	-0.20***	-0.18***
	(0.08)	(0.08)	(0.06)	(0.06)	(0.05)	(0.05)	(0.04)	(0.04)
Panel D: Regression discontinuity-style design								
Village Based Training	0.21***	0.24***	0.10***	0.15***	0.14***	0.20***	0.11***	0.17***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Travel Distance	-0.01	0.00	-0.04***	-0.03***	-0.03***	-0.03***	-0.03***	-0.02**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Panel A-C Obs.	5873	5348	5873	5348	5393	4900	5393	4900
Panel D Obs.	3250	2956	3250	2956	2955	2679	2955	2679
Mean of nVBT (Info) Group	0.71	0.71	0.45	0.48	0.24	0.26	0.12	0.13
Controls		X		X		X		X

Notes: OLS regressions of take-up variables on treatment and alternative distance controls. Group Transport dummy control included in all specifications, and an Average Distance control included with the same functional form as distance. Travel Distance is the measured distance from the population centroid of the village to the training center. Distance bins computed using Travel Distance. Controls include other treatment dummies, stipend amount dummies, household assets, household income, stitched last month, individual skill/employment/education/marital status, as well as indicators of female empowerment. Within outcomes observations change due to missingness in control variables. Moving from Submission to Enroll/Complete, observations change because respondents had to be randomly balloted out after submission due to course capacity constraints. Standard errors clustered at the village level reported in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Table 6: Additional Boundaries

	Voucher Acceptance		Voucher Submission		Class Enrollment		Class Completion	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Within Village Boundaries: Settlement								
Panel A: Boundary Effect only								
Village Based Training	0.22***	0.23***	0.28***	0.29***	0.28***	0.30***	0.21***	0.22***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Settlement Based Training	0.01	0.01	0.09***	0.09***	0.11***	0.11***	0.12***	0.11***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Panel B: Cluster-level travel distance (linear specification)								
Village Based Training	0.14***	0.14***	0.15***	0.16***	0.17***	0.18***	0.12***	0.14***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.04)	(0.03)	(0.03)
Settlement Based Training	-0.01	-0.01	0.06*	0.05*	0.08***	0.08**	0.10***	0.09***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Cluster-level Travel Distance	-0.01***	-0.01***	-0.02***	-0.02***	-0.02***	-0.02***	-0.01***	-0.01***
	(3.59e-03)	(3.53e-03)	(2.82e-03)	(2.78e-03)	(2.47e-03)	(2.43e-03)	(1.90e-03)	(2.03e-03)
Outside Village Boundaries: Number of Villages Crossed								
Panel C: Boundary Effect only								
Crossed 1st Boundary	-0.14***	-0.17***	-0.29***	-0.31***	-0.31***	-0.34***	-0.25***	-0.27***
	(0.05)	(0.06)	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)
Crossing 2 or more Boundaries	-0.09*	-0.07	-0.04	-0.03	-0.03	-0.02	-0.03	-0.02
	(0.05)	(0.06)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)	(0.04)
Panel D: Travel distance (linear specification)								
Crossed 1st Boundary	-0.09*	-0.11**	-0.20***	-0.22***	-0.24***	-0.26***	-0.20***	-0.22***
	(0.05)	(0.06)	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)
Crossing 2 or more Boundaries	-0.05	-0.02	0.05	0.05	0.05	0.06	0.03	0.04
	(0.06)	(0.06)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)	(0.04)
Travel Distance	-0.01**	-0.01***	-0.02***	-0.02***	-0.02***	-0.02***	-0.01***	-0.01***
	(4.35e-03)	(4.33e-03)	(3.19e-03)	(3.22e-03)	(2.58e-03)	(2.71e-03)	(2.12e-03)	(2.27e-03)
Panel A Obs.	4841	4841	4841	4841	4841	4841	4841	4841
Panels B Obs.	4691	4691	4691	4691	4691	4691	4691	4691
Panels C - D Obs.	5873	5348	5873	5348	5393	4900	5393	4900
Mean of nVBT (Info) Group	0.75	0.77	0.54	0.56	0.45	0.46	0.32	0.34
Controls		X		X		X		X

Notes: OLS regressions of take-up variables on treatment, additional boundaries, and distance. Group Transport dummy and Average Distance control included in all specifications. Cluster-Level Travel Distance (in Panel B) is the measured distance from the respondent's cluster boundary to the training center. Travel Distance is the measured distance from the population centroid of the village to the training center. Controls include other treatment dummies, stipend amount dummies, household assets, household income, stitched last month, individual skill/employment/education/marital status, as well as indicators of female empowerment. Within outcomes observations change due to missingness in control variables. The top two panels have fewer observations than the bottom two because of missing values on Cluster-Level Travel Distance. Moving from Submission to Enroll/Complete, observations change because respondents had to be randomly balloted out after submission due to course capacity constraints. Standard errors clustered at the village level reported in parentheses. * $p<0.10$, ** $p<0.05$, *** $p<0.01$

Table 7: Economic Magnitude of the Treatment Effect: Implied Treatment-Cash Trade-off

	(1) Voucher Acceptance	(2) Voucher Submission	(3) Class Enrollment	(4) Class Completion
Panel A: Regression Results				
Stipend (000s in PKR)	0.04***	0.05***	0.04***	0.04***
	(0.01)	(0.01)	(0.01)	(0.00)
Panel B: Economic Magnitudes				
VBT Magnitude (in PKR)	6308***	7050***	7951***	6497***
	(1301)	(1049)	(1154)	(878)
Panel C: Economic Magnitudes with Distance				
VBT Magnitude (PKR)	3686***	4040***	5212***	4495***
	(1161)	(951)	(997)	(800)
Distance Magnitude (PKR per Km)	343***	402***	369***	273***
	(139)	(84)	(74)	(59)
Obs.	5348	5348	4900	4900
Mean of nVBT (Info) Group	0.63	0.25	0.13	0.08

Notes: Panel A reports OLS regressions of take-up variables on stipend level, treatment, and controls. Controls include other treatment dummies, household assets, household income, stitched last month, individual skill/employment/education/marital status, as well as indicators of female empowerment. Economic magnitudes reported in Panels B and C are derived by dividing the relevant coefficients by the stipend coefficients. The coefficients in Panels B and C are based on the specifications used in Table 4. Distance magnitude in Panel C shows the economic magnitude of the treatment effect per Km, in PKR. Standard errors clustered at the village level reported in parentheses. * $p<0.10$, ** $p<0.05$, *** $p<0.01$

Table 8: Treatment Breakdown

	Voucher Acceptance		Voucher Submission		Class Enrollment		Class Completion	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Village Based Training	0.14***	0.16***	0.11**	0.14***	0.15***	0.18***	0.13***	0.16***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)
Community Engagement	-0.09***	-0.10***	0.00	-0.01	0.03	0.02	0.01	0.01
	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)
Trainee Engagement	-0.03	-0.04	0.02	0.01	0.03	0.03	0.03	0.02
	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.03)	(0.02)	(0.02)
Group Transport	0.04	0.04	0.08**	0.08**	0.10***	0.10***	0.10***	0.11***
	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)
Travel Distance	-0.00	0.00	-0.04***	-0.04***	-0.04***	-0.03***	-0.03***	-0.03***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
(Travel Distance)^2	-3.7e-04	-6.7e-04	1.1e-03***	9.2e-04**	1.0e-03**	8.7e-04**	8.8e-04**	7.1e-04**
	(5.0e-04)	(5.0e-04)	(4.3e-04)	(4.3e-04)	(4.0e-04)	(4.0e-04)	(3.4e-04)	(3.4e-04)
Obs.	5873	5348	5873	5348	5393	4900	5393	4900
Mean of nVBT	0.61	0.63	0.24	0.25	0.12	0.13	0.08	0.08
Controls		X		X		X		X

Notes: OLS regressions of take-up variables on treatments and distance. Average Distance and Average Distance squared terms included as controls in all specifications. Travel Distance is the measured distance from the population centroid of the village to the training center. Controls include stipend amount dummies, household assets, household income, stitched last month, individual skill/employment/education/marital status, as well as indicators of female empowerment. Within outcomes observations change due to missingness in control variables. Moving from Submission to Enroll/Complete, observations change because respondents had to be randomly balloted out after submission due to course capacity constraints. Standard errors clustered at the village level reported in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Table 9: Impact on Transport Modes

	Intended to Walk Full Sample		Intended to Walk RDD Sample	
	(1)	(2)	(3)	(4)
Panel A: Linear Travel Distance				
Village Based Training	0.50***	0.51***	0.23***	0.23***
	(0.04)	(0.04)	(0.06)	(0.05)
Travel Distance	-0.02***	-0.02***	-0.12***	-0.12***
	(0.00)	(0.00)	(0.01)	(0.01)
Panel B: Logarithmic Travel Distance				
Village Based Training	0.34***	0.34***	0.31***	0.31***
	(0.04)	(0.04)	(0.05)	(0.05)
Log. Travel Distance	-0.16***	-0.16***	-0.19***	-0.19***
	(0.02)	(0.02)	(0.02)	(0.02)
Panel C: Quadratic Travel Distance				
Village Based Training	0.32***	0.33***	0.25***	0.25***
	(0.05)	(0.05)	(0.06)	(0.06)
Travel Distance	-0.09***	-0.09***	-0.18***	-0.17***
	(0.01)	(0.01)	(0.04)	(0.03)
(Travel Distance)^2	0.00***	0.00***	0.01	0.01
	(0.00)	(0.00)	(0.01)	(0.01)
Panel D: Travel Distance Bins				
Village Based Training	0.44***	0.45***	0.35***	0.36***
	(0.06)	(0.06)	(0.08)	(0.07)
Bin 2	-0.22***	-0.21***	-0.26***	-0.24***
	(0.06)	(0.06)	(0.07)	(0.07)
Bin 3	-0.21***	-0.21***		
	(0.07)	(0.07)		
Bin 4	-0.16**	-0.15**		
	(0.07)	(0.07)		
Bin 5	-0.25***	-0.24***		
	(0.06)	(0.06)		
Bin 6	-0.24***	-0.22***		
	(0.06)	(0.06)		
Bin 7	-0.20***	-0.19***		
	(0.06)	(0.07)		
Bin 8	-0.21***	-0.20***		
	(0.06)	(0.07)		
Bin 9	-0.24***	-0.24***		
	(0.06)	(0.06)		
Bin 10	-0.23***	-0.23***		
	(0.06)	(0.06)		
Obs.	5873	5348	3250	2956
Mean of nVBT (Info) Group	0.10	0.09	0.46	0.47
Controls		X		X

Notes: OLS regressions of Walking Intention variable on treatment and distance. Group Transport dummy control included in all specifications, and an Average Distance control included with the same functional form as distance. Straight-Line Distance is the GPS distance from the voucher holder's house to nearest training center and is constrained to be 0 for all VBT voucher holders. Travel Distance is the measured distance from the population centroid of the village to the training center. Controls include other treatment dummies, stipend amount dummies, household assets, household income, stitched last month, individual skill/employment/education/marital status, as well as indicators of female empowerment. Within outcomes observations change due to missingness in control variables. Standard errors clustered at the village level reported in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Table 10: Accounting for Underpopulated Travel Paths

	Voucher Acceptance		Voucher Submission		Class Enrollment		Class Completion	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
No Distance Measure								
Panel A: Boundary Effect only								
Village Based Training	0.17***	0.18***	0.28***	0.30***	0.28***	0.29***	0.21***	0.22***
	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Dummy: 500m Segment $\leq$ 50th %ile Pop. Density	-0.08***	-0.08**	-0.09***	-0.09***	-0.11***	-0.11***	-0.09***	-0.10***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)
Distance Measure 1: Straight-Line distance								
Panel B: Linear specification								
Village Based Training	0.06	0.05	0.16***	0.17***	0.17***	0.18***	0.13***	0.15***
	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)
Straight-line Distance	-0.02***	-0.02***	-0.02***	-0.02***	-0.02***	-0.02***	-0.01***	-0.01***
	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Dummy: 500m Segment $\leq$ 50th %ile Pop. Density	-0.07***	-0.07**	-0.08***	-0.08**	-0.10***	-0.10***	-0.09***	-0.09***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)
Panel C: Quadratic specification								
Village Based Training	0.14*	0.15**	0.14**	0.20***	0.11*	0.17***	0.09*	0.14***
	(0.07)	(0.07)	(0.07)	(0.07)	(0.06)	(0.06)	(0.05)	(0.05)
Straight-line Distance	0.01	0.01	-0.03	-0.01	-0.04**	-0.02	-0.03**	-0.02
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)
(Straight-line Distance)^2	-0.00	-0.00*	0.00	-0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Dummy: 500m Segment $\leq$ 50th %ile Pop. Density	-0.07***	-0.07**	-0.08***	-0.08**	-0.10***	-0.10***	-0.09***	-0.09***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)
Distance Measure 2: Travel distance								
Panel D: Linear specification								
Village Based Training	0.09**	0.09**	0.15***	0.17***	0.16***	0.19***	0.13***	0.15***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)
Travel Distance	-0.01***	-0.01***	-0.02***	-0.02***	-0.02***	-0.02***	-0.01***	-0.01***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Dummy: 500m Segment $\leq$ 50th %ile Pop. Density	-0.07**	-0.06*	-0.07**	-0.06**	-0.09***	-0.09***	-0.08***	-0.08***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)
Panel E: Quadratic specification								
Village Based Training	0.10**	0.12***	0.09*	0.13***	0.12***	0.15***	0.09**	0.12***
	(0.05)	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)	(0.04)
Travel Distance	-0.00	0.00	-0.04***	-0.04***	-0.04***	-0.03***	-0.03***	-0.02***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
(Travel Distance)^2	-0.00	-0.00	0.00**	0.00**	0.00**	0.00*	0.00**	0.00*
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Dummy: 500m Segment $\leq$ 50th %ile Pop. Density	-0.07**	-0.07**	-0.06**	-0.05*	-0.08***	-0.08***	-0.07***	-0.08***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)
Obs.	5083	4647	5083	4647	4665	4252	4665	4252
Mean of nVBT (Info) Group	0.60	0.61	0.23	0.24	0.11	0.12	0.06	0.07
%Δ VBT Panel A (Relative to Table 4, Restricted Sample)	-23.77	-22.38	-17.42	-16.18	-19.91	-19.57	-22.49	-22.25
%Δ VBT Panel B (Relative to Table 4, Restricted Sample)	-43.03	-42.03	-24.46	-20.38	-27.22	-23.86	-29.44	-26.55
%Δ VBT Panel C (Relative to Table 4, Restricted Sample)	-25.96	-21.24	-27.23	-18.62	-36.69	-25.56	-40.95	-28.57
%Δ VBT Panel D (Relative to Table 4, Restricted Sample)	-30.56	-27.10	-20.69	-16.77	-22.88	-19.96	-26.10	-22.96
%Δ VBT Panel E (Relative to Table 4, Restricted Sample)	-22.50	-18.61	-20.59	-14.99	-21.18	-17.25	-25.01	-19.83
Controls		X		X		X		X

