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Evidence from Pakistani Schools**

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# Political Identity and Foreign Aid Efficacy: Evidence from Pakistani Schools\*

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## Abstract

We conduct a field experiment to study whether concerns to preserve an anti-liberal self-image affect low cost, private school owners' willingness to explore a collaboration with a liberal Pakistani NGO. While explicitly revealing the NGO's liberal motivation to school owners has a significant impact on beliefs about the NGO's objectives, on average, we find only limited evidence that treated school owners are less willing to explore a collaboration with our partner NGO. However, heterogeneous treatment effects suggest that differences in political identity cause negative reactions among the minority of school owners expressing conservative beliefs during a seemingly unrelated follow-up survey.

**JEL:** O20, P16, D03.

**Keywords:** Aid efficacy, political identity

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# 1 Introduction

We investigate the extent to which differences in political identity impede collaborations between NGOs and their local partners. In many developing countries, NGOs comprise one of the main delivery agents of development aid, providing a link between foreign funders and local partners. At the same time, major international funders such as the USA and the UK have initiated a strategic rethinking of their approach to foreign assistance, requiring that development aid will be allocated in accordance with the funder’s “*national security strategy*” (USA) and “*political and commercial interests*” (UK).<sup>1</sup> As a result of this strategic realignment, the political identity of the NGOs selected to work with funding agencies might become more salient, potentially leading to a situation in which NGO representatives’ political motivation is strongly aligned with the vision of the funding agency, but differs from the political identity of their local partners. Such differences may affect how NGOs perform and their ability to connect with local partners.

In this paper, we study Pakistani school owners’ political identity and how it shapes their engagement with an NGO that promotes gender equality in education. More precisely, we ask the following questions: 1) Do school owners in Punjab (Pakistan’s most populated province) hold an anti-liberal identity? and 2) To the extent that school owners exhibit an anti-liberal identity, does their desire to preserve an anti-liberal self-image affect their willingness to potentially collaborate with an NGO motivated by a liberal political identity?

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<sup>1</sup>In the USA, President Trump initiated this policy shift by announcing a foreign assistance review during his speech to the United Nations General Assembly in September 2018. According to newspaper reports, USAID officials were asked to “assess [a country’s] diplomatic, economic, security, and values alignment with the United States” to determine whether the country should be regarded as a “friend and ally” (Igoe, 2019). While identifying the gaps in how the Trump administration implemented the foreign assistance review, some commentators have argued for the Biden administration to build on the policy shift and to redefine development aid as a tool for national security and foreign policy (Runde, 2020). In the UK, Prime Minister Johnson announced the merger between the Department for International Development (DFID) and the Foreign and Commonwealth Office (FCO) in 2020, arguing that “distinctions between diplomacy and overseas development are artificial and outdated.” (Worley, 2020) The decision to merge DFID and FCO mimics similar policy decisions made by the governments of Canada, Australia and Norway in recent years. (Young-Powell, 2019)

Igoe, Michael. 2019. “USAID missions told to comply with Trump’s ‘foreign assistance realignment’”. *devex.com*, November 28. <https://www.devex.com/news/usaid-missions-told-to-comply-with-trump-s-foreign-assistance-realignment-96120> (last accessed 10.05.2022)

Runde, Daniel. 2020. “A New Approach to Foreign Aid”. *Center for Strategic & International Studies Global Forecasts 2021*, December 17. <https://www.csis.org/analysis/new-approach-foreign-aid> (last accessed 10.05.2022)

Worley, William. 2020. “Breaking: DFID merged with FCO”. *devex.com*, June 16. <https://www.devex.com/news/breaking-dfid-merged-with-fco-97489> (last accessed 10.05.2022)

Young-Powell, Abby. 2019. “What happens when an aid department is folded?”. *devex.com*, December 18. <https://www.devex.com/news/what-happens-when-an-aid-department-is-folded-96262> (last accessed 10.05.2022)

Identity – understood as an individual’s concern to maintain a particular self-image – has been argued to explain a wide range of social phenomena (Akerlof and Kranton, 2000). Yet, empirically documenting people taking actions in response to such self-image concerns is challenging: behavior might be shaped by consequential or instrumental motives, i.e. beliefs that individuals hold about particular outcomes, or by concerns for how a given action will be perceived by others (Bursztyn et al., 2020). Relying on data from two experimental studies conducted in different cities of Pakistan, Bursztyn et al. (2020) document that a significant share of Pakistani men (one-fourth to one-third of all subjects) are willing to pay a cost to preserve their anti-Americanism, suggesting that a meaningful share of the Pakistani population might hold an anti-liberal political identity.

To answer our research questions, we collaborated with an NGO operating in the education sector to conduct a field experiment with 4,180 low-cost, private school owners across Pakistan’s Punjab province. Our experiment comprised two phone calls which took place approximately 6 to 10 weeks apart.

The first phone call is made on behalf of our partner NGO, implying that school owners are unaware of their participation in an experiment. Moreover, the phone call setting ensures that the interaction is private in nature. Surveyors explain that the NGO they are representing is working to improve girls’ access to science education. We then *explicitly* inform a random subset of school owners that the NGO hopes that its activities support Pakistan’s transition towards a more liberal society (*liberal motivation* treatment). Half of these respondents receive a version of this statement which emphasizes that the NGO does not publicly disclose this motivation (privacy condition)—that is, it keeps its political motivation private.

We also cross-randomize whether the surveyor provides additional information on the NGO’s motivation to reach out to school owners. We randomly assigned one third of all respondents to a control condition in which surveyors provided no further information. The remaining two thirds of the sample are assigned to receive additional information designed to influence school owners’ beliefs about the extent to which the NGO seeks an equitable partnership (equitable and less-than-equitable partnership conditions, respectively).

Our surveyors then elicit whether school owners express an interest in receiving a sample of our partner NGO’s learning materials – an action with little immediate economic consequences for respondents. The surveyors emphasize that the sample is intended to serve informational purposes only and that there is no obligation for any follow-up interaction with the NGO, further limiting the scope for consequential motives. While school owners are not charged for the cost of the learning materials, we randomize whether school owners are asked to (partially) pay for the delivery costs.

The private nature of the interaction paired with the limited scope for consequential

motives imply that treated school owners' differential rejection of the offer to receive a sample of the NGO's learning materials can thus be interpreted as an action to preserve their anti-liberal self-image. In addition to the expression of interest on the phone, we collaborate with a courier service company to also obtain a behavioral measure whether school owners accept (and – if applicable – pay for) the sample of learning materials upon delivery.

The cross-randomized experimental conditions allow us to study *a)* the price elasticity of school owners' expression of an anti-liberal political identity – that is, how does the expression of an anti-liberal political identity respond to changes in the cost of the underlying action; and *b)* the elasticity of school owners' expression of an anti-liberal political identity with respect to beliefs they hold about intentions of, and the type of relationship to expect from, the NGO they are interacting with.

The second phone call is designed as an ostensibly unconnected phone survey on behalf of the Centre for Economic Research in Pakistan (CERP). The obfuscation was successful as more than 93 percent of school owners did not draw any connection between both phone calls. We collect further information about school owners during this second phone call, most importantly information on their gender attitudes and related beliefs.

We find little to no evidence, on average, that treated school owners are less willing to explore a potential collaboration with our partner NGO. Our estimates indicate that respondents in the liberal motivation condition are 1.2 percentage points (95% C.I. [-2.2,-0.2];  $p < 0.05$ ; control mean: 0.98) less likely to stay on the phone long enough to answer the question whether or not they would like to receive a sample of our partner NGO's learning materials. Conditional on not dropping out of the phone call, we show that, on average, the liberal motivation treatment does not affect school owners' expression of interest in obtaining a sample of the learning materials. The null effect is precisely estimated: the confidence intervals rule out negative effects larger than 2.5 percentage points.

We also document that school owners' response to the liberal motivation treatment does not differ when they are also provided with additional information about the reason why the NGO reached out to them, and while school owners' appear responsive to higher delivery costs, there is no evidence for a differential decline in school owners' willingness to obtain a sample of the NGO's learning materials at higher delivery costs in the treatment group. Our results thus indicate that, on average, low cost private school owners in Punjab do not express less interest in collaborating with an NGO when the NGO is explicitly revealing its liberal motivation during their first interaction.