Notes: OLS regressions of take-up variables on treatment, distance and the underpopulated dummy. Group Transport dummy control included in all specifications, and an Average Distance control included with the same functional form as distance. Straight-Line Distance is the GPS distance from the voucher holder's house to nearest training center and is constrained to be 0 for all VBT voucher holders. Travel Distance is the measured distance from the population centroid of the village to the training center. Controls include other treatment dummies, stipend amount dummies, household assets, household income, stitched last month, individual skill/employment/education/marital status, as well as indicators of female empowerment. Within outcomes observations change due to missingness in control variables. Moving from Submission to Enroll/Complete, observations change because respondents had to be randomly balloted out after submission due to course capacity constraints. Observations change relative to Table 4 as not all households had GPS data to map their paths. The variable *Dummy: 500m Segment $\leq$ 50th %ile Pop. Density* is equal to 1 when the path has 500 meters or more in which the population density is below the median. Paths are calculated from the cluster centroid to the nearest training center. All percentage changes relative to Table 4 with the restricted sample are significant at the 95%. These are calculated using a nested model F-test, testing the inclusion of the dummy. Standard errors clustered at the village level reported in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Online Appendices

Appendix A: Program and Data Details

Early Pilot Work: Understanding Access Constraints

The design of the program we study in the paper was based on our prior work with PSDF. The first major undertaking of our collaboration was a large-scale baseline survey exercise of over 11,000 households in the program region. This exercise aimed to understand the demand for skills and the specific access constraints faced by potential program participants. To develop a holistic understanding of the local skills and labor markets, we conducted village and employer surveys in each of the program districts in addition to the household surveys. The exercise revealed significant latent demand for skills acquisition from both households and employers. Over 92% of households indicated their willingness to nominate at least one male and female member for skills training. Among those nominated, 96% of men and 97% of women reported a desire to acquire skills, and two thirds of households reported a (high) willingness to send the nominated household member to a PSDF training in the next year. Furthermore, we found that households selected members for the training course overwhelmingly according to highest earning potential (rather than according to having highest needs, being most liked, or being currently unemployed), suggesting that households took labor market returns seriously and expected high value from the training when nominating members (Cheema, Khwaja, Naseer, and Shapiro 2012a).

Our baseline survey also revealed that the household members nominated for vocational training clearly expected financial gains from acquiring skills. The nominees reported a high wage premium for high-skilled jobs compared to low-skills jobs, ranging from PKR 7,135 to PKR 17,774 (Cheema, Khwaja, Naseer, and Shapiro 2012a). This expected wage premium was largest for those who were unemployed and looking for work (which constitutes nearly half of unemployed women), reflecting a high level of interest in training among this population. Moreover, individuals also recognized non-economic returns to basic skills, such as enhanced degree of political engagement, ability to exercise political rights, and health status. As noted in the paper, this is consistent with the results obtained in our ongoing work which show high returns to the training (Cheema, Khwaja, Naseer, and Shapiro 2021).

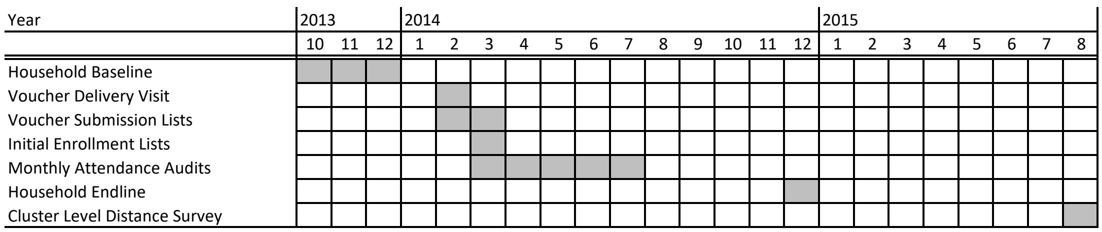
Based on the high demand for and expectations of high return from skills, PSDF launched the first of its pilot programs, Skills for Employability (SFE), in late 2011. SFE offered a variety of training courses to both (urban and rural) men and women. Despite the large expressed demand for training, CERP's evaluation revealed low take-up. Take-up was particularly low for females. Only 7% of women offered vouchers for training ended up enrolling in courses, and only 3% of women completed the course (Cheema, Khwaja, Naseer, and Shapiro 2012b). Even fewer women who enrolled came from poor and vulnerable households and/or lived farther from training centers. Through field visits and analytical work, we found that physical distance to the training center arose as one of the main reasons for lack of enrollment in or completion of skills training programs. Moreover, close to half of the targeted trainees that refused to participate in the SFE program identified distance as the primary constraint. These findings raised concerns that the sub-populations of interest (specifically, poor, rural, and vulnerable women) were not sufficiently benefiting from the training opportunities being provided.

Using the lessons learned from the first training rollout (the SFE program), PSDF launched a small sample pilot in 2012-13, Skills for Market - Phase A (SFM-A), specifically targeting rural women in 52 of the villages originally surveyed in the 2011 baseline surveys. In the pilot, we offered training courses in tailoring, rural dairy products, and home decoration. The pilot was designed to specifically address constraints from distance and social norms. Distance to the training center was reduced by placing the training center in the village, and social norms were addressed through focus groups that encouraged women to participate by stressing its usefulness. Initial results showed these design innovations were promising: women who had training centers located inside their villages had the highest enrollment rates, followed by women who participated in the focus groups, while enrollment rates stayed low for women who were only informed of the program's existence. Furthermore, the highest completion rates were among women who took the tailoring training course, signaling a clear preference for tailoring among other vocational skills. This preference matches the baseline survey, which found almost three quarters of all women nominated for the training preferred to acquire skills related to garments and textiles. While the pilot was conducted on a small scale, these findings subsequently informed the design of the program studied in the paper. The Skills for Market - Phase B (SFM-B) program was designed and then rolled out in 2013-14 in a larger sample of villages with additional design variations to address the constraints identified by these earlier pilots.

Data Details & Sources

The Figure below provides a timeline of all the surveys conducted followed by details of each data collection exercise.

Figure A1: Time of Data Collection Activities



- **Household Baseline Survey:** During this initial visit, households were provided with course and training booklets in order to inform them about the training program and stipend. Additionally, each household was given a survey to collect pre-treatment demographic characteristics of households, as well as solicit nominations from each household for a member to receive training. Additional questions were asked of nominated individuals concerning their demographic characteristics, as well as questions related to their previous experience with stitching. We also recorded the geo-coordinates of each household, which allows us to measure the straight-line distance from the house to the nearest training center. We then implemented treatments according to the household's treatment group.
- **Voucher Delivery Visit:** After treatment activities had been concluded, we revisited each household to deliver training vouchers to the respondent nominated in the baseline survey. During this visit, we reminded households of the female member they had nominated for the program, confirmed her eligibility, and offered her a printed voucher, in her name, to attend the training. She was notified that due to a limited number of seats, the voucher does not ensure a spot in the course, but it will greatly increase her chance for successful enrollment if she submits it to the training center. Thus we elicited our first measure of take-up, voucher acceptance, when an eligible female identified the location of the training center which she wanted to attend and accepted the offer of provisional course enrollment. We recorded acceptance rates at

the time of delivery and later confirmed them through the follow-up survey. Since accepting the voucher only required an expression of interest in the course, not a formal commitment, we consider voucher acceptance the least demanding measure of take-up. Respondents were also asked about the various treatment activities that had occurred in their village in order to ensure that activities had been properly carried out and advertised. Households that wished to switch their nominated member were allowed to do so at this point. For these households an additional baseline survey was conducted with the new nominated member to collect their pre-treatment demographic characteristics.

- **Voucher Submission Lists:** Households that accepted their voucher were told to submit their vouchers within a two-week time frame to their training center of choice. A list of all submitted vouchers was then given to us by each training center. This generated our voucher submission outcome—a measure of whether respondents actually submitted their vouchers to the training center for enrollment. Each voucher had a unique ID associated with the household, easily identifying the household and individual who submitted the voucher through training service providers' administrative data. We again confirmed all voucher submission with respondents during the follow-up survey.

- **Initial Enrollment Lists:** As the training was open to all women in the village, we also received applications from self-applicants outside of our sample (i.e., women who opted to register themselves for training in the absence of targeted information). Since the amount of submitted vouchers and applications at times exceeded the training center capacity (20 students per center), we conducted a random ballot to ensure a fair and transparent allocation of slots to applicants without compromising the evaluation. Applicants were therefore given a randomized sort order and categorized as either "admitted" (enrolled in the program) or "waitlisted" (trainees who we kept as a backup in case admitted trainees dropped out). Two and a half weeks after the voucher submission deadline, we announced the enrollment status of applicants for training by posting the list of admitted and waitlisted applicants at all training centers on the course start date. To ensure all admitted applicants were aware of their admission status and to record their intention to enroll, we visited the homes of all successful applicants in the enrollment verification phase. During this period, the field staff also visited the training center to independently record trainees' attendance. For the first 12 days of class, each training center provided us with a student attendance list. Admitted students who were not attending class were removed from the roster, and those on the waitlist were admitted. Each day we contacted these newly admitted students and sent the training centers an updated roster in order to ensure the waitlist order was properly followed. These detailed lists not only allow us to track which respondents were admitted through the ballot, but also track those respondents who ultimately chose to enroll. Respondents who remained in class past the closure of this admission process were considered to have enrolled in the class. However, an individual was not considered enrolled if she attended some classes but stopped attending before the admission process closed. This forms our third measure of take-up—course enrollment.

- **Monthly Attendance Audits:** Once the class enrollment lists were finalized at the end of enrollment verification phase, PSDF initiated its independent monitoring process, which sent monitoring staff to each training center once per month until the course concluded. This monthly monitoring was logistically necessary to ensure that stipends were only disbursed to those still attending class, but these visits additionally provided detailed information on how long each respondent remained in the program and eventual course completion status. Consequently, we can easily identify which trainees had satisfactory attendance (80%) through the course's completion. We also confirmed each individual's class completion status through the follow-up survey. This provided our fourth and final measure of take-up.

- **Household Follow-up Survey:** Five months after all training activities had ended, we revisited each household to administer a follow-up survey. The main purpose of this survey was to gather updated information of respondents' post-treatment demographic characteristics, which will be used in another study to measure the training program's impact. However, we also used this opportunity to ask respondents about each of their take-up statuses. We use this information to confirm the statuses determined from the administrative data gathered above.

- **Cluster-level Distance Survey:** The survey was designed to measure distance from households' location to the closest training centers accounting for the actual routes used to travel between villages. Households were grouped into clusters, and a map was then made of each village demarking these clusters. Routes were then traced on each map for all means of transport: private modes (walk, cycle, motorcycle, a rickshaw-like vehicle called qingchi, and car), public modes (bus, qingchi and motorcycle), and group transport. Refer to Figure A2 below for an example of a map.

Following the paths marked on the maps, enumerators measured the distance from each cluster to the training center using a motorcycle and an odometer. However, when there was evidence that the route taken using a motorcycle would differ from the one using another private mode, we also computed the distance for that specific means of transport.

The approach to calculate distance varied by the means of transport and the type of cluster. Three types of clusters were identified: clusters within a VBT village that contained the training center (special clusters); clusters that did not host a training center and belong to a VBT village (non-special clusters); and clusters from nVBT villages.

1. Special clusters: To measure the distance to the center location by private transportation, the enumerators selected four random and geographically dispersed households in the cluster and measured their distance to the training center. The cluster-level distance consisted of the average of these four distances. As these clusters hosted the training center, there was no public transport needed and hence no corresponding measure of distance.

2. Non-special clusters: Distance by private transportation is measured from the cluster boundary to the training center of the village. In the case of public transportation, we calculated the distance in tranches: i) first connecting route: cluster boundary to the nearest bus/motorcycle/qingchi stop; ii) route taken by bus/motorcycle/qingchi to the drop-off point; and iii) second connecting route: from the drop-off point to the training center.

3. Clusters from nVBT villages: Distance by private transportation was calculated in tranches and then added up: i) from the cluster boundary to the boundary of the nVBT village where the cluster is in, ii) from the nVBT village boundary to a VBT village boundary, and iii) from the VBT village boundary to the training center. In a similar manner, distance by public transportation consists of the sum of three legs: i) first connecting route: cluster boundary to the nearest bus/motorcycle/qingchi stop; ii) route taken by bus/motorcycle/qingchi to the drop-off point; iii) second connecting

route: from the drop-off point to the training center. For Group Transport, we calculated two tranches and then added them up: i) connecting route: cluster boundary to the pick-up point in the village; and ii) route taken by the Group transport provider from the pick-up point to the training center.

To get a better sense of transportation costs, we calculated the cost of fuel and the fare for using each means of public transport.[40] We also estimated the time cost of commuting by converting the distance into time terms for each mode of transport. In the case of public transport time calculations, we included estimates of waiting times at bus, qingchi, and motorcycle stops, which were measured by having enumerators ask two individuals waiting at each stop what their average wait times were.

Figure A2: Map for Cluster-level Distance Survey

- **Population Density data:**

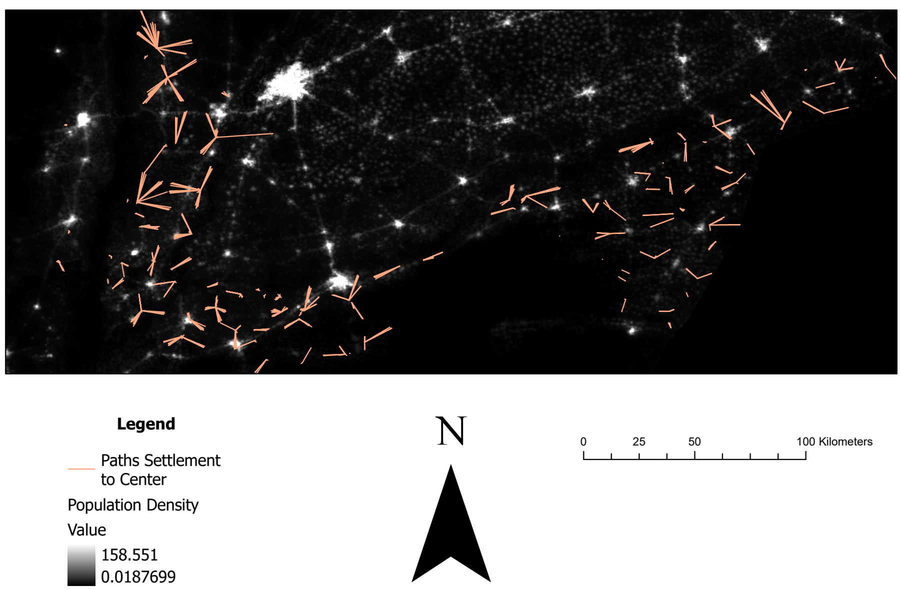
  The population density data was downloaded from WorldPop's Pakistan data page. The data provide estimated total number of people in 2013 per 3 arc second grid cell, approximately 100m×100m at the equator. Estimates are from a Random Forest-based dasymetric redistribution of census data using on a range of physical features

[40] We calculated the cost of fuel by getting prices from the closest fuel supplier to each village. To estimate the fare for each public transport (bus, qingchi, and motorcycle), we asked the corresponding driver about the one-way fare for the relevant segment of the journey.