This is surprising given that we document that treated school owners update their beliefs about our partner NGO. Due to concerns of strong negative reactions, we were unable to explicitly use the term “liberal” during the experiment. In lieu of directly measuring beliefs

about the extent to which school owners perceive the NGO they are interacting with to be motivated by liberal ideas, we thus opted to focus on school owners' agreement with a statement about the NGO's (more narrowly defined) objectives: to learn more about the extent to which school owners believe that our partner NGO acts based on a liberal motivation, we measure and analyze their agreement with the statement that "[name of partner NGO] is promoting gender equality and equal access to STEM education". To the extent that the objectives to promote gender equality and equal access to (STEM) education for girls are implicitly associated with a liberal identity, we thus focus on an indirect way to elicit these beliefs. Treated school owners' agreement with the statement is 0.104 standard deviations (95% C.I. [0.027,0.180];  $p < 0.01$ ) higher than the agreement observed for school owners in the control group. It is important to highlight that all respondents (including those that were assigned to the control group) were informed that our partner NGO works to promote gender equality and equal access to STEM education during the phone conversation. The significant, positive difference in agreement with the above statement therefore suggests that school owners in the treatment group perceived the NGO to be more credible and committed in its ambition to promote gender equality.

In the light of the systematic shift in school owners' beliefs about the NGO, one potential explanation for the muted expression of anti-liberal political identities is that the (large) majority of school owners in our sample do not actually hold an anti-liberal identity and thus do not experience the urge to maintain the corresponding self-image. To investigate this hypothesis, we estimate heterogeneous treatment effects of the *liberal motivation* treatment for the subset of school owners who expressed relatively more conservative beliefs during our obfuscated follow-up survey.<sup>2</sup> The estimated average treatment effects for school owners who either *a*) disagree that girls should be allowed to study at college even if it is far away, *b*) express higher agreement with the statement that "wives should be less educated than husbands" on a 5-step Likert scale or *c*) express the belief that the top male student in their school will achieve a higher educational attainment than the top female student in their school on the indicator of whether a respondent stays on the phone or expresses an interest in receiving a sample of our partner NGO's learning materials are consistent with the notion that the *liberal motivation* treatment resulted in expressions of an anti-liberal political identity among respondents who hold more conservative gender-related beliefs. However, our survey data suggests that only a minority of 5 to 13% of the school owners in our sample share these conservative beliefs, explaining the muted expression of anti-liberal political identities on average.

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<sup>2</sup>We document that school owners in the treatment group are not differentially more or less likely to express these conservative beliefs.

Our work relates to a large empirical literature on aid efficacy. This literature studies the consequences of aid by investigating the effects of different types of aid on outcomes such as institutional quality (Jones and Tarp (2016)), democracy (Kersting and Kilby (2014), Knack (2004)) and conflict (Dube and Naidu (2015), Crost et al. (2014), Nunn and Qian (2014)). Andersen et al. (2022) document an increase in offshore bank deposits when aid disbursements to highly-aid dependent countries are made, suggesting a substantial rate of aid capture by elites. Deserranno et al. (2022) study the effect of NGO-provided aid on government capacity. They document that the effects vary with the local supply of skilled labor: when skilled labor is scarce, the entry of an NGO crowds out government capacity (as NGOs tend to hire skilled government workers), while NGO-provided aid complements government capacity when the local supply of skilled labor is abundant. Our study adds to this literature by investigating the role of differences in political identity between NGOs and their local partners as a factor preventing NGOs from effectively acting as delivery agents for development aid. Our results suggest that differences in political identity, on average, do not impede collaborations between liberal NGOs and school owners in the private, low cost education sector across Punjab, Pakistan. Yet, the analysis of heterogeneous treatment effects suggests that differences in political identity lead to negative reactions for a small minority of school owners.

Our work also relates to a growing empirical literature on identity in economics. Atkin et al. (2021) rely on a revealed preference approach to infer and understand the endogenous determination of social identities. A separate strand of the literature takes ethnic and religious identities as given and uses naturally occurring variation to understand how social identities shape outcomes such as team production (Hjort, 2014), female labor supply (Bertrand et al., 2015) and conflict (Depetris-Chauvin et al., 2020). Bursztyn et al. (2020) focus on political identity and experimentally identify Pakistani men’s willingness to pay to preserve their anti-American identity. They find that one-fourth to one-third of the subjects in their experiments choose to forgo a sizeable payment to avoid an identity-threatening choice. We build on and add to these advances by studying Pakistani school owners’ expression of an anti-liberal identity in the context of a real-world, private phone conversation with a potential NGO partner. The cost of expressing an anti-liberal identity in our field experiment is forgoing a sample of learning materials offered by the NGO. The private and noncommittal nature of the interaction, along with the relatively low value of the offered materials limit both social and consequential considerations. School owners’ differential rejection of the NGO’s offer can thus be interpreted as an action to uphold an anti-liberal self-image.

The remainder of this paper is as follows: in Section 2, we describe the design and implementation of our field experiment. In Section 3, we discuss the main findings. In

Section 4, we offer concluding thoughts.

## 2 Experimental Design and Implementation

In this section, we describe our field experiment’s setting, sampling strategy and design.

### 2.1 Setting and Sample

We study individuals’ willingness to express an anti-liberal political identity in the context of an interaction between a Pakistani NGO focusing on the education sector, and low cost, private school owners located across the Punjab province in Pakistan.

**NGO partner** We collaborated with Science Fuse, a social enterprise based in Lahore. Science Fuse aims to promote access to STEM education, especially for girls. They offer to their partner schools a range of programs from summer schools to science-related workshops. Science Fuse’s most successful program – referred to as a ‘Science Show’ – focuses on sparking students’ interest in STEM education. During these events, Science Fuse team members – usually recent college graduates in a STEM field – visit a partner school and engage students through a science-themed show, which includes live experiments.

Science Fuse permitted us to contact school owners on their behalf to promote a potential collaboration and elicit school owners’ interest in learning more about Science Fuse and its programs. We developed all treatment materials jointly with Science Fuse to ensure that they would feel natural to study participants. Science Fuse approved the final versions of all treatment materials.

**Private school owners** We conduct our experiment with 4,180 owners of low cost private schools located across 33 of Punjab’s 36 districts. We contacted a total of 7,700 school owners randomly selected from the low cost private school census conducted by CERP on behalf of the Learning and Educational Achievements in Pakistan Schools (LEAPS) Program in November 2019.<sup>3</sup> The LEAPS census consists of more than 20,000 low cost private schools in Punjab and is, in turn, based on a complete census of all low cost private schools in Punjab conducted by the Programme Monitoring and Implementation Unit (PMIU) of the Government of Punjab. PMIU identified a total of approximately 60,000 schools across all of Punjab in 2016. When conducting the LEAPS census in 2019, CERP managed to interview the owners of approximately one third of the schools in the PMIU census. According to

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<sup>3</sup>For more information on the low cost, private schooling sector in Pakistan, please refer to Andrabi et al. (2017)

the PMIU census, more than 89% of the schools in the census had both male and female students (with the remaining part of the sample being equally split into boys-only and girls-only schools). The LEAPS census contains information on the school’s name, location (district and tehsil), the school owner’s name and phone number.<sup>4</sup>

We randomly ordered and assigned the phone numbers to the treatment and control conditions. Surveyors called each phone number in the assigned order. The survey team made up to three attempts (at most one per day) to contact any given number. In total, calls to 36% of the phone numbers were not successful (phone powered off or number inactive) and 15% of the school owners (who answered the call) did not want to talk to the surveyor after her initial introduction. Neither of these rates are differential across the main treatment condition.<sup>5</sup>

Appendix Table A1 provides additional descriptive statistics (for the sample of school owners who respond to the obfuscated follow-up survey). Almost all school owners in this sample (97%) had not interacted with Science Fuse before our experiment. Most of the school owners are male (82%) and their modal age is between 36 and 45 years (39%). The large majority of respondents is college-educated. In fact, 66% of school owners have completed postgraduate education. In contrast, only 11% of school owners do not have any college education.

## 2.2 The Experiment

We investigate school owners’ willingness to express an anti-liberal political identity in two steps. First, in a private environment and on behalf of Science Fuse, our surveyors inform a randomly selected subset of respondents that the organisation promotes equal access for girls to science education based on its ambition to contribute to Pakistan’s transition towards a more liberal society. Second, our surveyors elicit respondents’ interest in receiving a sample of Science Fuse’s learning materials – an action with little immediate economic consequences for respondents which should therefore be associated with only limited consequential considerations. We then investigate the extent to which respondents’ willingness to express an interest in receiving a sample of Science Fuse’s learning materials differs across treatment and control groups.

**Logistics** The experiment comprised two phone surveys (approximately 6 to 10 weeks apart). We administered the treatment variation in the first phone survey. We elicited our

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<sup>4</sup>We did not contact school owners in the three remaining districts of Punjab to avoid interfering with an ongoing research study led by the LEAPS Program in these districts.

<sup>5</sup>Please refer to Appendix Tables A3 for more details.

main outcomes during and after the first phone survey, but prior to the second phone survey. We measure pre-determined characteristics in the second phone survey.

The Centre for Economic Research in Pakistan (CERP) conducted both of these phone surveys. CERP exclusively employed female surveyors for all project activities to mimic Science Fuse’s regular outreach activities – Science Fuse also employs only female personnel for its outreach activities. Surveyors received 3 to 4 training sessions prior to the phone survey. CERP daily conducted: 1) team meetings to reiterate and emphasize surveyor instructions; and 2) random spot checks of surveyors’ audio recordings to ensure that surveyors closely followed the survey protocols and treatment scripts.<sup>6</sup> CERP conducted all phone surveys in Urdu—Pakistan’s national language. The experiment took place December 2021 – March 2022.

**Pre-registration** We pre-registered the experimental design and empirical analysis at the AsPredicted registry prior to the beginning of the data collection.<sup>7</sup>

### 2.2.1 The First Phone Survey

At the beginning of the phone call, the surveyor introduces herself by name and indicates that she is calling for the school owner. After verifying that the phone number and school name are correct and that the surveyor is actually speaking to the owner of the school, the surveyor explains that she is calling on behalf of Science Fuse. She explains that Science Fuse is a social enterprise based in Lahore, working to improve girls’ access to science education. The surveyor then asks the respondent whether he or she has time for the call. All respondents who – after this initial introduction – indicate their willingness to speak to the surveyor about Science Fuse and their work constitute the sample for our study.

If the respondent consents to the call, the surveyor asks whether the respondent had heard of Science Fuse before. Subsequently, the surveyor introduces Science Fuse in more detail, informing respondents that Science Fuse works on improving girls’ access to science education by hosting informative and engaging ‘*Science Shows*’. The surveyor states that these activities have succeeded in increasing students’ interest for STEM education.

In the next part of the phone survey script, the surveyor introduces the treatment variation. Abstracting from cross-randomized treatments detailing Science Fuse’s motivation to reach out to school owners (which will be discussed below), one half of all respondents proceeds directly to the next part of the phone survey script in which outcome measures are elicited. These respondents form the control group. The other half of all respondents

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<sup>6</sup>Following our IRB protocol, CERP recorded the surveyors and not the respondents.

<sup>7</sup>The pre-analysis plan is available here: [https://aspredicted.org/ZS2\\_CKW](https://aspredicted.org/ZS2_CKW)

is read out a phone survey script explaining that a liberal worldview drives Science Fuse’s motivation.

**Liberal motivation treatment** The CERP surveyor reads out the following script to the respondents randomly assigned to this treatment condition:

One of our core beliefs is that it is important to provide girls and women with equal access to science education for the Pakistani society to become more modern, progressive, tolerant and open-minded.

We trained the surveyors to strictly adhere to the Urdu translation of this wording. While Science Fuse agreed to reveal their liberal motivations to school owners, they strictly preferred Urdu words over English words since this attenuated the strength of the above statement. Moreover, Urdu does not carry a direct translation of the English word ‘*liberal*’. We opted not to use the English word as Science Fuse expected that the word would evoke a strong negative reaction in the general Pakistani public. Acknowledging Science Fuse’s concerns about the English terms, we expressed Science Fuse’s motivation by using the Urdu terms for the English words ‘*modern*’, ‘*progressive*’, ‘*tolerant*’, and ‘*open-minded*’. To be precise, we use the following Urdu translations for these words: *jadeed* (modern), *taraki pasand* (progressive), *ravadaar* (tolerant), and *wasee-al-nazar* (open-minded).

**Privacy condition** The phone conversation between the respondent and the surveyor constitutes a private environment in the sense that no one else *directly* observes this interaction, limiting the scope for social image considerations. However, respondents might still be concerned about their social image in anticipation of how others might perceive a potential collaboration with Science Fuse—who *openly* advocates for the Pakistani society to become more liberal in the *liberal motivation* treatment. To half of the respondents within the *liberal motivation* treatment arm, we thus cross-randomize a privacy condition in which the surveyor emphasizes the private nature of the conversation as follows:

One of our core beliefs, *that we do not generally share with the public*, is that it is important to provide girls and women with equal access to science education for the Pakistani society to become more modern, progressive, tolerant and open-minded.

We also cross-randomize whether the surveyor provides additional information on Science Fuse’s motivation to reach out to school owner. We randomly assign one third of all respondents to a control condition in which surveyors provided no further information. The

remaining two thirds of the sample are assigned to receive additional information designed to influence school owners' beliefs about the extent to which Science Fuse seeks an equitable partnership. More precisely, we cross-randomize one of the following treatments to a third of the sample each:

**Equitable partnership condition** CERP surveyors read out the following script – after introducing Science Fuse and its Science Shows but prior to reading out the liberal motivation script (for those in the liberal motivation treatment arm) – to the respondents randomly assigned to this treatment condition:

We are reaching out to you as part of an initiative to expand our activities and to grow our network. We are hoping to collaborate with a large number of schools. The number of schools we are collaborating with and thereby the number of children we are reaching through our joint activities is a key piece of information. We want to share this information with potential donors in the future to highlight our joint success. This allows us to show them how we – Science Fuse and you, one of the schools we are working with as equal partners – are jointly making a positive difference. We are interested in an equitable partnership with you. This will help us make sure that the work that you and Science Fuse are engaging in gets more recognition.

**Less-than-equitable partnership condition** Similarly, CERP surveyors read out the following script to the respondents randomly assigned to this treatment condition:

We are reaching out to you as part of an initiative to expand our activities and to grow our network. We are hoping to collaborate with a large number of schools. The number of schools we are collaborating with and thereby the number of children we are reaching through our activities is a key piece of information that we can share with potential donors in the future to highlight our success and to show them how Science Fuse is making a positive difference. This will help us make sure that Science Fuse's work gets more recognition.

The earlier condition explicitly emphasizes Science Fuse's desire to engage in an equitable partnership by underscoring Science Fuse's ambition to ensure that both it and the school owners receive recognition for their work and *joint* effort. In contrast, the *less-than-equitable partnership* condition purposefully leaves out the school owners' actions and interests, creating the impression that Science Fuse does not care for an equitable partnership with the

school owners. To focus these cross-randomized treatments on Science Fuse’s motivation and reduce the extent to which they would likely influence school owners’ perceptions of Science Fuse’s quality, we explicitly designed the treatment scripts to focus on Science Fuse’s future action space (i.e. future interactions with potential donors) instead of past awards or funding received.

**Offer to receive ‘Kitchen Ki Science’ booklet** After reading out the appropriate treatment scripts, the surveyor proceeds to the measurement of our outcomes of interest. To this end, the surveyor first announces the following:

We would like to give you a chance to get to know Science Fuse better. We have prepared an illustrated science booklet called “Kitchen Ki Science with Gul Rukh” in which we describe different science experiments. The experiments and the science behind them are narrated by Gul Rukh. She teaches young girls and boys how to do simple yet fun science experiments using inexpensive household materials. We believe this booklet will provide you with a good example of the type of learning experience provided by us.

While school owners are not charged for the cost of this booklet, we randomize whether school owners are asked to pay (a part of) the delivery costs. In particular, we randomize individuals to be asked to either pay for the full (PKR 200), partial (PKR 100) or no delivery costs in the following way:

We have covered the cost of the booklet, and shall not be charging you for it. However, since we are a social enterprise with limited funding, we request you pay a portion of the delivery cost, just PKR [*amount*]. This amount can be paid as cash on delivery. We are offering this booklet for information purposes only, and there is no obligation for any future interaction.

This additional cross-randomization allows us to study the price elasticity of school owners’ expression of an anti-liberal political identity—that is, how does the expression of an anti-liberal political identity respond to changes in the cost of the underlying action. The surveyor emphasizes that the respondents would receive the booklet as purely informational material and they are not obligated to interact with Science Fuse in the future. We include this component of the script to further minimize respondents’ consequential motives for when deciding whether to accept or reject the booklet.

The surveyor then records whether the school owner would like to receive the booklet at the stated delivery costs. In case the respondent answers in the affirmative, the surveyor proceeds to elicit a delivery address.

Finally, the surveyor elicits school owners' beliefs about Science Fuse and their interaction with the organization by reading out a number of statements and recording the degree to which the respondents agreed with them. We introduce these questions as part of Science Fuse's quality assurance process, motivated in the following way:

Based on what we talked about today, I would like to ask you a few more brief questions to help us better understand what you think of our organization and our activities. Would you mind answering these brief questions about today's call?