(Stevens et al. 2015). The minimum value of the raster is imputed to the cells that have no information (e.g cells which mostly cover a water feature). Figure A3 shows straight-line paths from cluster centroids to the nearest training center overlaid on the population density raster.

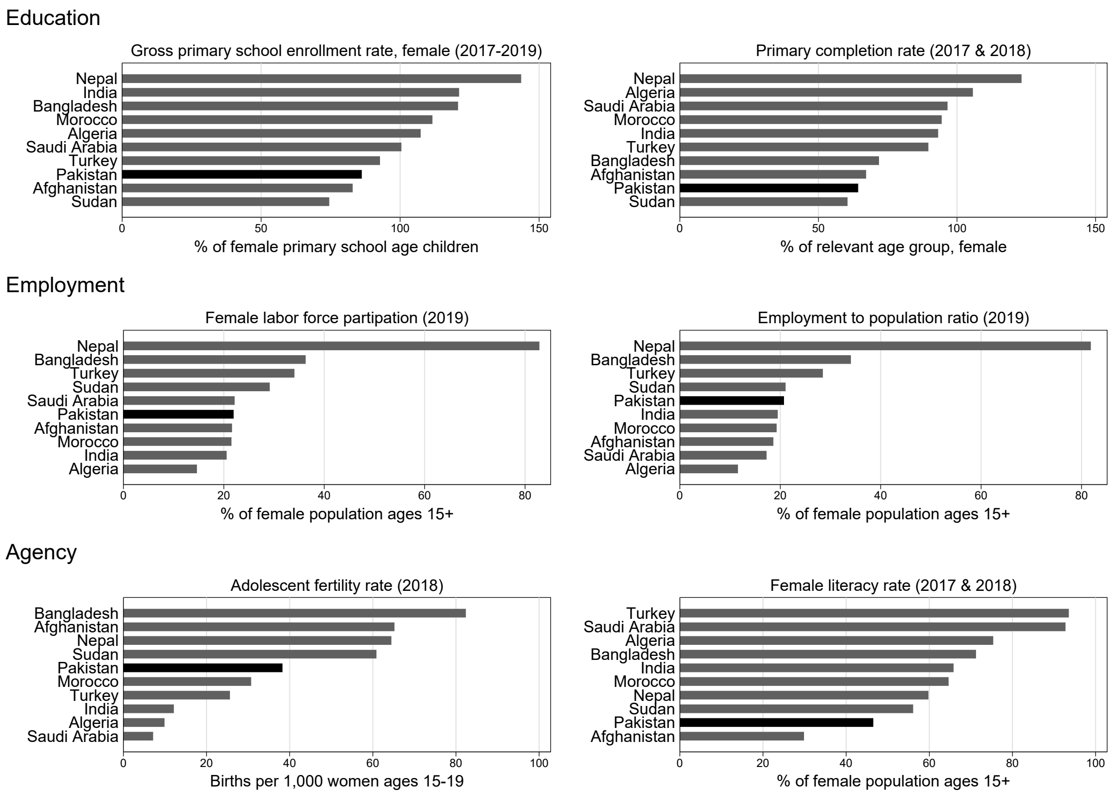
We use these data to calculate the mean population density along the straight-line paths from the cluster level centroids to the nearest training center. Then, to characterize risky/insecure paths we define a dummy variable equal to 1 when the path has at least either 500 or 250 meters of an underpopulated segment, which we define as path segments through cells with population density below the median population density observed along all travel paths in our sample.

Figure A3: Cluster-Center paths and Population Density Raster



Appendix B: Additional Figures and Tables

Figure B1: Female Mobility in South Asia and MENA



Balance Tables

Table B1: Treatment Balance Table – VBT vs. nVBT

	(1) Mean of nVBT	(2) Mean of VBT - nVBT
Household and Village Variables:		
Monthly Income (000s)	11.58	-0.05
	(0.19)	(0.30)
Monthly Expenditure (000s)	10.00	-0.05
	(0.20)	(0.29)
Asset Index	-2.1e-03	-4.0e-03
	(0.04)	(0.06)
Household Size	6.60	-0.08
	(0.07)	(0.09)
Household Head Is Punjabi	0.47	-0.01
	(0.04)	(0.06)
No Household Member Is Sick	0.45	-0.01
	(0.02)	(0.03)
At Least 1 Male Away for 3 Months or More	0.12	0.01
	(0.01)	(0.01)
At Least 1 Female Away for 3 Months or More	0.02	2.7e-03
	(2.5e-03)	(4.0e-03)
Suffered from Crimes in Recent Months	0.05	0.02*
	(0.01)	(0.01)
Ethnic Fragmentation Index	0.12	0.01
	(0.01)	(0.02)
Ethnic Polarization Index	0.23	0.01
	(0.02)	(0.04)
Number of NGOs at Work	1.00	-0.04
	(0.08)	(0.13)
Has Access to Public Transport Stops	0.57	1.1e-03
	(0.04)	(0.06)
Has Access to Non-Transport Facilities	0.68	0.03
	(0.04)	(0.06)
Total Number of Signal Bars	16.44	0.16
	(0.45)	(0.69)
Petrol Price (Rupee per Liter)	82.02	-0.07
	(0.29)	(0.44)
P-value of Joint Test	0.12	

Notes: Table shows balance between our two main treatment groups, VBT and nVBT. Standard errors, reported in parentheses, are clustered at the village level.

Table B1 – Continued

	(3) Mean of nVBT	(4) Mean of VBT - nVBT
Trainee Variables:		
Age	29.67	0.92**
	(0.25)	(0.38)
Married	0.69	0.02
	(0.01)	(0.02)
Number of Children under Age 9	1.88	0.09
	(0.04)	(0.06)
Mobile Phone Ownership	0.14	-0.01
	(0.01)	(0.02)
PCA Influence over Domestic Decisions	-0.03	0.06
	(0.03)	(0.05)
PCA Influence over Business Decisions	0.03	-0.07
	(0.04)	(0.06)
PCA Female Belief in Male Superiority	0.04	-0.04
	(0.04)	(0.06)
In Good or Very Good Physical Health	0.82	0.01
	(0.01)	(0.02)
K6 Mental Health Scale	20.75	0.08
	(0.23)	(0.33)
Has Formal Education	0.35	-0.02
	(0.02)	(0.03)
Has Never Been to School	0.24	-0.01
	(0.02)	(0.03)
Has Basic Literacy	0.42	0.02
	(0.03)	(0.04)
Stitched Last Month	0.05	0.01
	(0.01)	(0.01)
Able to Stitch	0.33	1.1e-03
	(0.02)	(0.02)
Does Paid Work	0.32	0.02
	(0.02)	(0.03)
Confident in Finding Paid Work	3.31	-0.02
	(0.04)	(0.06)
Does Chores	0.63	-0.04
	(0.02)	(0.03)
Financial Satisfaction (0-10)	6.61	-0.12
	(0.07)	(0.11)
Likely or Very Likely to Enroll in Training	0.73	-0.01
	(0.01)	(0.02)
Considers Rule of Law Operative	0.24	0.01
	(0.01)	(0.02)
Considers Crime Rate Increasing	0.37	1.1e-03
	(0.02)	(0.03)
Trusts the Police	0.22	3.3e-03
	(0.01)	(0.02)
Trusts the Courts	0.28	-3.7e-03
	(0.01)	(0.02)
Trusts Government Health Services	0.82	-0.02
	(0.01)	(0.02)
Trusts Education Services	0.76	-0.03
	(0.02)	(0.02)
P-value of Joint Test	0.12	

Notes: Table shows balance between our two main treatment groups, VBT and nVBT. Standard errors, reported in parentheses, are clustered at the village level.

Table B2: Treatment Balance Table – All Treatment Arms

	(1) nVBT (Info)	(2) nVBT (Info) vs. VBT (Info)	(3) nVBT (Info) vs. VBT + TE	(4) nVBT (Info) vs. VBT + CE	(5) nVBT (Info) vs. nVBT + TE	(6) nVBT (Info) vs. nVBT + CE	(7) nVBT (Info) vs. nVBT + GT	(8) nVBT (Info) vs. nVBT + CE + GT
Household Variables:								
Monthly Income	11.90	0.07	0.79	0.21	0.63	0.38	0.14	0.47
	(0.45)	(0.65)	(0.53)	(0.63)	(0.55)	(0.63)	(0.66)	(0.57)
Monthly Expenditure	10.06	0.13	0.01	0.23	-0.15	0.01	-0.02	0.484
	(0.52)	(0.60)	(0.63)	(0.68)	(0.66)	(0.63)	(0.67)	(0.67)
Asset Index	0.04	0.01	0.07	0.08	0.10	0.08	-0.02	0.06
	(0.09)	(0.12)	(0.11)	(0.11)	(0.11)	(0.11)	(0.13)	(0.12)
Household Size	6.75	0.24	0.23	0.19	0.05	0.23	0.19	0.26
	(0.14)	(0.17)	(0.18)	(0.18)	(0.22)	(0.21)	(0.17)	(0.20)
Household Head Is Punjabi	0.42	-0.05	-0.02	-0.06	-0.04	-0.07	-0.12	-0.03
	(0.09)	(0.11)	(0.11)	(0.13)	(0.12)	(0.13)	(0.12)	(0.12)
No Household Member Is Sick	0.47	0.04	0.06	-0.03	0.05	-2.7e-03	0.04	0.02
	(0.04)	(0.05)	(0.05)	(0.05)	(0.06)	(0.05)	(0.06)	(0.05)
At Least 1 Male Away for 3 Months or More	0.13	0.01	0.01	-0.02	0.03	0.02	0.03	-0.01
	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
At Least 1 Female Away for 3 Months or More	0.03	0.01	9.7e-03	0.01	0.01	0.014	0.01	0.02
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Suffered from Crimes in Recent Months	0.06	-0.02	-0.01	-0.02	0.01	-2.6e-03	3.6e-03	0.01
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)

Notes: Table shows balance between the nVBT group without any additional treatment, nVBT (Info), and all other treatment arms. TE, CE, and GT stand for Trainee Engagement, Community Engagement, and Group Transport. Standard errors clustered at the village level reported in parentheses.

Table B2 – Continued

	(1) nVBT (Info)	(2) nVBT (Info) vs. VBT (Info)	(3) nVBT (Info) vs. VBT + TE	(4) nVBT (Info) vs. VBT + CE	(5) nVBT (Info) vs. nVBT + TE	(6) nVBT (Info) vs. nVBT + CE	(7) nVBT (Info) vs. nVBT + GT	(8) nVBT (Info) vs. nVBT + CE + GT
Trainee Variables:								
Age	29.217	-1.672	-0.979	-1.475	-0.801	0.232	-0.972	-0.752
	(0.530)	(0.684)	(0.736)	(0.727)	(0.684)	(0.776)	(0.830)	(0.759)
Married	0.685	-0.018	-0.009	-0.032	-0.021	0.012	-0.022	0.014
	(0.025)	(0.030)	(0.030)	(0.032)	(0.032)	(0.038)	(0.034)	(0.039)
Number of Children under Age 9	1.872	-0.025	-0.116	-0.171	-0.110	0.003	0.076	-0.012
	(0.086)	(0.106)	(0.106)	(0.141)	(0.107)	(0.129)	(0.109)	(0.124)
Mobile Phone Ownership	0.121	-0.021	0.013	-0.001	0.001	-0.023	-0.048	0.000
	(0.023)	(0.031)	(0.027)	(0.029)	(0.031)	(0.037)	(0.035)	(0.035)
PCA Influence over Domestic Decisions	-0.065	-0.137	-0.014	-0.147	-0.079	0.012	-0.097	-0.012
	(0.076)	(0.093)	(0.092)	(0.097)	(0.099)	(0.106)	(0.102)	(0.107)
PCA Influence over Business Decisions	-0.125	-0.007	-0.113	-0.152	-0.085	-0.217	-0.229	-0.220
	(0.099)	(0.129)	(0.122)	(0.133)	(0.141)	(0.129)	(0.127)	(0.128)
PCA Female Belief in Male Superiority	0.161	0.208	0.086	0.219	0.121	0.136	0.224	0.117
	(0.088)	(0.109)	(0.108)	(0.130)	(0.147)	(0.116)	(0.128)	(0.125)
In Good or Very Good Physical Health	0.821	0.003	0.001	-0.014	0.012	-0.010	0.031	-0.011
	(0.022)	(0.035)	(0.034)	(0.031)	(0.037)	(0.029)	(0.041)	(0.032)
K6 Mental Health Scale	20.851	0.353	-0.036	-0.403	0.746	0.511	-0.339	-0.393
	(0.521)	(0.666)	(0.617)	(0.698)	(0.632)	(0.738)	(0.731)	(0.760)
Has Formal Education	0.365	0.030	0.027	0.049	0.041	0.016	0.008	0.020
	(0.046)	(0.054)	(0.054)	(0.055)	(0.063)	(0.065)	(0.064)	(0.061)
Has Never Been to School	0.231	-0.018	0.007	0.024	-0.039	0.024	-0.015	0.001
	(0.054)	(0.065)	(0.067)	(0.067)	(0.077)	(0.076)	(0.073)	(0.074)
Has Basic Literacy	0.404	-0.011	-0.034	-0.074	-0.002	-0.040	0.009	-0.020
	(0.058)	(0.073)	(0.074)	(0.076)	(0.083)	(0.081)	(0.083)	(0.077)

Notes: Table shows balance between the nVBT group without any additional treatment, nVBT (Info), and all other treatment arms. TE, CE, and GT stand for Trainee Engagement, Community Engagement, and Group Transport. Standard errors clustered at the village level reported in parentheses.