### **2.2.2 After the phone call**

After the first phone call, we send a package with the 'Kitchen Ki Science' booklet to all school owners who express an interest in obtaining the booklet to learn more about Science Fuse, provide a delivery address, and (if applicable) agree to pay the respective delivery charge.<sup>8</sup> To implement this, we worked with a well-known courier service company in Pakistan. The courier company offers a cash-on-delivery option. Under this option, the courier delivered the packages to the recipients' addresses but handed over the packages only if the recipients paid the agreed delivery charges. The courier's online portal allowed us to track and record each package's delivery status. This enabled us to distinguish between packages marked '*delivered,*' '*returned due to incorrect/untraceable address,*' or '*returned due to refusal to pay delivery charges.*'

### **2.2.3 The second phone call**

6 to 10 weeks after the first phone call, the CERP Survey Team contacts again all respondents who partially or fully complete the first phone call. In total, the CERP Survey Team was able to contact and survey 55% of the 4,180 school owners who (at least partially) complete the first phone survey. Appendix Table A3 shows that this consent rate does not differ as a function of treatment status.

At the beginning of the call, the surveyor introduces herself by name and indicates that she is calling on CERP's behalf as part of a research project with the Lahore University of Management Sciences and the University of Warwick as collaborators. She explains that the study aims to learn more about Pakistani private school owners' attitudes, experiences, and beliefs. Importantly, the consent procedure does not refer to Science Fuse or the previous

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<sup>8</sup>We packed all booklets in neutral, white envelopes, with the recipient's address printed on the front and Science Fuse's name printed on the back of each envelope. While the courier service company stored CERP's field office address as the return address on their backend, the envelope did not state an exact address for the sender.

phone call. Appendix Table A1 indicates that presenting the second phone call as an ostensibly unconnected survey on behalf of CERP successfully obfuscated the relationship between both surveys as more than 93% of school owners did not draw any connection between both phone surveys.

Surveyors proceed to elicit school owners' basic demographics, economic preferences, attitudes towards STEM, gender attitudes and beliefs, perceived social norms, and their school's operational procedures along with the use of and demand for technology during Covid-19.

The surveyor then asks the respondent whether they recall being contacted recently by an NGO. If the respondent does not recall a phone call from an NGO or the NGO's name, the surveyor states that the NGO who had contacted them is called Science Fuse. The surveyor then reveals that the research team is collaborating with Science Fuse to better understand the demand for Science Fuse's services. The surveyor asks whether the school owner has ordered and received the booklet. If the school owners indicates that they refused the booklet delivery, the surveyor asks them their reason for refusing it. If the school owner indicates they accepted the delivery, the surveyor asks them whether they reviewed it and to demonstrate they engaged with the material by recalling at least one aspect from a list of details about the booklet.

At the end of the call, the surveyor provides a brief debriefing message and explains that the school owner will also receive the debriefing information via text message.<sup>9</sup>

## 2.3 Ethical considerations

The Lahore University of Management Sciences's Institutional Review Board and the University of Warwick's Humanities & Social Sciences Research Ethics Committee reviewed and approved our research protocols.

Better understanding to what extent differences in political identity hinder collaborations between NGOs and their local partners can yield important societal benefits. This knowledge may substantially influence the design of policies created to reduce frictions between NGOs and their local partners. Nonetheless, we acknowledge that studying the elasticity of individuals' willingness to express their political identities requires balancing certain ethical and scientific objectives. We wanted to avoid explicitly deceiving our respondents and to protect our partner NGO (as well as the sector at large) from negative backlash, while minimizing experimenter demand and social desirability biases.

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<sup>9</sup>We sent the debriefing information via text message to all school owners who participate in the first phone survey.

We navigate the ethical concerns by adopting an experimental design which, at its core, represents a correspondence study. In line with the principles of correspondence studies, our respondents – school owners – are unaware that they are participating in a study when we first contact them. They also perceive Science Fuse as the initiator of the calls – though they speak to a trained CERP surveyor. This natural field environment mitigates concerns about respondents selecting into the study (Harrison and List, 2004) and responding to experimenter demand (De Quidt et al., 2018). However, it also implies a lack of informed consent.

In response to this concern, we provide all study participants a debriefing at the end of the second phone survey:<sup>10</sup> This was announced to school owners in the following way:

As we briefly mentioned before, we work with Science Fuse to better understand school officials' demand for the services provided and activities conducted by Science Fuse and similar NGOs. More precisely, our study focuses on the question of how messages detailing NGOs' motivations affect the interactions between school officials and NGOs, particularly with respect to potential collaborations promoting gender equality.

We would thus like to provide you with some additional information on our study. We will send you a text message with a link to a short summary of this information.

The text message then reads as follows:

First, we would like to inform you that the initial call that you received from Science Fuse should be considered part of this study. In fact, the information whether and how you responded to Science Fuse's initial call may be linked to your survey responses. All of your responses will be used for research purposes only, and will be kept anonymous and confidential.

Second, we want to assure you that all the materials that you received are real, and if indicated earlier that you would like to be contacted by Science Fuse in the future, Science Fuse is indeed committed to contact you to further discuss potential ways in which Science Fuse could support your school in promoting science education among your students. If you have any questions or concerns about this study, if you object to the use of your data, would like to have your data

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<sup>10</sup>Please note that we debrief all respondents who participate in the first phone call irrespective of whether they express an interest in receiving Science Fuse's booklet. We also send a text message with the debriefing information to respondents who decline the second phone survey.

removed and/or withdraw from the study, and if you are interested in receiving a summary of our research findings, please contact [name of CERP Associate Director] within the next 7 days using the following phone number.

None of the respondents took advantage of the opportunity to call and ask questions about the study. However, a total of 3 school owners requested via text message not to be considered in any future research activities.

We provide school owners only truthful information. We partner with Science Fuse, a real NGO promoting STEM education for girls. We never promise school owners any of Science Fuse’s in-person activities but only elicit their interest in receiving a sample of Science Fuse’s learning materials. Science Fuse developed these learning materials—which form a part of its engagement portfolio—independently from our study. We deliver these learning materials to all school owners who express an interest in receiving them, thus fulfilling our commitment.

We adjust our experimental procedures such that private school owners who express an interest in learning more about Science Fuse experience a genuine exchange of information. We believe this mitigates concerns about how this interaction could detrimentally affect future engagements between school owners and NGOs in Pakistan. As an additional safeguard, we ensure our study protocol demands only a limited amount of school owners’ time. The first phone call lasts under 9 minutes on average. School owners had agency to end the call at any point. We restrict our attempts to reach any given school owner to three calls.

We preempted any concerns our partner NGO (Science Fuse) might have had by working with them closely to design the treatment scripts. We also sought their approval on the final version of the scripts as well as any interim edits. We ensured that Science Fuse authorized and validated all communication delivered to the respondents on their behalf.

Since liberal messaging can potentially evoke a backlash in conservative settings like Pakistan, we worded our scripts carefully. For example, we considered referring to Malala Yousafzai – the 2014 Nobel Peace Prize Laureate – in our liberal motivation script as a symbol of female empowerment in Pakistan. However, Malala carries an unfavorable opinion among the average Pakistani citizen and in the local press, which made Science Fuse reluctant to include any mention of Malala in our correspondence on their behalf. Accordingly, we chose not to refer to Malala in any of our calls.

Similarly, we initially thought to include the term ‘*secular*’ in our liberal motivation script. However, Urdu does not contain a direct translation for the English term ‘*secular*’. The closest vernacular term is ‘*la deeniyat*’, which translates to ‘*irreligious*’ – a culturally pejorative term. Science Fuse felt uncomfortable including the Urdu term in our scripts. We exclude the term ‘*secular*’, and – with Science Fuse’s approval – instead use the terms

jadeed (modern), *taraki pasand* (progressive), *ravadaar* (tolerant), and *wasee-al-nazar* (open-minded) to convey Science Fuse’s liberal motivation.

## 2.4 Data

We combine survey data and behavioral outcome data to study school owners’ willingness to express an anti-liberal political identity.

### 2.4.1 Survey-based outcome data and delivery data

We measure four primary outcomes, with three measured in our first phone call. Our first primary outcome is whether school owners remain on the call right after receiving the treatment scripts, allowing the surveyor to read out the question on whether the school owner would like to receive Science Fuse’s booklet. Our second primary outcome is whether school owners indicate an interest in receiving Science Fuse’s booklet (detailing simple, at-home science experiments) at the randomized delivery charges – full charge (Rs. 200); partial charge (Rs. 100); no charge (Rs. 0). Our third primary outcome is whether school owners are willing to share a delivery address with the NGO after consenting to receiving the booklet. Our fourth primary outcome is a behavioral measure recorded by the courier company we partner with, which notes whether school owners who agreed to receiving the booklet and shared an address accept the booklet upon delivery and pay the delivery charges. This outcome is interesting as it occurs outside of the phone interaction between the school owner and our surveyors calling on behalf of Science Fuse. Some school owners might accept the booklet on the phone call out of courtesy for Science Fuse or the surveyors. However, when they interact with the courier company at a later stage, they might decide to refuse the delivery.

### 2.4.2 Survey-based belief data

We elicit a range of different beliefs to evaluate the extent to which our treatment conditions change how school owners perceive and interact with Science Fuse. We ask respondents the extent to which they agree with a number of different statements:

1. We measure how they perceive the quality of Science Fuse’s materials by asking whether they “*believe Science Fuse’s learning materials and activities are of high quality*”.
2. We measure the extent to which they think “*collaborating with Science Fuse will provide [their] school with access to high quality learning materials.*”

3. We elicit the extent to which they believe that “*collaborating with Science Fuse will provide [their] school with the opportunity to increase its profitability.*”
4. To measure how school owners perceive local social norms, we ask the extent to which “*[they] believe the local community would strongly approve if [their] school were to collaborate with Science Fuse.*”
5. We ask school owners whether they agree that “*Science Fuse is interested in an equitable partnership with [their] school.*”
6. We elicit the extent to which “*[they] believe that Science Fuse values [them] personally.*”
7. We inquire the extent to which they agree that “*it is important [for them] that Science Fuse holds a high opinion of [them].*”

## 3 Results

### 3.1 Empirical Specification

We begin by estimating the overall effect of being exposed to the *liberal motivation* treatment. To maximize statistical power, we pool across all cross-randomized treatment conditions. In particular, we use the following specification:

$$y_i = \beta_0 + \beta_1 t_i^{liberal} + \varepsilon_i \quad (1)$$

where  $Y_i$  is the outcome of interest and  $t_i^{liberal}$  is an indicator for receiving the *liberal motivation* treatment. We display robust standard errors throughout.

We also examine whether the degree to which the private nature of the conversation between the school owner and Science Fuse is emphasized matters for school owners’ willingness to express an interest in receiving a sample of Science Fuse’s learning materials. To estimate the effect of the privacy condition, we estimate the following specification:

$$y_i = \beta_0 + \beta_1 t_i^{liberal,private} + \beta_2 t_i^{liberal,not-private} + \varepsilon_i \quad (2)$$

where  $t_i^{liberal,private}$  and  $t_i^{liberal,not-private}$  are indicators for receiving (not receiving) the liberal motivation treatment with (without) an additional emphasis on the private nature of the conversation between the school owner and the NGO representative.

We also examine whether school owners’ reaction to the *liberal motivation* treatment depends on whether and how Science Fuse’s motivation to reach out to the schools is described. In particular, we estimate the following specification:

$$\begin{aligned}
y_i = & \beta_0 + \beta_1 t_i^{liberal} \\
& + \beta_2 t_i^{equitable} + \beta_3 t_i^{equitable} \times t_i^{liberal} \\
& + \beta_4 t_i^{notequitable} + \beta_5 t_i^{notequitable} \times t_i^{liberal} + \varepsilon_i
\end{aligned} \tag{3}$$

where  $t_i^{equitable}$  and  $t_i^{notequitable}$  are indicators for the *equitable partnership* and the *less-than-equitable partnership* condition, respectively. Using an equation analog to equation 3, we also investigate whether there are heterogeneous treatment effects of the *liberal motivation* treatment as a function of the stated delivery costs.

Finally, we investigate whether the liberal motivation treatment had heterogeneous effects depending on respondents' baseline characteristics and attitudes:

$$y_i = \beta_0 + \beta_1 t_i^{liberal} + \beta_2 characteristic_i + \beta_3 characteristic_i \times t_i^{liberal} + \varepsilon_i \tag{4}$$

where  $characteristic_i$  measures respondents' baseline attitudes and demographic characteristics. We will introduce these measures in greater detail when we describe the results in subsequent sections.

### 3.2 Willingness to Express Interest in a Collaboration

We first test the hypothesis that the liberal motivation treatment reduces school owners' interest in collaborating with our NGO partner by estimating the average treatment effect on our four primary outcomes: 1) an indicator equal to 1 if school owners stayed on the phone after the enumerators read out the treatment script (0 otherwise) — allowing the enumerator to continue and ask whether the school owner would like to receive Science Fuse's booklet;<sup>11</sup> 2) an indicator equal to 1 if school owners express an interest in receiving Science Fuse's booklet (0 otherwise) — conditional on school owners staying on the phone to answer this question; 3) an indicator equal to 1 if school owners share their address with the enumerators (0 otherwise) — conditional on school owners requesting the booklet from Science Fuse; and 4) an indicator equal to 1 if school owners rejected (or rejected to pay for, if applicable) the booklet upon delivery (0 otherwise) — conditional on school owners sharing an address with the enumerator.

Table 1 shows the liberal motivation treatment has little to no effect on school owners' expression of interest in collaborating with our NGO partner. In column 1, we estimate that

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<sup>11</sup>Please note that this measure of attrition was not explicitly pre-specified in our pre-analysis plan.

respondents in the liberal motivation condition are 1.2 percentage points less likely to stay on the phone long enough to provide an answer to the question of whether they would like to receive Science Fuse’s booklet. The estimate is statistically significant at the 5 percent level, but small in absolute terms. The confidence intervals rule out negative effects larger than 2.2 percentage points. When compared to the level of attrition in the control group, the estimated difference is sizable though: 2.2 percent of the respondents in the control group end the call prior to being asked whether they would like to receive Science Fuse’s booklet. In contrast, 3.4 percent of the respondents in the liberal motivation treatment group end the call prior to reaching this point. This higher attrition rate in the treatment group corresponds to a 54% increase in attrition relative to the control group. The estimates in column 2 indicate that the privacy condition does not drive this effect since the estimates are similar. In columns 3 and 4, we show that the liberal motivation treatment does not affect school owners’ expression of interest in obtaining Science Fuse’s booklet on average. This null effect is precisely estimated. The confidence intervals rule out negative effects larger than 2.5 percentage points. In columns 5 and 6, within the subset of respondents who expressed their interest to receive the booklet, we show that the liberal motivation treatment does not affect school owners’ willingness to share their address with the NGO. In fact, almost all individuals who expressed an interest in receiving the booklet also share an address with the NGO (control mean of 96 percent). Similarly, the confidence intervals rule out negative effects larger than 0.1 percentage points. Finally, in columns 7 and 8, for the subset of respondents who express their interest to receive the booklet and share their address with the NGO, we show the liberal motivation treatment does not affect whether school owners accept (and possibly pay for) the booklet upon delivery. Again, the estimated treatment effect on an indicator for rejecting the the booklet delivery is close to zero, and the confidence intervals rule out positive effects larger than 2.3 percentage points.

Appendix Table A4 shows that school owners’ response to the liberal motivation treatment does not differ when they are also informed about Science Fuse’s reason for reaching out. As discussed in section 2, we designed this information to manipulate school owners’ perceptions of the nature of their potential relationship with the NGO. The estimates indicate that school owners’ willingness to express an interest in collaborating with Science Fuse does not vary as a function of whether or not the prospective relationship is described in equitable or less-than equitable terms. Moreover, there are no significant differences in these estimated effects when school owners are also made aware of Science Fuse’s liberal motivation. All of the estimated interaction coefficients are small and not statistically significant. Similarly, school owners’ reaction to the liberal motivation treatment does not depend on the delivery costs they would be charged if they were to accept the booklet. Appendix Table

A5 indicates that school owners are responsive to higher delivery costs. School owners in the control group who we ask to pay Rps. 100 (200) for the delivery of the booklet are, on average, 17.5 (27.9) percentage points less likely to request the booklet relative to school owners in the control group who receive a full subsidy on the delivery costs. However, there is no evidence for a differential decline in school owners’ willingness to obtain Science Fuse’s booklet at higher delivery costs when they learn about Science Fuse’s liberal motivation.

These results indicate that low cost private school owners in Punjab, on average, do not express less interest in collaborating with an NGO when the NGO explicitly reveals its liberal motivation during their initial interaction. One caveat is that this interpretation focuses on the effects of *explicitly* revealing the organisation’s liberal motivation. We informed all participants in our experiment, including those in the control condition, that Science Fuse works on improving girls’ access to science education. To the extent that this message signals Science Fuse’s liberal motivation *implicitly*, participants with an anti-liberal self-image in the control group may also have preferred not to express an interest in collaborating with an implicitly liberal organisation. The implicit disclosure of Science Fuse’s liberal motivation could limit our overall ability to identify a differential expression of an anti-liberal identity.