Table B2 – Continued

	(1) nVBT (Info)	(2) nVBT (Info) vs. VBT (Info)	(3) nVBT (Info) vs. VBT + TE	(4) nVBT (Info) vs. VBT + CE	(5) nVBT (Info) vs. nVBT + TE	(6) nVBT (Info) vs. nVBT + CE	(7) nVBT (Info) vs. nVBT + GT	(8) nVBT (Info) vs. nVBT + CE + GT
Trainee Variables (Continued):								
Stitched Last Month	0.054	-0.010	-0.006	0.008	0.026	-0.001	-0.028	0.016
	(0.013)	(0.016)	(0.018)	(0.018)	(0.015)	(0.017)	(0.027)	(0.015)
Able to Stitch	0.316	-0.028	-0.002	0.002	-0.011	-0.015	-0.026	0.002
	(0.034)	(0.046)	(0.044)	(0.044)	(0.047)	(0.048)	(0.059)	(0.056)
Does Paid Work	0.281	-0.066	-0.048	-0.052	-0.046	-0.025	-0.012	-0.090
	(0.037)	(0.049)	(0.047)	(0.052)	(0.054)	(0.052)	(0.050)	(0.054)
Confident in Finding Paid Work	3.219	-0.002	-0.076	-0.160	-0.155	-0.002	-0.065	-0.239
	(0.086)	(0.111)	(0.111)	(0.120)	(0.121)	(0.131)	(0.119)	(0.138)
Does Chores	0.657	0.057	0.080	0.053	0.044	0.006	0.007	0.075
	(0.042)	(0.053)	(0.051)	(0.057)	(0.060)	(0.058)	(0.059)	(0.060)
Financial Satisfaction (0-10)	6.680	0.176	0.196	0.185	0.378	0.081	-0.153	0.053
	(0.175)	(0.215)	(0.229)	(0.236)	(0.217)	(0.242)	(0.231)	(0.245)
Likely or Very Likely to Enroll in Training	0.738	0.036	0.040	-0.022	0.018	-0.010	0.007	0.033
	(0.024)	(0.034)	(0.036)	(0.036)	(0.035)	(0.033)	(0.040)	(0.038)
Considers Rule of Law Operative	0.233	-0.009	-0.012	-0.010	-0.029	0.010	-0.032	0.030
	(0.027)	(0.039)	(0.035)	(0.036)	(0.043)	(0.038)	(0.037)	(0.037)
Considers Crime Rate Increasing	0.394	-0.001	0.038	0.032	0.039	0.036	0.016	0.023
	(0.052)	(0.061)	(0.060)	(0.065)	(0.067)	(0.072)	(0.068)	(0.065)
Trusts the Police	0.220	-0.009	0.033	-0.043	0.029	-0.028	-0.019	0.025
	(0.034)	(0.042)	(0.038)	(0.046)	(0.042)	(0.046)	(0.049)	(0.044)
Trusts the Courts	0.278	0.001	0.028	-0.019	0.016	-0.014	-0.006	0.015
	(0.036)	(0.043)	(0.040)	(0.054)	(0.046)	(0.048)	(0.048)	(0.046)
Trusts Government Health Services	0.825	0.045	-0.002	0.035	0.003	-0.013	0.032	-0.006
	(0.028)	(0.037)	(0.036)	(0.039)	(0.043)	(0.042)	(0.039)	(0.042)
Trusts Education Services	0.741	0.039	-0.013	-0.022	-0.001	-0.037	-0.042	-0.035
	(0.034)	(0.045)	(0.046)	(0.043)	(0.052)	(0.050)	(0.043)	(0.049)

Notes: Table shows balance between the nVBT group without any additional treatment, nVBT (Info), and all other treatment arms. TE, CE, and GT stand for Trainee Engagement, Community Engagement, and Group Transport. Standard errors clustered at the village level reported in parentheses.

Table B2 – Continued

	(1) nVBT (Info)	(2) nVBT (Info) vs. VBT (Info)	(3) nVBT (Info) vs. VBT + TE	(4) nVBT (Info) vs. VBT + CE	(5) nVBT (Info) vs. nVBT + TE	(6) nVBT (Info) vs. nVBT + CE	(7) nVBT (Info) vs. nVBT + GT	(8) nVBT (Info) vs. nVBT + CE + GT
Village Variables:								
Ethnic Fragmentation Index	0.133	-0.008	-0.006	0.043	-0.002	0.039	0.028	0.001
	(0.033)	(0.041)	(0.040)	(0.042)	(0.045)	(0.038)	(0.042)	(0.047)
Ethnic Polarization Index	0.245	-0.020	-0.018	0.078	-0.021	0.059	0.040	0.002
	(0.059)	(0.074)	(0.072)	(0.075)	(0.084)	(0.070)	(0.078)	(0.082)
Number of NGOs at Work	1.056	0.156	0.012	0.086	0.099	-0.044	0.153	0.053
	(0.209)	(0.248)	(0.271)	(0.287)	(0.265)	(0.255)	(0.271)	(0.286)
Has Access to Public Transport Stops	0.620	0.134	-0.022	0.023	0.024	0.089	0.080	0.062
	(0.097)	(0.124)	(0.124)	(0.136)	(0.136)	(0.137)	(0.137)	(0.137)
Has Access to Non-Transport Facilities	0.759	0.098	-0.038	0.106	0.051	0.279	0.117	-0.024
	(0.083)	(0.111)	(0.104)	(0.125)	(0.121)	(0.128)	(0.126)	(0.115)
Total Number of Signal Bars	16.177	0.470	-1.296	-0.532	-0.954	-1.053	1.560	-0.882
	(1.023)	(1.308)	(1.345)	(1.429)	(1.370)	(1.380)	(1.499)	(1.385)
Petrol Price (Rupee per Liter)	80.774	-1.064	-0.761	-1.910	-2.016	-0.947	-1.456	-1.844
	(0.557)	(0.761)	(0.820)	(0.807)	(0.928)	(0.798)	(0.847)	(0.838)
Bus Available	0.363	0.001	-0.030	0.022	-0.056	-0.018	0.173	0.028
	(0.095)	(0.121)	(0.123)	(0.133)	(0.135)	(0.135)	(0.122)	(0.133)
Qingchi Available	0.481	0.121	0.192	0.042	0.078	0.169	0.063	0.041
	(0.099)	(0.124)	(0.122)	(0.138)	(0.137)	(0.133)	(0.139)	(0.139)

Notes: Table shows balance between the nVBT group without any additional treatment, nVBT (Info), and all other treatment arms. TE, CE, and GT stand for Trainee Engagement, Community Engagement, and Group Transport. Standard errors clustered at the village level reported in parentheses.

Additional Robustness Checks

Table B3: Cluster-Level Distance

	Voucher Acceptance		Voucher Submission		Class Enrollment		Class Completion	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Cluster-level travel distance								
Panel A: Linear specification								
Village Based Training	0.13***	0.13***	0.17***	0.18***	0.20***	0.22***	0.16***	0.18***
	(3.6e-02)	(3.6e-02)	(3.6e-02)	(3.6e-02)	(3.2e-02)	(3.2e-02)	(2.6e-02)	(2.5e-02)
Cluster-level Travel Distance	-0.01***	-0.01***	-0.02***	-0.02***	-0.02***	-0.02***	-0.01***	-0.01***
	(3.5e-03)	(3.5e-03)	(2.8e-03)	(2.8e-03)	(2.5e-03)	(2.5e-03)	(2.0e-03)	(2.1e-03)
Panel B: Quadratic specification								
Village Based Training	0.13***	0.14***	0.09**	0.12***	0.12***	0.15***	0.09***	0.12***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)
Cluster-level Travel Distance	-0.01**	-0.01**	-0.05***	-0.04***	-0.05***	-0.04***	-0.04***	-0.04***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
(Cluster-level Travel Distance)^2	1.0e-04	-4.0e-05	1.3e-03***	1.2e-03***	1.4e-03***	1.3e-03***	1.2e-03***	1.2e-03***
	(2.6e-04)	(2.6e-04)	(2.7e-04)	(2.7e-04)	(2.6e-04)	(2.6e-04)	(2.2e-04)	(2.3e-04)
Obs.	5641	5135	5641	5135	5172	4698	5172	4698
Mean of nVBT (Info) Group	0.61	0.62	0.23	0.24	0.11	0.12	0.07	0.07
Controls		X		X		X		X

Notes: OLS regressions of take-up variables on treatment and cluster-level distance. Cluster-Level Distance is the measured distance from the respondent's cluster boundary to the training center's cluster. Group Transport dummy and Average Distance control included in all regressions. Panel B regressions also include a squared Average Distance term. Controls include other treatment dummies, stipend amount dummies, household assets, household income, stitched last month, individual skill/employment/education/marital status, as well as indicators of female empowerment. Within outcomes observations change due to missingness in control variables. Moving from Submission to Enroll/Complete, observations change because respondents had to be randomly balloted out after submission due to course capacity constraints. Standard errors clustered at the village level reported in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Table B4: Additional Boundaries - Quadratic Specifications

	Voucher Acceptance		Voucher Submission		Class Enrollment		Class Completion	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Within Village Boundaries: Cluster-level travel distance								
Village Based Training	0.14***	0.14***	0.09**	0.11***	0.12***	0.13***	0.08***	0.10***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)
Settlement Based Training	-0.01	-0.01	0.03	0.03	0.05	0.05	0.07**	0.06**
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Cluster-level Travel Distance	-0.01**	-0.01*	-0.04***	-0.04***	-0.04***	-0.04***	-0.03***	-0.03***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
(Cluster-level Travel Distance)^2	8.2e-05	-1.2e-05	1.2e-03***	1.1e-03***	1.2e-03***	1.2e-03***	9.8e-04***	1.0e-03***
	(2.8e-04)	(2.7e-04)	(2.7e-04)	(2.7e-04)	(2.6e-04)	(2.5e-04)	(2.1e-04)	(2.2e-04)
Panel B: Outside Village Boundaries: Travel distance								
Crossing 1st Boundary	-0.11**	-0.15***	-0.15***	-0.18***	-0.19***	-0.22***	-0.15***	-0.18***
	(0.06)	(0.06)	(0.06)	(0.06)	(0.05)	(0.05)	(0.04)	(0.04)
Crossing 2 or more Boundaries	-0.05	-0.03	0.06	0.06	0.06	0.06	0.04	0.04
	(0.06)	(0.06)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)	(0.04)
Travel Distance	-3.5e-03	2.6e-03	-0.05***	-0.04***	-0.04***	-0.04***	-0.03***	-0.03***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
(Travel Distance)^2	-3.3e-04	-6.9e-04	1.2e-03***	9.7e-04**	1.1e-03***	9.3e-04**	9.4e-04***	7.5e-04**
	(5.2e-04)	(5.0e-04)	(4.4e-04)	(4.3e-04)	(4.2e-04)	(4.0e-04)	(3.6e-04)	(3.5e-04)
Panels A Obs.	4691	4691	4691	4691	4691	4691	4691	4691
Panels B Obs.	5873	5348	5873	5348	5393	4900	5393	4900
Controls		X		X		X		X

Notes: OLS regressions of take-up variables on treatment, additional boundaries, and quadratic distance. Group Transport dummy and Average Distance control included in all specifications. Cluster-Level Travel Distance is the measured distance from the respondent's cluster boundary to the training center. Travel Distance is the measured distance from the population centroid of the village to the training center. Controls include other treatment dummies, stipend amount dummies, household assets, household income, stitched last month, individual skill/employment/education/marital status, as well as indicators of female empowerment. Moving from Submission to Enroll/Complete, observations change because respondents had to be randomly balloted out after submission due to course capacity constraints. Standard errors clustered at the village level reported in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Table B5: Number of Village Borders

	Voucher Acceptance		Voucher Submission		Class Enrollment		Class Completion	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Boundary Effect only – No Distance Measure								
Crossed 1st Bound.	-0.14**	-0.16***	-0.28***	-0.31***	-0.31***	-0.33***	-0.24***	-0.27***
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)
Add. Impact 2nd Bound.	-0.11*	-0.09	0.02	0.02	0.03	0.03	0.02	0.01
	(0.07)	(0.07)	(0.06)	(0.06)	(0.05)	(0.05)	(0.04)	(0.04)
Add. Impact 3rd Bound.	0.04	0.05	-0.03	-0.02	-0.04	-0.03	-0.03	-0.02
	(0.06)	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)	(0.03)	(0.03)
Add. Impact 4th Bound.	-0.01	-0.03	-0.01	0.01	-0.01	0.01	-0.01	0.01
	(0.07)	(0.07)	(0.06)	(0.06)	(0.05)	(0.05)	(0.04)	(0.04)
Add. Impact 5th Bound.	-0.02	-0.03	-0.07	-0.09	-0.07	-0.08*	-0.05	-0.06*
	(0.07)	(0.07)	(0.06)	(0.06)	(0.05)	(0.05)	(0.03)	(0.03)
Panel B: Linear specification – Distance Measure 2: Travel distance								
Crossed 1st Bound.	-0.07	-0.10*	-0.12***	-0.22***	-0.24***	-0.26***	-0.20***	-0.22***
	(0.06)	(0.06)	(0.05)	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)
Add. Impact 2nd Bound.	-0.12*	-0.09	0.04	0.03	0.06	0.05	0.04	0.03
	(0.06)	(0.06)	(0.06)	(0.06)	(0.05)	(0.05)	(0.04)	(0.04)
Add. Impact 3rd Bound.	0.08	0.09*	0.01	0.01	-0.01	-1.0e-03	-0.02	1.5e-04
	(0.05)	(0.05)	(0.04)	(0.04)	(0.03)	(0.04)	(0.03)	(0.03)
Add. Impact 4th Bound.	0.01	-0.01	0.02	0.03	0.01	0.02	-2.5e-03	0.012
	(0.07)	(0.07)	(0.06)	(0.06)	(0.04)	(0.05)	(0.04)	(0.04)
Add. Impact 5th Bound.	0.05	0.04	0.02	1.8e-03	0.01	4.5e-04	0.01	-1.5e-03
	(0.07)	(0.07)	(0.06)	(0.06)	(0.04)	(0.04)	(0.03)	(0.03)
Travel Distance	-0.02***	-0.02***	-0.02***	-0.02***	-0.02***	-0.02***	-0.01***	-0.01***
	(0.01)	(0.01)	(3.7e-03)	(3.7e-03)	(3.0e-03)	(3.1e-03)	(2.5e-03)	(2.6e-03)
Panel C: Quadratic specification – Distance Measure 2: Travel distance								
Crossed 1st Boundary	-0.09	-0.13**	-0.14**	-0.17***	-0.19***	-0.22***	-0.15***	-0.18***
	(0.06)	(0.06)	(0.06)	(0.06)	(0.05)	(0.05)	(0.04)	(0.04)
Add. Impact 2nd Bound.	-0.12*	-0.09	0.04	0.04	0.06	0.06	0.05	0.04
	(0.06)	(0.06)	(0.06)	(0.06)	(0.05)	(0.05)	(0.04)	(0.04)
Add. Impact 3rd Bound.	0.08	0.08	0.01	0.02	-0.01	3.5e-03	-0.01	0.01
	(0.05)	(0.05)	(0.04)	(0.04)	(0.03)	(0.04)	(0.03)	(0.03)
Add. Impact 4th Bound.	0.01	-0.01	0.02	0.03	0.01	0.02	-0.00	0.01
	(0.07)	(0.07)	(0.06)	(0.06)	(0.04)	(0.05)	(0.03)	(0.04)
Add. Impact 5th Bound.	0.05	0.04	3.3e-03	-0.01	-3.2e-03	-0.01	-2.1e-03	-0.01
	(0.06)	(0.07)	(0.06)	(0.05)	(0.04)	(0.04)	(0.03)	(0.03)
Travel Distance	-0.01	-7.2e-04	-0.05***	-0.04***	-0.04***	-0.04***	-0.03***	-0.03***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
(Travel Distance)^2	-3.6e-04	-7.2e-04	1.2e-03***	9.7e-04**	1.1e-03**	9.3e-04**	9.4e-04**	7.6e-04**
	(5.3e-04)	(5.1e-04)	(4.4e-04)	(4.2e-04)	(4.2e-04)	(4.0e-04)	(3.6e-04)	(3.5e-04)
Obs.	5873	5348	5873	5348	5393	4900	5393	4900
Mean VBT	0.75	0.77	0.54	0.56	0.45	0.46	0.32	0.34
Controls		X		X		X		X