An alternative, yet related concern is that the liberal motivation treatment script might have failed to convey Science Fuse’s liberal motivation (above and beyond what it implicitly conveyed), resulting in only small and not significant treatment effects. Given these concerns, we investigate in the next subsection whether the treatment shifted respondents’ beliefs about the NGO they are interacting with.

### **3.3 Beliefs about Science Fuse (as an organization)**

To study the effects of the liberal motivation treatment on school owners’ beliefs about Science Fuse as an organization, we leverage the beliefs data collected towards the end of the first phone call under the pretense of a quality assurance mechanism. To learn more about the extent to which school owners believe that Science Fuse acts based on a liberal motivation, we measure and analyze their agreement with the statement that “*Science Fuse is promoting gender equality and equal access to STEM education*” on a (standardized) 5-step Likert scale.

As discussed in section 2.3, we could not explicitly use the term “liberal” owing to Science Fuse’s fear of a backlash. This prevented us from directly measuring first stage beliefs about the extent to which school owners perceive that a liberal identity or liberal ideas motivated the NGO they are interacting with. In lieu of directly measuring these beliefs, we focused on school owners’ agreement with a statement about Science Fuse’s (more narrowly defined)

objectives. To the extent that the objectives to promote gender equality and equal access to STEM education for girls are (at least) *implicit* traits of a liberal identity, we rely on the statement about Science Fuse’s objectives as an alternative.

Table 2 presents the results. The treatment effect estimate in Column 1 documents that treated school owners’ are more likely to agree with the statement than school owners in the control group—a modest difference of 0.104 standard deviations. The effect is precisely estimated and statistically significant at the 1 percent level. It is important to highlight that our CERP enumerators—speaking on behalf of Science Fuse—had informed all respondents (including those assigned to the control group) during their phone interaction that Science Fuse works to promote gender equality and equal access to STEM education. The significant, positive difference in agreement with the above statement therefore suggests that school owners in the treatment group perceived the NGO to be more credible and committed in its ambition to promote gender equality.

This evidence supports the view that the liberal motivation treatment successfully conveyed Science Fuse’s liberal motivation. Considering this systematic shift in treated school owners’ beliefs about the NGO, we can contend that school owners in our sample, on average, fail to express an anti-liberal political identity because a (large) majority of them do not hold an anti-liberal identity and thus do not seek to maintain an anti-liberal self-image. To assess the plausibility of this explanation, we next turn to discussing heterogeneous treatment effects.

### 3.4 Heterogeneous Effects

#### 3.4.1 Heterogeneity by Conservative Gender Attitudes

We hypothesize that school owners who express relatively more conservative beliefs about gender relations and gender-related issues are also more likely to hold an anti-liberal political identity. As maintaining an anti-liberal self-image would be more important to this group of participants, we expect these participants to express a lower willingness to collaborate with Science Fuse when they learn about the organization’s liberal motivation.

Our obfuscated follow-up survey provides us with three different measures of the extent to which respondents hold conservative beliefs about gender issues. First, we measure whether respondents agree with the statement that “*girls should be allowed to study in college even if it is far away.*” We generate an indicator which equals 1 if respondents do not agree with this statement or refuse to answer, 0 otherwise. Second, we measure respondents’ agreement with the statement that “*wives should be less educated than husbands*” on a 5-step Likert scale. We use a z-scored version of this measure by subtracting the control group mean and

dividing by the standard deviation in the control group. Third, we generate an indicator which equals 1 if school owners expressed the belief that the top male student in their school will achieve a higher educational degree than the top female student in their school. In Appendix Table A6, we document that the treatment group is not differentially more likely to express these beliefs. We then estimate the heterogeneous treatment effects using the empirical specification introduced as equation 4 in section 3.1.

Table 3 displays the corresponding estimates. The evidence is consistent with the hypothesis that the liberal motivation treatment caused school owners who express more conservative gender-related beliefs during the obfuscated follow-up survey to express an anti-liberal political identity.

Columns 1 and 3 indicate that respondents in the control group who disagree with the statement that *“girls should be allowed to study at college even if it is far away”* or who believe that the top male student in their school will attain a higher educational degree than the top female student—relative to respondents in the control group who agree with the statement or who do not expect their top male students to achieve more than their top female students—are 1.7 and 1.9 percentage points (p-value < 0.01 in both cases) more likely, respectively, to stay on the phone long enough for the enumerator to ask them whether they would like to receive Science Fuse’s booklet. In contrast, treated respondents who hold the same conservative beliefs are 1.6 percentage points (p-value = 0.52) and 2.5 percentage points (p-value = 0.15) less likely, respectively, to stay on the phone relative to treated respondents who do not hold these conservative beliefs. These findings indicate that the negative average effect of the liberal motivation treatment on school owners’ willingness to stay connected to the enumerator documented in Columns 1 and 2 of Table 1 is driven by the negative effects for school owners who hold more conservative gender-related beliefs.

Columns 4 to 6 document—in two out of three cases—a sizable and statistically significant (at the 10 percent level) difference between the estimated treatment effects on the likelihood to request Science Fuse’s booklet for school owners who express conservative beliefs and those who do not. The estimated average treatment effect for school owners who disagree that *“girls should be allowed to study at college even if it is far away”* (Column 4) is −16.1 percentage points (p-value = 0.06).<sup>12</sup> The estimated average treatment effect for school owners who agree (one standard deviation increment) with the statement that *“wives should be less educated than their husbands”* (Column 5) is −2.9 percentage points (p-value = 0.27).

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<sup>12</sup>Appendix Table A8 shows that the group of respondents who believe that the community they live in would agree with the statement that *“girls should be allowed to study at college even if it is far away”* do not exhibit comparable average treatment effects. This provides further supportive evidence that the lower willingness to request Science Fuse’s booklet we document for school owners who disagree with this statement relates to self-image rather than social image concerns.

The estimated average treatment effect for school owners who believe that their top male student will attain a higher educational degree than their top female student (Column 6) is  $-1.8$  percentage points (p-value = 0.72).<sup>13</sup>

The estimates displayed in Columns 7 to 12 indicate that, conditional on requesting the booklet in the first place, there is little differential refusal to provide an address or accept the booklet upon delivery across our measures of conservative beliefs and attitudes.

Appendix Table A7 shows that these effects are robust to adding controls for basic demographic characteristics (a gender indicator, an indicator for school owners of above median age and an indicator for not having obtained any college education) along with the corresponding interaction terms with the treatment indicator. This indicates that: *a)* the heterogeneous treatment effects are concentrated among respondents who express more conservative beliefs and attitudes during the obfuscated follow-up survey; and *b)* the measures of conservatism do not simply proxy for more general demographic characteristics.

Overall, this evidence is consistent with the argument that the liberal motivation treatment resulted in expressions of an anti-liberal political identity among respondents who hold more conservative gender-related beliefs. However, Appendix Table A1 shows that a majority of the school owners in our sample do not share these conservative beliefs, explaining why we fail to observe them expressing an anti-liberal political identity on average. Only 5.3% of the school owners do not agree with the statement that *“girls should be allowed to study at college even if it is far away.”* Similarly, 88.1% of the school owners disagree or strongly disagree with the statement that *“wives should be less educated than their husbands,”* and only 13.3% of school owners believe that their top male student will attain a higher educational degree than their top female student.

### 3.4.2 Heterogeneity by Basic Demographic Characteristics

To further document the extent to which the small average treatment effects discussed earlier mask certain subgroups’ large responses to the liberal motivation treatment, we further investigate heterogeneous effects along several demographic characteristics.

Appendix Table A10 presents the corresponding estimates. The estimates in Columns 1 and 4 indicate that male respondents in the control group are more likely to stay on the phone long enough to answer the enumerator’s first question on whether they would like to receive the booklet and to then request the booklet. The estimated average treatment effects for male school owners are small and statistically not significant.

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<sup>13</sup>Appendix Table A9 shows a similar pattern for respondents who indicate that sciences or maths are the most important subject for boys, but not for girls. However, the estimated effects are somewhat smaller and not precisely estimated.

Column 2 indicates that school owners above the median age, i.e. those who are 46 years of age or older, are not more or less likely to stay on the phone to answer the question on whether or not they would like to request Science Fuse’s booklet (irrespective of their treatment status). While school owners above the median age in the control group are 4.9 percentage points (p-value = 0.08) more likely to request the booklet relative to younger school owners in the control group, the estimated average treatment effect of the liberal motivation treatment for school owners above the median age is  $-5.9$  percentage points (p-value = 0.08), indicating that older school owners may be more prone to express an anti-liberal political identity (Column 5).

Finally, while school owners who did not obtain any college education appear less likely to request Science Fuse’s booklet, the estimated average treatment effect for this group is small and not statistically significant (Column 6).