Notes: OLS regressions of take-up variables on dummies of each of the boundaries crossed. The dummies are "nested", so the first indicator "Crossed 1st Bound." is = 1 for all villages which did not have a training center. Group Transport dummy control included in all specifications, and an Average Distance control in included with the same functional form as distance. Travel Distance is the measured distance from the population centroid of the village to the training center. Controls include other treatment dummies, stipend amount dummies, household assets, household income, stitched last month, individual skill/employment/education/marital status, as well as indicators of female empowerment. Within outcomes observations change due to missingness in control variables. Moving from Submission to Enroll/Complete, observations change because respondents had to be randomly balloted out after submission due to course capacity constraints. Standard errors clustered at the village level reported in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Table B6: Economic Magnitude of Settlement Boundary and Distance

	Voucher Acceptance		Voucher Submission		Class Enrollment		Class Completion	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Economic Magnitudes								
Panel A Magnitudes:								
VBT	6222***	6489***	6055***	6169***	6575***	6737***	4771***	5119***
	(1383)	(1432)	(1055)	(1064)	(1110)	(1115)	(800)	(835)
SBT	254	144	2026***	1853**	2529***	2400***	2801***	2570***
	(755)	(765)	(731)	(746)	(775)	(801)	(723)	(752)
Panel B Magnitudes:								
VBT	4042***	4204***	3423***	3636***	4201***	4544***	2864***	3345***
	(1225)	(1268)	(1004)	(1011)	(1036)	(1056)	(758)	(797)
SBT	306	401	1384*	1256*	2002**	1926**	2446***	2259***
	(819)	(836)	(752)	(764)	(794)	(819)	(731)	(767)
Cluster-level Travel Distance	342***	375***	438***	437***	416***	409***	306***	297***
	(125)	(131)	(84)	(86)	(77)	(78)	(54)	(58)
Panel A Obs.	5797	5285	5797	5285	5321	4841	5321	4841
Panel B Obs.	5631	5127	5631	5127	5163	4691	5163	4691
Controls		X		X		X		X

Notes: Economic magnitudes derived by dividing the VBT, SBT, or distance coefficient by the stipend coefficient, based on OLS regressions of take-up variables on treatment and distance in Table 6, Panel A and Panel B. Group Transport dummy control included in all specifications, and an Average Distance control is included with the same functional form as distance. Travel Distance is the measured distance from the population centroid of the village to the training center. Controls include other treatment dummies, stipend amount, household assets, household income, stitched last month, individual skill/employment/education/marital status, as well as indicators of female empowerment. Within outcomes observations change due to missingness in control variables. Moving from Submission to Enroll/Complete, observations change because respondents had to be randomly balloted out after submission due to course capacity constraints. Standard errors clustered at the village level reported in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Table B7: Travel Costs and Distance

	Bus Fare	Public Motorcycle Fare	Public Qingchi Fare	Private Motorcycle Fare
	(1)	(2)	(3)	(4)
Distance and One-Way Fare (Linear)				
Travel Distance (KM)	1.69***	1.50***	1.29***	4.05***
	(0.50)	(0.38)	(0.18)	(1.48)
Constant	10.34***	18.45***	11.76***	90.09***
	(1.23)	(2.06)	(0.71)	(10.61)
Obs.	505	255	593	255
Average Travel Fare	19.32	26.22	18.27	111.00
R Squared	0.33	0.28	0.46	0.10

Notes: Bus/public motorcycle/public qingchi fare represents the price a driver would charge for taking a passenger to complete a relevant segment. Private motorcycle/qingchi fare is the price a public transport driver would charge if he take a passenger to complete the same relevant segment in a private capacity. Standard errors clustered at the village level reported in parentheses. **Travel distance measures commute distance via a particular mode of public transport between one station and another, excluding connecting distance to and from stations.** * p<0.10, ** p<0.05, *** p<0.01

Table B8: Full Treatment Breakdown

	Voucher Acceptance		Voucher Submission		Class Enrollment		Class Completion	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Village Based Training	0.04	0.08	0.08	0.12**	0.13**	0.16***	0.09**	0.13***
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)
Community Engagement	-0.19***	-0.19***	-0.03	-0.04	-0.01	-0.01	-0.01	-0.01
	(0.05)	(0.06)	(0.04)	(0.04)	(0.03)	(0.04)	(0.02)	(0.03)
Trainee Engagement	-0.09	-0.09	-0.01	-0.01	0.02	0.02	-0.01	-0.01
	(0.06)	(0.06)	(0.04)	(0.04)	(0.03)	(0.03)	(0.02)	(0.02)
Group Transport	-0.02	-0.02	0.05	0.04	0.07**	0.08**	0.07**	0.09***
	(0.05)	(0.05)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)
VBT × CE	0.17**	0.15**	0.04	0.03	0.05	0.03	0.04	0.02
	(0.07)	(0.07)	(0.06)	(0.06)	(0.06)	(0.06)	(0.05)	(0.05)
VBT × TE	0.08	0.06	0.04	0.03	0.01	0.01	0.06	0.05
	(0.07)	(0.07)	(0.06)	(0.06)	(0.05)	(0.05)	(0.04)	(0.04)
GT × CE	0.12	0.12	0.06	0.07	0.05	0.05	0.04	0.03
	(0.08)	(0.08)	(0.07)	(0.07)	(0.05)	(0.06)	(0.05)	(0.05)
Travel Distance	-0.01	-3.3e-03	-0.04***	-0.04***	-0.04***	-0.04***	-0.03***	-0.03***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
$(\text{Travel Distance})^2$	-1.5e-04	-4.5e-04	1.2e-03***	9.8e-04**	1.1e-03***	9.4e-04**	9.2e-04***	7.3e-04**
	(5.0e-04)	(5.0e-04)	(4.5e-04)	(4.4e-04)	(4.2e-04)	(4.1e-04)	(3.5e-04)	(3.5e-04)
Obs.	5873	5348	5873	5348	5393	4900	5393	4900
Mean of nVBT (Info) Group	0.61	0.63	0.24	0.25	0.12	0.13	0.08	0.08
Controls		X		X		X		X

Notes: OLS regressions of take-up variables on treatment and distance. Travel Distance is the measured distance from the population centroid of the village to the training center. Average Distance and Average Distance squared controls included in all regressions. Controls include other treatment dummies, stipend amount, household assets, household income, stitched last month, individual skill/employment/education/marital status, as well as indicators of female empowerment. Within outcomes observations change due to missingness in control variables. Moving from Submission to Enroll/Complete, observations change because respondents had to be randomly balloted out after submission due to course capacity constraints. Standard errors clustered at the village level reported in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Table B9: Effect by Neighbor Treatment

	Voucher Acceptance		Voucher Submission		Class Enrollment		Class Completion	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Boundary Effect only – No Distance Measure								
Village Based Training	0.23***	0.24***	0.32***	0.33***	0.35***	0.36***	0.28***	0.29***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)
Neighbor	0.02	0.01	0.01	-1.0e-03	0.02	0.01	0.02	0.01
	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
VBT × Neighbor	-0.05	-0.05	-2.3e-03	-0.01	-0.03	-0.04	-0.04	-0.03
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Panel B: No Distance Interaction – Distance Measure 2: Travel distance								
Village Based Training	0.14***	0.14***	0.17***	0.19***	0.21***	0.23***	0.18***	0.20***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)
Neighbor	0.02	0.01	0.01	3.6e-04	0.02	0.01	0.02	0.01
	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
VBT × Neighbor	-0.05	-0.05	-1.4e-03	-0.01	-0.03	-0.04	-0.03	-0.03
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Travel Distance	-0.01***	-0.01***	-0.02***	-0.02***	-0.02***	-0.02***	-0.01***	-0.01***
	(4.2e-03)	(4.1e-03)	(3.1e-03)	(3.2e-03)	(2.6e-03)	(2.7e-03)	(2.1e-03)	(2.2e-03)
Panel C: Distance Interaction								
Village Based Training	0.14***	0.13***	0.17***	0.19***	0.22***	0.24***	0.19***	0.21***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)
Neighbor	-0.10	-0.13	-0.17	-0.20	-0.18	-0.22	-0.19	-0.23
	(0.13)	(0.14)	(0.15)	(0.14)	(0.14)	(0.15)	(0.14)	(0.15)
VBT × Neighbor	-0.02	-0.01	3.3e-03	-0.00	-0.08	-0.08*	-0.08*	-0.08*
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)
Travel Distance	-0.01***	-0.01***	-0.02***	-0.02***	-0.02***	-0.02***	-0.01***	-0.01***
	(4.3e-03)	(4.3e-03)	(3.1e-03)	(3.2e-03)	(2.5e-03)	(2.6e-03)	(2.0e-03)	(2.2e-03)
Travel Distance × Neighbor	3.1e-03	3.6e-03	-2.9e-04	-3.1e-04	-0.01**	-0.01*	-0.01**	-0.01**
	(0.01)	(0.01)	(4.2e-03)	(4.4e-03)	(3.6e-03)	(3.7e-03)	(3.3e-03)	(3.5e-03)
Obs.	5872	5348	5872	5348	5392	4900	5392	4900
Mean of nVBT (Info) Group	0.61	0.63	0.24	0.25	0.12	0.13	0.08	0.081
Controls		X		X		X		X

Notes: OLS regressions of take-up variables on treatment, neighbor treatment and distance. Neighbor is a dummy variable marking respondents who also had a neighbor invited to enroll in the program. Group Transport dummy and Average Distance control included in all regressions. Regressions in Panel C also include an interaction term between Peer and Average Distance. Controls include other treatment dummies, stipend amount, household assets, household income, stitched last month, individual skill/employment/education/marital status, as well as indicators of female empowerment. Travel Distance is the measured distance from the population centroid of the village to the training center. Within outcomes observations change due to missingness in control variables. Moving from Submission to Enroll/Complete, observations change because respondents had to be randomly balloted out after submission due to course capacity constraints. Standard errors clustered at the village level reported in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Table B10: Individual-level Stipend and Village Average Stipend

	Voucher Acceptance		Voucher Submission		Class Enrollment		Class Completion	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Boundary Effect only – No Distance Measure								
Village Based Training	0.22***	0.23***	0.33***	0.33***	0.34***	0.35***	0.28***	0.29***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)
Trainee Stipend (000s in PKR)	0.04***	0.04***	0.04***	0.05***	0.04***	0.04***	0.04***	0.04***
	(0.01)	(0.01)	(0.01)	(0.01)	(4.5e-03)	0.01	(4.4e-03)	(0.01)
Village Average Stipend in (000s in PKR)	-3.6e-03	-0.01	0.01	0.01	0.02	0.01	0.02	0.01
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)
Panel B: Linear specification – Distance Measure 1: Straight-Line distance								
Village Based Training	0.11**	0.09*	0.19***	0.20***	0.22***	0.23***	0.19***	0.20***
	(0.05)	(0.05)	(0.04)	(0.04)	(0.03)	(0.04)	(0.02)	(0.03)
Trainee Stipend (000s in PKR)	0.04***	0.04***	0.04***	0.05***	0.04***	0.04***	0.04***	0.04***
	(0.01)	(0.01)	(0.01)	(0.01)	(4.5e-03)	0.01	(4.4e-03)	(4.6e-03)
Village Average Stipend (000s in PKR)	-2.6e-03	-0.01	0.01	0.01	0.02	0.01	0.01	0.01
	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.02)	(0.01)	(0.01)
Straight-line Distance	-0.02***	-0.02***	-0.02***	-0.02***	-0.02***	-0.02***	-0.02***	-0.02***
	(0.01)	(0.01)	(0.01)	(0.01)	(3.8e-03)	(3.8e-03)	(3.0e-03)	(3.1e-03)
Panel C: Quadratic specification – Distance Measure 1: Straight-Line distance								
Village Based Training	0.23***	0.22***	0.23***	0.24***	0.21***	0.23***	0.18***	0.19***
	(0.07)	(0.07)	(0.07)	(0.07)	(0.06)	(0.06)	(0.04)	(0.05)
Trainee Stipend (000s)	0.04***	0.04***	0.04***	0.05***	0.04***	0.04***	0.04***	0.04***
	(0.01)	(0.01)	(0.01)	(0.01)	(4.5e-03)	(0.01)	(4.4e-03)	(0.01)
Village Average Stipend (000s in PKR)	2.4e-03	-1.0e-03	0.01	0.01	0.02	0.01	0.01	0.01
	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.02)	(0.01)	(0.01)
Straight-line Distance	0.03	0.02	-0.01	-0.01	-0.02	-0.02	-0.02	-0.02
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)
(Straight-line Distance)^2	2.5e-02	2.3e-02	-1.0e-02	-6.9e-03	-2.2e-02	-1.9e-02	-1.8e-02	-1.7e-02
	(2.0e-02)	(1.9e-02)	(1.8e-02)	(1.8e-02)	(1.6e-02)	(1.6e-02)	(1.2e-02)	(1.3e-02)
Obs.	5872	5348	5872	5348	5392	4900	5392	4900
Mean of nVBT	0.61	0.63	0.24	0.25	0.12	0.13	0.08	0.08
Controls		X		X		X		X

Notes: OLS regressions of take-up variables on treatment, trainee stipend, village average stipend and distance. Group Transport dummy control included in all specifications, and an Average Distance control in included with the same functional form as distance. Straight-Line Distance is the GPS distance from the voucher holder's house to nearest training center and is constrained to be 0 for all VBT voucher holders. Travel Distance is the measured distance from the population centroid of the village to the training center. Controls include other treatment dummies, stipend amount, household assets, household income, stitched last month, individual skill/employment/education/marital status, as well as indicators of female empowerment. Within outcomes observations change due to missingness in control variables. Moving from Submission to Enroll/Complete, observations change because respondents had to be randomly balloted out after submission due to course capacity constraints. Standard errors clustered at the village level reported in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Table B10 – Continued

	Voucher Acceptance		Voucher Submission		Class Enrollment		Class Completion	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel D: Linear specification – Distance Measure 2: Travel distance								
Village Based Training	0.14***	0.13***	0.18***	0.19***	0.21***	0.23***	0.18***	0.20***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)
Trainee Stipend (000s in PKR)	0.04***	0.04***	0.04***	0.05***	0.04***	0.04***	0.040***	0.04***
	(0.01)	(0.01)	(0.01)	(0.01)	(4.5e-03)	(0.01)	(4.4e-03)	(0.01)
Village Average Stipend (000s in PKR)	-0.01	-0.01	0.01	1.2e-03	0.01	0.01	0.01	0.01
	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.02)	(0.01)	(0.01)
Travel Distance	-0.01***	-0.01***	-0.02***	-0.02***	-0.02***	-0.02***	-0.01***	-0.012***
	(4.2e-03)	(4.1e-03)	(3.1e-03)	(3.1e-03)	(2.5e-03)	(2.6e-03)	(2.0e-03)	(2.2e-03)
Panel E: Quadratic specification – Distance Measure 2: Travel distance								
Village Based Training	0.15***	0.16***	0.12***	0.14***	0.16***	0.18***	0.14***	0.16***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)
Trainee Stipend (000s)	0.04***	0.04***	0.04***	0.05***	0.04***	0.04***	0.04***	0.04***
	(0.01)	(0.01)	(0.01)	(0.01)	(4.5e-03)	(0.01)	(4.4e-03)	(0.01)
Village Average Stipend (000s in PKR)	-0.01	-0.01	2.4e-03	-7.0e-04	0.01	0.01	0.01	0.01
	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.02)	(0.01)	(0.01)
Travel Distance	-4.0e-03	1.3e-03	-0.04***	-0.04***	-0.04***	-0.03***	-0.03***	-0.03***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
(Travel Distance)^2	-3.5e-04	-6.6e-04	1.1e-03**	9.3e-04**	9.4e-04**	8.9e-04**	8.1e-04**	7.2e-04**
	(5.2e-04)	(5.0e-04)	(4.3e-04)	(4.3e-04)	(4.1e-04)	(4.0e-04)	(3.5e-04)	(3.5e-04)
Obs.	5872	5348	5872	5348	5392	4900	5392	4900
Mean of nVBT	0.61	0.63	0.24	0.25	0.12	0.13	0.08	0.08
Controls		X		X		X		X

Notes: OLS regressions of take-up variables on treatment, trainee stipend, village average stipend and distance. Group Transport dummy control included in all specifications, and an Average Distance control in included with the same functional form as distance. Straight-Line Distance is the GPS distance from the voucher holder's house to nearest training center and is constrained to be 0 for all VBT voucher holders. Travel Distance is the measured distance from the population centroid of the village to the training center. Controls include other treatment dummies, stipend amount, household assets, household income, stitched last month, individual skill/employment/education/marital status, as well as indicators of female empowerment. Within outcomes observations change due to missingness in control variables. Moving from Submission to Enroll/Complete, observations change because respondents had to be randomly balloted out after submission due to course capacity constraints. Standard errors clustered at the village level reported in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Table B11: Additional Boundaries - Impact on Transport Mode

	Intention to Walk		Actual Walk	
	(1)	(2)	(3)	(4)
Within Village Boundaries: Settlement				
Panel A: Boundary Effect only				
Village Based Training	0.47***	0.48***	0.63***	0.63***
	(0.04)	(0.04)	(0.03)	(0.03)
Settlement Based Training	0.29***	0.28***	0.20***	0.20***
	(0.03)	(0.04)	(0.03)	(0.03)
Panel B: Cluster-level travel distance (linear specification)				
Village Based Training	0.38***	0.39***	0.52***	0.51***
	(0.04)	(0.04)	(0.04)	(0.04)
Settlement Based Training	0.27***	0.26***	0.17***	0.18***
	(0.03)	(0.03)	(0.03)	(0.03)
Cluster-level Travel Distance	-0.01***	-0.01***	-0.01***	-0.02***
	(0.00)	(0.00)	(0.00)	(0.00)
Panel C: Cluster-level travel distance (quadratic specification)				
Village Based Training	0.30***	0.31***	0.43***	0.42***
	(0.04)	(0.04)	(0.04)	(0.04)
Settlement Based Training	0.21***	0.20***	0.11***	0.11***
	(0.03)	(0.03)	(0.03)	(0.03)
Cluster-level Travel Distance	-0.05***	-0.05***	-0.06***	-0.06***
	(0.01)	(0.01)	(0.01)	(0.01)
(Cluster-level Travel Distance)^2	0.00***	0.00***	0.00***	0.00***
	(0.00)	(0.00)	(0.00)	(0.00)
Outside Village Boundaries: Number of Villages Crossed				
Panel D: Boundary Effect only				
Crossed 1st Boundary	-0.55***	-0.55***	-0.71***	-0.71***
	(0.06)	(0.06)	(0.04)	(0.04)
Additional Impact of Crossing Two Boundaries or More	-0.09	-0.09*	-0.04	-0.04
	(0.05)	(0.06)	(0.03)	(0.03)
Panel E: Travel distance (linear specification)				
Crossed 1st Boundary	-0.49***	-0.48***	-0.64***	-0.63***
	(0.06)	(0.06)	(0.04)	(0.04)
Additional Impact of Crossing Two Boundaries or More	-0.02	-0.03	0.03	0.03
	(0.05)	(0.06)	(0.03)	(0.03)
Travel Distance	-0.01***	-0.02***	-0.02***	-0.02***
	(0.00)	(0.00)	(0.00)	(0.00)
Panel F: Travel distance (linear specification)				
Crossed 1st Boundary	-0.32***	-0.33***	-0.49***	-0.48***
	(0.07)	(0.07)	(0.05)	(0.05)
Additional Impact of Crossing Two Boundaries or More	-0.00	-0.01	0.05*	0.05*
	(0.05)	(0.06)	(0.03)	(0.03)
Travel Distance	-0.09***	-0.08***	-0.08***	-0.08***
	(0.01)	(0.01)	(0.01)	(0.01)
(Travel Distance)^2	0.00***	0.00***	0.00***	0.00***
	(0.00)	(0.00)	(0.00)	(0.00)
Panel A Obs.	5285	5285	5285	5285
Panels B - C Obs.	5127	5127	5127	5127
Panels D - F Obs.	5873	5348	5873	5348
Controls		X		X

Notes: OLS regressions of intention to walk and actual walk variables on treatment and distance. Group Transport dummy and Average Distance control included in all specifications. Cluster-Level Travel Distance (in Panels B and C) is the measured distance from the respondent's cluster boundary to the training center. Travel Distance is the measured distance from the population centroid of the village to the training center. Controls include other treatment dummies, stipend amount dummies, household assets, household income, stitched last month, individual skill/employment/education/marital status, as well as indicators of female empowerment. Within outcomes observations change due to missingness in control variables. The top three panels have fewer observations than the bottom three because of missing values on Cluster-Level Travel Distance. Moving from Submission to Enroll/Complete, observations change because respondents had to be randomly balloted out after submission due to course capacity constraints. Standard errors clustered at the village level reported in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Table B12: Heterogeneous Effect by Female Perception of Safety

	Voucher Acceptance		Voucher Submission		Class Enrollment		Class Completion	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Village Based Training	0.12***	0.12***	0.16***	0.18***	0.22***	0.25***	0.19***	0.22***
	(0.04)	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)	(0.04)
Woman Feels Unsafe	-0.07*	-0.08*	-0.10***	-0.09**	-0.09***	-0.07**	-0.08***	-0.07***
	(0.04)	(0.04)	(0.03)	(0.04)	(0.03)	(0.03)	(0.02)	(0.03)
VBT $\times$ Woman Feels Unsafe	0.09*	0.11*	0.08	0.07	0.08	0.07	0.09	0.10
	(0.05)	(0.06)	(0.07)	(0.07)	(0.07)	(0.07)	(0.06)	(0.07)
Travel Distance	-0.01**	-0.01**	-0.02***	-0.02***	-0.02***	-0.02***	-0.02***	-0.01***
	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Obs.	2948	2667	2948	2667	2680	2418	2680	2418
Controls		X		X		X		X

Notes: OLS regressions of take-up variables on treatment, distance, and the interaction between VBT and a binary indicator of the respondent's reporting feeling unsafe. Group Transport dummy and Average Distance control are included in all specifications. Controls include other treatment dummies, stipend amount dummies, household assets, household income, stitched last month, individual skill/employment/education/marital status, as well as indicators of female empowerment. Travel Distance is the measured distance from the population centroid of the village to the training center. Within outcomes observations change due to missingness in control variables. Moving from Submission to Enroll/Complete observations change due to respondents who were randomly balloted out after submission. Standard errors, reported in parentheses, are clustered at the village level. * $p<0.10$, ** $p<0.05$, *** $p<0.01$

Table B13: Table 4 Specifications Restricted to Table 10 Sample

	Voucher Acceptance		Voucher Submission		Class Enrollment		Class Completion	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
No Distance Measure								
Panel A: Boundary Effect only - Restricted Sample								
Village Based Training	0.23***	0.23***	0.34***	0.35***	0.35***	0.37***	0.28***	0.29***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)
Distance Measure 1: Straight-Line distance								
Panel B: Linear specification - Restricted Sample								
Village Based Training	0.11**	0.09**	0.21***	0.22***	0.23***	0.24***	0.19***	0.20***
	(0.05)	(0.05)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)
Straight-line Distance	-0.02***	-0.02***	-0.02***	-0.02***	-0.02***	-0.02***	-0.01***	-0.01***
	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Panel C: Quadratic specification - Restricted Sample								
Village Based Training	0.19***	0.19***	0.20***	0.24***	0.18***	0.23***	0.15***	0.19***
	(0.07)	(0.07)	(0.07)	(0.07)	(0.06)	(0.06)	(0.05)	(0.04)
Straight-line Distance	0.01	0.01	-0.03	-0.01	-0.04**	-0.02	-0.03**	-0.02
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)
(Straight-line Distance)^2	-0.00	-0.00*	0.00	-0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Distance Measure 2: Travel distance								
Panel D: Linear specification - Restricted Sample								
Village Based Training	0.12***	0.12***	0.19***	0.20***	0.21***	0.23***	0.17***	0.19***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)
Travel Distance	-0.01***	-0.01***	-0.02***	-0.02***	-0.02***	-0.02***	-0.01***	-0.01***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Panel E: Quadratic specification - Restricted Sample								
Village Based Training	0.13***	0.15***	0.12**	0.15***	0.15***	0.18***	0.12***	0.15***
	(0.05)	(0.04)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)	(0.03)
Travel Distance	-0.01	-0.00	-0.04***	-0.04***	-0.04***	-0.04***	-0.03***	-0.03***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
(Travel Distance)^2	-0.00	-0.00	0.00***	0.00**	0.00***	0.00**	0.00***	0.00**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Obs.	5083	4647	5083	4647	4665	4252	4665	4252
Mean of nVBT (Info) Group	0.60	0.61	0.23	0.24	0.11	0.12	0.06	0.07
Controls		X		X		X		X

Notes: OLS regressions of take-up variables on treatment and distance. Group Transport dummy control included in all specifications, and an Average Distance control included with the same functional form as distance. Straight-Line Distance is the GPS distance from the voucher holder's house to nearest training center and is constrained to be 0 for all VBT voucher holders. Travel Distance is the measured distance from the population centroid of the village to the training center. Controls include other treatment dummies, stipend amount dummies, household assets, household income, stitched last month, individual skill/employment/education/marital status, as well as indicators of female empowerment. Within outcomes observations change due to missingness in control variables. Moving from Submission to Enroll/Complete, observations change because respondents had to be randomly balloted out after submission due to course capacity constraints. The restricted sample is composed of observations for which we have GPS data, which we use to map the paths from the cluster centroids to the nearest training center. This is the same sample as in Table 10. Standard errors clustered at the village level reported in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Table B14: Accounting for Underpopulated Travel Paths (Table 5 Specifications)