### 3.5 Beliefs about the Implications of Collaborating with Science Fuse

To further explore the mechanisms underlying the average null effects of the liberal motivation treatment, we further analyze treatment effects on beliefs associated with both consequential and other behavioral motives. We collected these beliefs in the form of respondents’ agreement with different statements (measured on a 5-step Likert scale) towards the end of the first phone call under the pretense of a quality assurance mechanism.

Table 2 presents the estimated effects. Column 2 shows that the degree to which treated school owners agree with the statement that “[they] believe Science Fuse’s learning materials and activities are of high quality” is 0.055 standard deviations (p-value = 0.16) higher than the degree to which the control school owners agree with the statement. Similarly, the estimates displayed in columns 3 and 4 indicate that the degrees to which treated school owners agree with the statements “collaborating with Science Fuse will provide my school with access to high quality learning materials” and “collaborating with Science Fuse will provide my school with the opportunity to increase its profitability”—relative to school owners in the control group—are 0.088 standard deviations (p-value = 0.03) and 0.090 standard deviations (p-value = 0.02) higher, respectively. While these effect sizes are relatively small, this evidence suggests that the liberal motivation treatment may have fostered—at least to some extent—consequential considerations among treated school owners.

The liberal motivation treatment—and the entire phone survey protocol more generally—does not explicitly refer to the learning materials’ quality and the schools’ profitability. While the enumerators mention that Science Fuse “(...) [hosts] informative and engaging Science

*Shows that have been incredibly effective in building students' interest in STEM*", the script does not explicitly state that engaging with Science Fuse would affect schools' profitability. Moreover, we provide the above statement to all respondents (irrespective of whether they are assigned to the treatment or to the control group). Enumerators also emphasize that the schools are not obligated to interact with Science Fuse in the future and will receive the booklet for purely informational purposes. We explicitly incorporated this feature in our design to minimize potential consequential motives attached to accepting or rejecting the offer to receive the booklet. Nonetheless, the small but positive estimated treatment effects suggest that, on average, school owners in our sample consider to some degree that organizations that express a liberal identity would provide higher quality materials and offer pathways towards higher profitability.

One limitation of our findings is thus that these consequential motives may have overshadowed eventual negative self-image related concerns for some school owners, thereby contributing to the limited treatment effects of the liberal motivation treatment. In Column 2 of Appendix Table A11, we show that the average estimated treatment effect on school owners' willingness to request the Science Fuse booklet for those school owners who were able to collect at least 30% of their fees during the Covid-19 pandemic is  $-2.6$  percentage points (p-value = 0.52).<sup>14</sup> While the estimate is small and not statistically significant, the sign of the estimate is consistent with a narrative in which the expression of an anti-liberal political identity is more prevalent when school owners' are under less economic pressures and consequently pay less attention to consequential motives.

Column 5 of Table 2 documents that the effect of the liberal motivation treatment on whether school owners agree with the statement *"I believe the local community would strongly approve if my school were to collaborate with Science Fuse"* is positive, but small in magnitude and statistically not significant. The lack of a systematic shift in school owners' beliefs about the community's perception of an eventual collaboration indicates that school owners' reactions are unlikely to be explained by social image concerns. The estimates in Column 6 indicate that treated school owners were not more likely to agree with the statement that *"Science Fuse is interested in an equitable partnership with [their] school."* Finally, columns 7 and 8 document that the treatment effects on the extent to which school owners agree with the statements *"I believe that Science Fuse values me personally"* and *"It is important to me that Science Fuse holds a high opinion of me"* are both small and not statistically significant. This evidence suggests that school owners do not feel differential levels of esteem

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<sup>14</sup>These effects are estimated using the subset of school owners who report that their schools regularly collect fees from students. While school owners of schools who operate based on alternative funding sources may also feel less immediate economic pressures, there may be important confounding factors related to the fact that these schools dispose of these alternative funding sources.

when interacting with an organization which explicitly conveys its liberal motivation nor do they appear to systematically be differentially interested in receiving approval from such an organization.

## 4 Conclusion

We design a field experiment to identify the extent to which low cost private school owners in Pakistan reject a potential collaboration with an NGO to avoid acting against their anti-liberal political identity: we call (through phone) school owners on behalf of our partner NGO operating in the education sector. This makes the interaction private while ensuring that school owners are unaware that they are participating in an experiment. During the call, we inform treated school owners that the NGO, through its activities, aims to support Pakistan's transition towards a more liberal society. We then offer to mail school owners a booklet (prepared by the NGO), allowing them to learn more about the NGO's activities. We stress that the booklet is intended to serve informational purposes only and that there is no obligation for any follow-up interaction with the NGO, which limits the scope for consequential motives. These design features imply that treated school owners' differential rejection of the offer to receive the NGO's booklet can be interpreted as an action to preserve their anti-liberal self-image.

While we document that treated school owners update their beliefs about the nature of the NGO's motivation, surprisingly, we find little to no evidence that treated school owners are on average less willing to explore a potential collaboration with our partner NGO. Relying on additional data on beliefs collected during an obfuscated follow-up survey, we document negative average treatment effects for school owners who express more conservative, gender-related beliefs. However, our survey data reveals that only a minority share of school owners (5 to 13%) in our sample hold conservative gender-related beliefs. This likely explains why we do not observe school owners acting in a manner consistent with the desire to preserve an anti-liberal identity on average.

Our findings have important implications for our understanding of how a greater focus on donors' political interests affects the efficacy of NGO-provided aid. Given how experts, policymakers and commentators in the West often perceive Pakistan as a conservative country (Cheema, 2016), and taking into account evidence on a significant fraction of Pakistani men who are willing to pay a cost to preserve their anti-American political identity (Bursztyn et al., 2020), perhaps surprisingly, our evidence suggests that, on average, NGOs' ability to connect with local partners is not adversely affected when they openly communicate their liberal political motivations to a large sample of school owners. At the same time, the more

negative reaction among the small minority of conservative school owners constitutes a call for caution, indicating that differences in political identity have the potential to damage NGOs' relations with their local partners.

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## 5 Tables

Table 1: Main Treatment Effects

	Answer Booklet		Request Booklet		Share Address		Reject Booklet	
Liberal motivation	-0.012** (0.005)		0.003 (0.014)		0.006 (0.007)		0.005 (0.009)	
Liberal motivation (not private)	-0.013** (0.006)		0.007 (0.017)		0.010 (0.008)		0.012 (0.011)	
Liberal motivation (private)	-0.011* (0.006)		-0.001 (0.017)		0.001 (0.009)		-0.002 (0.011)	
Control mean	0.98	0.98	0.73	0.73	0.96	0.96	0.06	0.06
Number of Observations	4180	4180	4063	4063	2953	2953	2850	2850

*Notes:* Table 1 presents OLS regressions of different measures of school owners' expression of interest in a collaboration with our partner NGO on a treatment indicator. The unit of observation is the individual. *Answer Booklet* measures whether a respondent stays on the phone after the introduction to answer the surveyors question on whether they would like to receive our partner NGO's booklet. *Request Booklet* measures whether a respondent expresses an interest in receiving our partner NGO's booklet (conditional on staying on the phone). *Share Address* measures whether respondents are willing to share their address to allow for the delivery of our partner NGO's booklet (conditional on requesting the booklet). *Reject Booklet* measures whether respondents reject the delivery of our partner NGO's booklet (conditional on requesting the booklet and sharing an address for delivery). Robust standard errors in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table 2: Treatment Effects on School Owners' Beliefs

	First Stage	Consequential			Behavioral			
	Gender Equality	Quality	Access	Profit	Community	Partner	Esteem	Conform
Liberal motivation	0.104*** (0.039)	0.055 (0.039)	0.088** (0.039)	0.090** (0.039)	0.058 (0.039)	0.054 (0.040)	0.055 (0.039)	0.063 (0.040)
Control mean	0.00	0.00	-0.00	0.00	0.00	0.00	0.00	0.00
Number of Observations	2521	2549	2549	2549	2549	2521	2521	2521

*Notes:* Table 2 presents OLS regressions of different measures of school owners' beliefs about our partner NGO on a treatment indicator. The unit of observation is the individual. All outcome variables are standardized by subtracting the mean of the outcome variable in the control group and dividing by the standard deviation of the outcome variable in the control group. *Gender Equality* measures respondents' agreement with the statement "*Science Fuse is promoting gender equality and equal access to STEM education.*" *Quality* measures respondents' agreement with the statement "*I believe Science Fuse's learning materials and activities are of high quality.*" *Access* measures respondents' agreement with the statement "*I believe that collaborating with Science Fuse will provide my school with access to high quality learning materials.*" *Profit* measures respondents' agreement with the statement "*I believe that collaborating with Science Fuse will provide my school with the opportunity to increase its profitability.*" *Community* measures respondents' agreement with the statement "*I believe the local community would strongly approve if my school were to collaborate with Science Fuse.*" *Partner* measures respondents' agreement with the statement "*Science Fuse is interested in an equitable partnership with my school.*" *Esteem* measures respondents' agreement with the statement "*I believe that Science Fuse values me personally.*" *Conform* measures respondents' agreement with the statement that "*It is important to me that Science Fuse holds a high opinion of me.*" Robust standard errors in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table 3: Heterogeneity by Conservative Gender-Related Beliefs