	Voucher Acceptance		Voucher Submission		Class Enrollment		Class Completion	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Logarithmic specification								
Village Based Training	0.12***	0.13***	0.14***	0.17***	0.16***	0.19***	0.12***	0.15***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)
Log. Travel Distance	-0.03*	-0.03*	-0.09***	-0.08***	-0.08***	-0.07***	-0.06***	-0.05***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)
Dummy: 500m Segment $\leq$ 50th %ile Pop. Density	-0.06**	-0.06*	-0.04	-0.04	-0.06**	-0.07**	-0.06***	-0.07***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)
Panel B: Fifth order polynomial of travel distance								
Village Based Training	0.09*	0.12**	0.09*	0.12**	0.12**	0.16***	0.09**	0.13***
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)
Travel Distance	0.07	0.06	0.01	0.00	-0.01	-0.02	-0.02	-0.03
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)
(Travel Distance)^2	-2.49e-02	-1.68e-02	-1.15e-02	-8.87e-03	-1.52e-03	1.00e-03	1.76e-03	5.48e-03
	(1.76e-02)	(1.76e-02)	(1.51e-02)	(1.51e-02)	(1.32e-02)	(1.30e-02)	(1.08e-02)	(1.04e-02)
(Travel Distance)^3	2.94e-03	1.75e-03	1.23e-03	9.16e-04	-1.85e-04	-4.18e-04	-4.25e-04	-9.02e-04
	(2.23e-03)	(2.24e-03)	(1.82e-03)	(1.81e-03)	(1.53e-03)	(1.52e-03)	(1.25e-03)	(1.21e-03)
(Travel Distance)^4	-1.47e-04	-8.25e-05	-5.02e-05	-3.64e-05	2.65e-05	3.39e-05	3.27e-05	5.52e-05
	(1.16e-04)	(1.17e-04)	(9.12e-05)	(9.08e-05)	(7.53e-05)	(7.51e-05)	(6.14e-05)	(5.98e-05)
(Travel Distance)^5	2.61e-06	1.40e-06	7.26e-07	5.15e-07	-6.87e-07	-7.52e-07	-7.24e-07	-1.08e-06
	(2.08e-06)	(2.10e-06)	(1.60e-06)	(1.60e-06)	(1.31e-06)	(1.31e-06)	(1.06e-06)	(1.04e-06)
Dummy: 500m Segment $\leq$ 50th %ile Pop. Density	-0.08***	-0.08**	-0.06**	-0.06**	-0.09***	-0.09***	-0.07***	-0.08***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)
Panel C: Distance bins								
Village Based Training	0.04	0.07	0.07	0.11**	0.11**	0.14***	0.08**	0.12***
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)
Bin 2	-0.16***	-0.11**	-0.15***	-0.13**	-0.09**	-0.08*	-0.06	-0.04
	(0.05)	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)	(0.03)
Bin 3	0.01	0.07	-0.06	-0.04	-0.08	-0.06	-0.09*	-0.06
	(0.05)	(0.06)	(0.06)	(0.07)	(0.05)	(0.06)	(0.04)	(0.05)
Bin 4	-0.22***	-0.18***	-0.22***	-0.21***	-0.16***	-0.15***	-0.11*	-0.09*
	(0.07)	(0.06)	(0.07)	(0.06)	(0.06)	(0.06)	(0.06)	(0.05)
Bin 5	-0.09	-0.05	-0.23***	-0.21***	-0.19***	-0.16***	-0.16***	-0.12***
	(0.07)	(0.06)	(0.07)	(0.07)	(0.06)	(0.06)	(0.04)	(0.04)
Bin 6	-0.19***	-0.16**	-0.23***	-0.21***	-0.18***	-0.15***	-0.14***	-0.11**
	(0.07)	(0.07)	(0.07)	(0.07)	(0.06)	(0.05)	(0.05)	(0.05)
Bin 7	-0.14**	-0.11	-0.33***	-0.28***	-0.27***	-0.21***	-0.21***	-0.14***
	(0.07)	(0.07)	(0.07)	(0.07)	(0.06)	(0.06)	(0.05)	(0.05)
Bin 8	-0.14**	-0.12**	-0.25***	-0.24***	-0.26***	-0.25***	-0.21***	-0.20***
	(0.07)	(0.06)	(0.05)	(0.05)	(0.04)	(0.05)	(0.04)	(0.04)
Bin 9	-0.31***	-0.28***	-0.38***	-0.35***	-0.32***	-0.29***	-0.24***	-0.20***
	(0.09)	(0.08)	(0.06)	(0.06)	(0.05)	(0.04)	(0.04)	(0.04)
Bin 10	-0.23***	-0.20***	-0.32***	-0.30***	-0.25***	-0.23***	-0.20***	-0.17***
	(0.08)	(0.08)	(0.06)	(0.06)	(0.05)	(0.05)	(0.04)	(0.04)
Dummy: 500m Segment $\leq$ 50th %ile Pop. Density	-0.06**	-0.06*	-0.07**	-0.07**	-0.10***	-0.10***	-0.08***	-0.09***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)
Panel D: Regression discontinuity-style design								
Village Based Training	0.19***	0.22***	0.08**	0.13***	0.10***	0.17***	0.07**	0.14***
	(0.03)	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Travel Distance	-0.01	0.01	-0.03***	-0.02**	-0.02*	-0.01	-0.01	-0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Dummy: 500m Segment $\leq$ 50th %ile Pop. Density	-0.03	-0.04	-0.09***	-0.09***	-0.12***	-0.12***	-0.11***	-0.12***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Panel A-C Obs.	5083	4647	5083	4647	4665	4252	4665	4252
Panel D Obs.	2732	2498	2732	2498	2477	2254	2477	2254
Mean of nVBT (Info) Group	0.69	0.70	0.44	0.45	0.21	0.22	0.08	0.08
%Δ VBT Panel A (Relative to Table 5, Restricted Sample)	-16.82	-14.70	-10.65	-8.76	-13.36	-12.07	-16.36	-14.69
%Δ VBT Panel B (Relative to Table 5, Restricted Sample)	-24.22	-19.42	-22.05	-15.82	-21.41	-17.10	-24.32	-18.99
%Δ VBT Panel C (Relative to Table 5, Restricted Sample)	-50.31	-33.08	-38.34	-28.34	-35.07	-28.94	-38.19	-29.83
%Δ VBT Panel D (Relative to Table 5, Restricted Sample)	-30.56	-27.10	-20.69	-16.77	-22.88	-19.96	-26.10	-22.96
Controls		X		X		X		X

Notes: OLS regressions of take-up variables on treatment, alternative distance controls and the underpopulated dummy. Group Transport dummy control included in all specifications, and an Average Distance control included with the same functional form as distance. Travel Distance is the measured distance from the population centroid of the village to the training center. Distance bins computed using Travel Distance Controls include other treatment dummies, stipend amount dummies, household assets, household income, stitched last month, individual skill/employment/education/marital status, as well as indicators of female empowerment. Within outcomes observations change due to missingness in control variables. Moving from Submission to Enroll/Complete, observations change because respondents had to be randomly balloted out after submission due to course capacity constraints. The variable *Dummy: 500m Segment $\leq$ 50th %ile Pop. Density* is equal to 1 when the path has 500 meters or more in which the population density is below the median. Paths are calculated from the cluster centroid to the nearest training center. All percentage changes relative to Table 5 with the restricted sample are significant at the 90%. These are calculated using a nested model F-test, testing the inclusion of the dummy. Standard errors clustered at the village level reported in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Table B15: Accounting for Underpopulated Travel Paths (Table 6 Specifications)

	Voucher Acceptance		Voucher Submission		Class Enrollment		Class Completion	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Within Village Boundaries: Settlement								
Panel A: Boundary Effect only								
Village Based Training	0.18***	0.18***	0.25***	0.27***	0.25***	0.26***	0.17***	0.18***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)
Settlement Based Training	-0.01	-0.01	0.07**	0.07**	0.08**	0.08**	0.10***	0.09***
	(0.03)	(0.03)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)
Dummy: 500m Segment $\leq$ 50th %ile Pop. Density	-0.09***	-0.08**	-0.08**	-0.07**	-0.09***	-0.09***	-0.07***	-0.08***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)
Panel B: Cluster-level travel distance (linear specification)								
Village Based Training	0.11**	0.10**	0.14***	0.15***	0.15***	0.16***	0.09***	0.11***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)
Settlement Based Training	-0.02	-0.02	0.05	0.05	0.06*	0.07*	0.09***	0.08***
	(0.03)	(0.03)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)
Cluster-level Travel Distance	-0.01***	-0.01***	-0.02***	-0.02***	-0.02***	-0.02***	-0.01***	-0.01***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Dummy: 500m Segment $\leq$ 50th %ile Pop. Density	-0.07**	-0.07**	-0.06*	-0.05	-0.07***	-0.07**	-0.06***	-0.06***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)
Outside Village Boundaries: Number of Villages Crossed								
Panel C: Boundary Effect only								
Crossed 1st Boundary	-0.09	-0.12**	-0.25***	-0.28***	-0.26***	-0.28***	-0.19***	-0.21***
	(0.06)	(0.06)	(0.06)	(0.06)	(0.05)	(0.05)	(0.04)	(0.04)
Crossing 2 or more Boundaries	-0.10*	-0.07	-0.03	-0.02	-0.03	-0.01	-0.03	-0.02
	(0.05)	(0.06)	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)
Dummy: 500m Segment $\leq$ 50th %ile Pop. Density	-0.08***	-0.07**	-0.09***	-0.09***	-0.10***	-0.11***	-0.09***	-0.10***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)
Panel D: Travel distance (linear specification)								
Crossed 1st Boundary	-0.05	-0.07	-0.18***	-0.21***	-0.20***	-0.22***	-0.15***	-0.17***
	(0.06)	(0.06)	(0.05)	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)
Crossing 2 or more Boundaries	-0.05	-0.02	0.05	0.05	0.05	0.05	0.03	0.03
	(0.05)	(0.06)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)	(0.04)
Travel Distance	-0.01**	-0.01***	-0.02***	-0.02***	-0.02***	-0.02***	-0.01***	-0.01***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Dummy: 500m Segment $\leq$ 50th %ile Pop. Density	-0.07**	-0.06*	-0.07**	-0.06**	-0.09***	-0.09***	-0.08***	-0.08***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)
Panel A Obs.	4248	4248	4248	4248	4248	4248	4248	4248
Panels B Obs.	4128	4128	4128	4128	4128	4128	4128	4128
Panels C - D Obs.	5083	4647	5083	4647	4665	4252	4665	4252
Mean of nVBT (Info) Group	0.75	0.78	0.56	0.58	0.46	0.47	0.32	0.34
%Δ VBT Panel A (Relative to Table 6, Restricted Sample)	-19.66	-18.31	-13.38	-11.93	-15.61	-14.64	-18.04	-16.97
%Δ SBT Panel A (Relative to Table 6, Restricted Sample)	x	x	-22.96	-21.39	-23.81	-22.86	-17.29	-18.35
%Δ VBT Panel B (Relative to Table 6, Restricted Sample)	-23.12	-21.09	-15.16	-11.43	-17.77	-14.67	-22.38	-18.42
%Δ SBT Panel B (Relative to Table 6, Restricted Sample)	x	x	-23.10	-18.54	-23.48	-20.60	-15.64	-15.83
%Δ Cross. 1st Boundary Panel C (Relative to Table 6, Restricted Sample)	-33.54	-25.89	-17.07	-14.93	-19.15	-17.77	-22.23	-20.52
%Δ Cross. 1st Boundary Panel D (Relative to Table 6, Restricted Sample)	x	-29.06	-17.06	-13.63	-19.11	-16.54	-22.63	-19.59
Controls		X		X		X		X

Notes: OLS regressions of take-up variables on treatment, additional boundaries, distance and the underpopulated dummy. Group Transport dummy and Average Distance control included in all specifications. Cluster-Level Travel Distance (in Panels B and C) is the measured distance from the respondent's cluster boundary to the training center. Travel Distance is the measured distance from the population centroid of the village to the training center. Controls include other treatment dummies, stipend amount dummies, household assets, household income, stitched last month, individual skill/employment/education/marital status, as well as indicators of female empowerment. Economic magnitudes derived by dividing the VBT, SBT, or distance coefficient by the stipend coefficient. Within outcomes observations change due to missingness in control variables. The top three panels have fewer observations than the bottom three because of missing values on Cluster-Level Travel Distance. Moving from Submission to Enroll/Complete, observations change because respondents had to be randomly balloted out after submission due to course capacity constraints. The variable *Dummy: 500m Segment $\leq$ 50th %ile Pop. Density* is equal to 1 when the path has 500 meters or more in which the population density is below the median. Paths are calculated from the cluster centroid to the nearest training center. All percentage changes are relative to their counterparts in Table 6 using the same restricted sample and are significant at the 95%. These are calculated using a nested model F-test, testing the inclusion of the dummy. Whenever the coefficient is not significant in the restricted sample, the percentage change is suppressed from the table and an x is shown instead. Standard errors clustered at the village level reported in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Table B16: Table 5 Specifications Restricted to Table B14 Sample

	Voucher Acceptance		Voucher Submission		Class Enrollment		Class Completion	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Logarithmic specification - Restricted Sample								
Village Based Training	0.14***	0.15***	0.16***	0.18***	0.18***	0.21***	0.14***	0.18***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)
Log. Travel Distance	-0.04**	-0.04**	-0.09***	-0.09***	-0.09***	-0.08***	-0.07***	-0.06***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)
Panel B: Fifth order polynomial of travel distance - Restricted Sample								
Village Based Training	0.12***	0.15***	0.11**	0.15***	0.16***	0.19***	0.12***	0.16***
	(0.05)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)
Travel Distance	0.04	0.03	-0.02	-0.02	-0.04	-0.05	-0.05	-0.05
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)
(Travel Distance)^2	-1.93e-02	-1.13e-02	-6.77e-03	-4.43e-03	4.60e-03	6.99e-03	6.94e-03	1.10e-02
	(1.75e-02)	(1.73e-02)	(1.52e-02)	(1.51e-02)	(1.34e-02)	(1.31e-02)	(1.09e-02)	(1.03e-02)
(Travel Distance)^3	2.44e-03	1.26e-03	8.11e-04	5.19e-04	-7.09e-04	-9.39e-04	-8.69e-04	-1.38e-03
	(2.22e-03)	(2.22e-03)	(1.83e-03)	(1.81e-03)	(1.56e-03)	(1.54e-03)	(1.27e-03)	(1.21e-03)
(Travel Distance)^4	-1.28e-04	-6.26e-05	-3.37e-05	-2.04e-05	4.69e-05	5.45e-05	5.00e-05	7.41e-05
	(1.16e-04)	(1.16e-04)	(9.21e-05)	(9.11e-05)	(7.70e-05)	(7.63e-05)	(6.25e-05)	(6.06e-05)
(Travel Distance)^5	2.32e-06	1.11e-06	4.83e-07	2.77e-07	-9.80e-07	-1.05e-06	-9.72e-07	-1.36e-06
	(2.08e-06)	(2.10e-06)	(1.62e-06)	(1.60e-06)	(1.34e-06)	(1.33e-06)	(1.08e-06)	(1.06e-06)
Panel C: Distance bins - Restricted Sample								
Village Based Training	0.07*	0.11***	0.12**	0.15***	0.16***	0.20***	0.13***	0.17***
	(0.04)	(0.04)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)	(0.04)
Bin 2	-0.17***	-0.12**	-0.16***	-0.14***	-0.11**	-0.09**	-0.08*	-0.05
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)
Bin 3	0.01	0.07	-0.06	-0.03	-0.08	-0.05	-0.08*	-0.05
	(0.05)	(0.06)	(0.06)	(0.07)	(0.05)	(0.06)	(0.05)	(0.05)
Bin 4	-0.21***	-0.18***	-0.22***	-0.21***	-0.16**	-0.15***	-0.11*	-0.09
	(0.07)	(0.06)	(0.07)	(0.07)	(0.06)	(0.06)	(0.06)	(0.05)
Bin 5	-0.09	-0.05	-0.23***	-0.21***	-0.19***	-0.17***	-0.16***	-0.13***
	(0.06)	(0.06)	(0.07)	(0.07)	(0.06)	(0.06)	(0.04)	(0.04)
Bin 6	-0.19***	-0.17**	-0.24***	-0.21***	-0.19***	-0.16***	-0.15***	-0.12**
	(0.07)	(0.07)	(0.07)	(0.07)	(0.06)	(0.06)	(0.05)	(0.05)
Bin 7	-0.14**	-0.11	-0.33***	-0.28***	-0.27***	-0.21***	-0.21***	-0.14***
	(0.07)	(0.07)	(0.07)	(0.07)	(0.06)	(0.06)	(0.05)	(0.05)
Bin 8	-0.15**	-0.13**	-0.25***	-0.25***	-0.27***	-0.26***	-0.22***	-0.21***
	(0.06)	(0.06)	(0.06)	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)
Bin 9	-0.32***	-0.29***	-0.39***	-0.36***	-0.34***	-0.30***	-0.25***	-0.21***
	(0.09)	(0.08)	(0.06)	(0.06)	(0.05)	(0.05)	(0.04)	(0.04)
Bin 10	-0.23***	-0.21***	-0.33***	-0.31***	-0.26***	-0.24***	-0.21***	-0.19***
	(0.08)	(0.08)	(0.06)	(0.06)	(0.05)	(0.05)	(0.04)	(0.04)
Panel D: Regression discontinuity-style design - Restricted Sample								
Village Based Training	0.20***	0.23***	0.11***	0.16***	0.14***	0.21***	0.11***	0.18***
	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)	(0.04)	(0.03)	(0.04)
Travel Distance	-0.01	-0.00	-0.04***	-0.03***	-0.03***	-0.03***	-0.03***	-0.02**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Panel A-C Obs.	5083	4647	5083	4647	4665	4252	4665	4252
Panel D Obs.	2732	2498	2732	2498	2477	2254	2477	2254
Mean of nVBT (Info) Group	0.69	0.70	0.44	0.45	0.21	0.22	0.08	0.08
Controls		X		X		X		X

Notes: OLS regressions of take-up variables on treatment and alternative distance controls on restricted sample. Group Transport dummy control included in all specifications, and an Average Distance control included with the same functional form as distance. Travel Distance is the measured distance from the population centroid of the village to the training center. Distance bins computed using Travel Distance Controls include other treatment dummies, stipend amount dummies, household assets, household income, stitched last month, individual skill/employment/education/marital status, as well as indicators of female empowerment. Within outcomes observations change due to missingness in control variables. Moving from Submission to Enroll/Complete, observations change because respondents had to be randomly balloted out after submission due to course capacity constraints. The restricted sample is composed of observations for which we have GPS data, which we use to map the paths from the cluster centroids to the nearest training center. Standard errors clustered at the village level reported in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Table B17: Table 6 Specifications Restricted to Table B15 Sample

	Voucher Acceptance		Voucher Submission		Class Enrollment		Class Completion	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Within Village Boundaries: Settlement								
Panel A: Boundary Effect only - Restricted Sample								
Village Based Training	0.22***	0.22***	0.29***	0.30***	0.29***	0.30***	0.21***	0.22***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)
Settlement Based Training	0.01	0.01	0.09***	0.09**	0.11***	0.11***	0.12***	0.12***
	(0.03)	(0.03)	(0.04)	(0.04)	(0.03)	(0.04)	(0.03)	(0.03)
Panel B: Cluster-level travel distance (linear specification) - Restricted Sample								
Village Based Training	0.14***	0.13***	0.16***	0.17***	0.18***	0.19***	0.12***	0.14***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)
Settlement Based Training	-0.00	-0.00	0.06*	0.06*	0.08**	0.08**	0.10***	0.10***
	(0.03)	(0.03)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)
Cluster-level Travel Distance	-0.01***	-0.01***	-0.02***	-0.02***	-0.02***	-0.02***	-0.01***	-0.01***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Outside Village Boundaries: Number of Villages Crossed								
Panel C: Boundary Effect only - Restricted Sample								
Crossed 1st Boundary	-0.14**	-0.16***	-0.30***	-0.33***	-0.32***	-0.34***	-0.25***	-0.27***
	(0.05)	(0.06)	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)
Crossing 2 or more Boundaries	-0.10*	-0.08	-0.04	-0.03	-0.03	-0.03	-0.04	-0.03
	(0.05)	(0.06)	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)
Panel D: Travel distance (linear specificatio) - Restricted Sample								
Crossed 1st Boundary	-0.08	-0.11*	-0.22***	-0.24***	-0.25***	-0.27***	-0.19***	-0.21***
	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)
Crossing 2 or more Boundaries	-0.06	-0.02	0.05	0.05	0.05	0.05	0.03	0.03
	(0.05)	(0.06)	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)	(0.04)
Travel Distance	-0.01**	-0.01***	-0.02***	-0.02***	-0.02***	-0.02***	-0.01***	-0.01***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Panel A Obs.	4248	4248	4248	4248	4248	4248	4248	4248
Panels B Obs.	4128	4128	4128	4128	4128	4128	4128	4128
Panels C - D Obs.	5083	4647	5083	4647	4665	4252	4665	4252
Mean of nVBT (Info) Group	0.75	0.78	0.56	0.58	0.46	0.47	0.32	0.34
Controls		X		X		X		X

Notes: OLS regressions of take-up variables on treatment, additional boundaries, and distance, in the restricted sample. Group Transport dummy and Average Distance control included in all specifications. Cluster-Level Travel Distance (in Panels B and C) is the measured distance from the respondent's cluster boundary to the training center. Travel Distance is the measured distance from the population centroid of the village to the training center. Controls include other treatment dummies, stipend amount dummies, household assets, household income, stitched last month, individual skill/employment/education/marital status, as well as indicators of female empowerment. Economic magnitudes derived by dividing the VBT, SBT, or distance coefficient by the stipend coefficient. Within outcomes observations change due to missingness in control variables. The top three panels have fewer observations than the bottom three because of missing values on Cluster-Level Travel Distance. Moving from Submission to Enroll/Complete, observations change because respondents had to be randomly balloted out after submission due to course capacity constraints. The restricted sample is composed of observations for which we have GPS data, which we use to map the paths from the cluster centroids to the nearest training center. Standard errors clustered at the village level reported in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Table B18: Table 10 Specifications Defining the Dummy with 250 Meters

	Voucher Acceptance		Voucher Submission		Class Enrollment		Class Completion	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
No Distance Measure								
Panel A: Boundary Effect only								
Village Based Training	0.19***	0.19***	0.29***	0.30***	0.29***	0.30***	0.22***	0.23***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)
Dummy: 250m Segment $\leq$ 50th %ile Pop. Density	-0.07**	-0.07**	-0.08***	-0.08***	-0.10***	-0.10***	-0.09***	-0.10***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)
Distance Measure 1: Straight-Line distance								
Panel B: Linear specification								
Village Based Training	0.07	0.06	0.16***	0.18***	0.17***	0.19***	0.14***	0.15***
	(0.05)	(0.05)	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)
Straight-line Distance	-0.02***	-0.02***	-0.02***	-0.02***	-0.02***	-0.02***	-0.01***	-0.01***
	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Dummy: 250m Segment $\leq$ 50th %ile Pop. Density	-0.06**	-0.06**	-0.08***	-0.08***	-0.09***	-0.09***	-0.09***	-0.09***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)
Panel C: Quadratic specification								
Village Based Training	0.15**	0.16**	0.15**	0.20***	0.12*	0.18***	0.09*	0.14***
	(0.07)	(0.07)	(0.07)	(0.07)	(0.06)	(0.06)	(0.05)	(0.05)
Straight-line Distance	0.01	0.01	-0.03	-0.01	-0.04**	-0.02	-0.03**	-0.02
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)
(Straight-line Distance)^2	-0.00	-0.00*	0.00	-0.00	0.00	0.00	0.00*	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Dummy: 250m Segment $\leq$ 50th %ile Pop. Density	-0.06**	-0.06**	-0.08***	-0.08***	-0.09***	-0.09***	-0.09***	-0.09***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)
Distance Measure 2: Travel distance								
Panel D: Linear specification								
Village Based Training	0.10**	0.10**	0.15***	0.17***	0.17***	0.19***	0.13***	0.15***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)
Travel Distance	-0.01***	-0.01***	-0.02***	-0.02***	-0.02***	-0.02***	-0.01***	-0.01***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Dummy: 250m Segment $\leq$ 50th %ile Pop. Density	-0.05*	-0.05*	-0.06**	-0.06**	-0.08***	-0.08***	-0.08***	-0.08***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)
Panel E: Quadratic specification								
Village Based Training	0.11**	0.13***	0.10**	0.13***	0.13***	0.16***	0.09***	0.13***
	(0.05)	(0.04)	(0.05)	(0.05)	(0.04)	(0.04)	(0.03)	(0.03)
Travel Distance	-0.01	0.00	-0.04***	-0.04***	-0.04***	-0.03***	-0.03***	-0.02***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
(Travel Distance)^2	-0.00	-0.00	0.00**	0.00**	0.00**	0.00*	0.00**	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Dummy: 250m Segment $\leq$ 50th %ile Pop. Density	-0.06**	-0.06*	-0.05*	-0.05*	-0.07**	-0.07***	-0.07***	-0.08***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)
Obs.	5083	4647	5083	4647	4665	4252	4665	4252
Mean of nVBT (Info) Group	0.60	0.61	0.23	0.24	0.11	0.12	0.06	0.07
%Δ VBT Panel A (Relative to Table 4, Restricted Sample)	-18.22	-17.64	-15.13	-14.45	-16.68	-16.71	-20.28	-20.38
%Δ VBT Panel B (Relative to Table 4, Restricted Sample)	-33.97	-34.65	-22.13	-19.32	-23.54	-21.26	-27.50	-25.46
%Δ VBT Panel C (Relative to Table 4, Restricted Sample)	-20.95	-17.86	-25.44	-18.19	-32.74	-23.45	-39.46	-28.24
%Δ VBT Panel D (Relative to Table 4, Restricted Sample)	-21.95	-20.13	-17.45	-14.85	-18.49	-16.63	-23.23	-20.92
%Δ VBT Panel E (Relative to Table 4, Restricted Sample)	-15.12	-13.01	-15.76	-12.13	-15.36	-12.91	-20.36	-16.47
Controls		X		X		X		X

Notes: OLS regressions of take-up variables on treatment, distance and the underpopulated dummy. Group Transport dummy control included in all specifications, and an Average Distance control included with the same functional form as distance. Straight-Line Distance is the GPS distance from the voucher holder's house to nearest training center and is constrained to be 0 for all VBT voucher holders. Travel Distance is the measured distance from the population centroid of the village to the training center. Controls include other treatment dummies, stipend amount dummies, household assets, household income, stitched last month, individual skill/employment/education/marital status, as well as indicators of female empowerment. Within outcomes observations change due to missingness in control variables. Moving from Submission to Enroll/Complete, observations change because respondents had to be randomly balloted out after submission due to course capacity constraints. Observations change relative to Table 4 as not all households had GPS data to map their paths. The variable *Dummy: 250m Segment $\leq$ 50th %ile Pop. Density* is equal to 1 when the path has 250 meters or more in which the population density is below the median. Paths are calculated from the cluster centroid to the nearest training center. All percentage changes relative to Table 4 with the restricted sample are significant at the 95%. These are calculated using a nested model F-test, testing the inclusion of the dummy. Standard errors clustered at the village level reported in parentheses. * p<0.10, ** p<0.05, *** p<0.01

Table B19: Crossing and Underpopulated Travel Path Matter, Rather than Population Density

	Voucher Acceptance		Voucher Submission		Class Enrollment		Class Completion	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Boundary Effect only, Population Density								
Village Based Training	0.17***	0.18***	0.27***	0.28***	0.26***	0.26***	0.19***	0.20***
	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)
Dummy: 500m Segment $\leq$ 50th %ile Pop. Density	-0.10***	-0.10***	-0.07**	-0.07**	-0.10***	-0.11***	-0.08***	-0.09***
	(0.03)	(0.03)	(0.04)	(0.04)	(0.03)	(0.03)	(0.03)	(0.03)
Mean Population Density	-1.47	-1.90	-0.03	-0.52	-2.37	-3.20*	-1.06	-1.37
	(2.07)	(2.08)	(1.84)	(1.70)	(2.01)	(1.86)	(1.74)	(1.62)
Panel B: Linear Travel Distance, Population Density								
Village Based Training	0.09**	0.09**	0.14***	0.16***	0.15***	0.16***	0.11***	0.13***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.03)	(0.03)
Travel Distance	-0.01***	-0.01***	-0.02***	-0.02***	-0.02***	-0.01***	-0.01***	-0.01***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Dummy: 500m Segment $\leq$ 50th %ile Pop. Density	-0.08***	-0.08**	-0.05	-0.05	-0.08**	-0.09***	-0.06**	-0.07***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Mean Population Density	-0.81	-1.23	0.93	0.36	-1.69	-2.56	-0.61	-0.98
	(2.39)	(2.23)	(2.10)	(1.87)	(1.94)	(1.82)	(1.72)	(1.64)
Panel C: Quadratic Travel Distance, Population Density								
Village Based Training	0.09**	0.11**	0.08*	0.12**	0.10**	0.13***	0.08**	0.11***
	(0.05)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)	(0.04)	(0.04)
Travel Distance	-0.01	-0.00	-0.04***	-0.04***	-0.04***	-0.03***	-0.03***	-0.02**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
(Travel Distance)^2	-0.00	-0.00	0.00**	0.00**	0.00**	0.00*	0.00**	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Dummy: 500m Segment $\leq$ 50th %ile Pop. Density	-0.08***	-0.08**	-0.04	-0.04	-0.07**	-0.08**	-0.06**	-0.07***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.03)
Mean Population Density	-0.83	-1.32	1.23	0.53	-1.45	-2.42	-0.43	-0.90
	(2.40)	(2.19)	(2.23)	(1.95)	(1.99)	(1.84)	(1.76)	(1.64)
Obs.	4175	3801	4175	3801	3824	3471	3824	3471
Mean of nVBT Group	0.60	0.61	0.23	0.24	0.11	0.12	0.06	0.07
Controls		X		X		X		X

Notes: OLS regressions of take-up variables on treatment, distance, the underpopulated dummy and mean population density. Group Transport dummy control included in all specifications, and an Average Distance control included with the same functional form as distance. Straight-Line Distance is the GPS distance from the voucher holder's house to nearest training center and is constrained to be 0 for all VBT voucher holders. Travel Distance is the measured distance from the population centroid of the village to the training center. Controls include other treatment dummies, stipend amount dummies, household assets, household income, stitched last month, individual skill/employment/education/marital status, as well as indicators of female empowerment. Within outcomes observations change due to missingness in control variables. Moving from Submission to Enroll/Complete, observations change because respondents had to be randomly balloted out after submission due to course capacity constraints. Observations change relative to Table 4 as not all households had GPS data to map their paths. The variable *Dummy: 500m Segment $\leq$ 50th %ile Pop. Density* is equal to 1 when the path has 500 meters or more in which the population density is below the median. The variable *Mean Pop. Density* is the average populaion density on each path. The units are 1000 people per 100 meters. Paths are calculated from the cluster centroid to the nearest training center. Standard errors clustered at the village level reported in parentheses. * p<0.10, ** p<0.05, *** p<0.01