	Answer Booklet			Request Booklet			Share Address			Reject Booklet		
	College	Wife	Ambition	College	Wife	Ambition	College	Wife	Ambition	College	Wife	Ambition
Liberal motivation	-0.002 (0.006)	-0.004 (0.006)	-0.001 (0.006)	0.010 (0.019)	0.002 (0.019)	-0.002 (0.020)	-0.003 (0.008)	-0.002 (0.008)	0.006 (0.010)	-0.001 (0.012)	0.002 (0.012)	-0.005 (0.013)
Conservative	0.017*** (0.004)	-0.007 (0.005)	0.019*** (0.004)	0.029 (0.057)	0.003 (0.013)	0.034 (0.038)	-0.020 (0.033)	-0.002 (0.005)	0.017 (0.015)	-0.007 (0.035)	0.013 (0.011)	-0.020 (0.021)
Conservative x Liberal motivation	-0.033 (0.025)	0.013** (0.006)	-0.044** (0.018)	-0.171* (0.088)	-0.031* (0.019)	-0.016 (0.054)	0.020 (0.044)	0.002 (0.007)	-0.005 (0.021)	0.042 (0.062)	-0.019 (0.013)	0.021 (0.031)
Control mean	0.98	0.98	0.98	0.73	0.73	0.73	0.96	0.96	0.96	0.06	0.06	0.06
Number of Observations	2148	2156	2174	2110	2118	2130	1600	1606	1609	1556	1562	1559

*Notes:* Table 3 presents OLS regressions of different measures of school owners' expression of interest in a collaboration with our partner NGO on a treatment indicator, an indicator for school owners' agreement with a conservative statement and the corresponding interaction term. The unit of observation is the individual. Please refer to Table 1 for more details on the definition of the outcome variables. In Columns 1, 4, 7 and 10, the dummy variable for agreement with a conservative statement is equal to 1 if respondents indicate that girls should not be allowed to study at college if it is far away, 0 otherwise. In Columns 2, 5, 8 and 11, the measure of agreement with a conservative statement is a z-scored measure of respondents' agreement with the statement that *"wives should be less educated than their husbands."* In Columns 3, 6, 9 and 12, the dummy variable for agreement with a conservative statement is equal to 1 if respondents expressed the believe that the top male student in their school will achieve a higher educational attainment than the top female student in their school. Robust standard errors in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

# Appendix (For Online Publication Only)

## A Phone Survey Scripts

### A.1 Treatment Call

call\_respondent

Hi, this is [enumerator name] calling for the principal/owner of [school name]. Is this the principal/owner of [school name]?

phone\_response

ENUMERATOR: DO NOT READ THIS ALOUD

What was the response?

- Answered the phone, correct number
- Answered, but wrong number
- No answer
- Powered off
- Number does not work

match

School name: [school name]

Phone number: [respondent's phone number]

Is this information correct? (yes/no)

not\_matched

Which information did not match?

- School name
- Phone number

school\_new

Please enter the correct school name

phone\_new

Please enter the correct phone number

answered\_response

Hope you are well. I am calling on behalf of Science Fuse, an established partner of Ilm Exchange which you may remember. We are a Lahore-based social enterprise. We work on improving young girls' participation in science.

- Can have a conversation now
- Will have a conversation later, but not now
- Refuses to talk

consent

Do you have a minute to hear us out? (yes/no)

science\_fuse

Is this the first time you have interacted with Science Fuse? (yes/no)

control\_script

Thank you very much. I would like to talk more about Science Fuse and our work. As I mentioned in the beginning, we work on improving young girls' participation in science. We do so by hosting informative and engaging Science Shows that have been incredibly effective in building students' interest in STEM.

We would like to give you a chance to get to know Science Fuse better. We have prepared an illustrated science booklet called "Kitchen Ki Science with Gul Rukh" in which we describe different science experiments. The experiments and the science behind them are narrated by Gul Rukh. She teaches young girls and boys how to do simple yet fun science experiments using inexpensive household materials. We believe this booklet will provide you with a good example of the type of learning experience provided by us.

We have covered the cost of the booklet, and shall not be charging you for it. However, since we are a social enterprise with limited funding, we request you pay a portion of the delivery cost, just Rs. [delivery costs]. This amount can be paid as cash on delivery. We are offering this booklet for information purposes only, and there is no obligation for any future interaction.

not\_equitable\_script

Thank you very much. I would like to talk more about Science Fuse and our work. As I mentioned in the beginning, we work on improving young girls' participation in science. We do so by hosting informative and engaging Science Shows that have been incredibly effective in building students' interest in STEM.

We are reaching out to you as part of an initiative to expand our activities and to grow our network. We are hoping to collaborate with a large number of schools. The number of schools we are collaborating with and thereby the number of children we are reaching through our activities is a key piece of information that we can share with potential donors in the future to highlight our success and to show them how Science Fuse is making a positive difference. This will help us make sure that Science Fuse's work gets more recognition.

We would like to give you a chance to get to know Science Fuse better. We have prepared an illustrated science booklet called "Kitchen Ki Science with Gul Rukh" in which we describe different science experiments. The experiments and the science behind them are narrated by Gul Rukh. She teaches young girls and boys how to do simple yet fun science experiments using inexpensive household materials. We believe this booklet will provide you with a good example of the type of learning experience provided by us.

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equitable\_script

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in science. We do so by hosting informative and engaging Science Shows that have been incredibly effective in building students' interest in STEM.

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We would like to give you a chance to get to know Science Fuse better. We have prepared an illustrated science booklet called “Kitchen Ki Science with Gul Rukh” in which we describe different science experiments. The experiments and the science behind them are narrated by Gul Rukh. She teaches young girls and boys how to do simple yet fun science experiments using inexpensive household materials. We believe this booklet will provide you with a good example of the type of learning experience provided by us.

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liberal\_script

Thank you very much. I would like to talk more about Science Fuse and our work. As I mentioned in the beginning, we work on improving young girls' participation in science. We do so by hosting informative and engaging Science Shows that have been incredibly effective in building students' interest in STEM.

**One of our core beliefs is that it is important to provide girls and women with equal access to science education for the Pakistani society to become more modern, progressive, tolerant and open-minded.**

We would like to give you a chance to get to know Science Fuse better. We have prepared an illustrated science booklet called “Kitchen Ki Science with Gul

Rukh” in which we describe different science experiments. The experiments and the science behind them are narrated by Gul Rukh. She teaches young girls and boys how to do simple yet fun science experiments using inexpensive household materials. We believe this booklet will provide you with a good example of the type of learning experience provided by us.

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liberal\_private\_script

Thank you very much. I would like to talk more about Science Fuse and our work. As I mentioned in the beginning, we work on improving young girls’ participation in science. We do so by hosting informative and engaging Science Shows that have been incredibly effective in building students’ interest in STEM.

**One of our core beliefs, that we do not generally share with the public, is that it is important to provide girls and women with equal access to science education for the Pakistani society to become more modern, progressive, tolerant and open-minded.**

We would like to give you a chance to get to know Science Fuse better. We have prepared an illustrated science booklet called “Kitchen Ki Science with Gul Rukh” in which we describe different science experiments. The experiments and the science behind them are narrated by Gul Rukh. She teaches young girls and boys how to do simple yet fun science experiments using inexpensive household materials. We believe this booklet will provide you with a good example of the type of learning experience provided by us.

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liberal\_not\_equitable\_script

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in science. We do so by hosting informative and engaging Science Shows that have been incredibly effective in building students' interest in STEM.

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**One of our core beliefs is that it is important to provide girls and women with equal access to science education for the Pakistani society to become more modern, progressive, tolerant and open-minded.**

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liberal\_private\_not\_equitable\_script

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liberal\_equitable\_script

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liberal\_private\_equitable\_script

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**One of our core beliefs, that we do not generally share with the public, is that it is important to provide girls and women with equal access to science education for the Pakistani society to become more modern, progressive, tolerant and open-minded.**

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We have covered the cost of the booklet, and shall not be charging you for it. However, since we are a social enterprise with limited funding, we request you pay a portion of the delivery cost, just Rs. [delivery costs]. This amount can be paid as cash on delivery. We are offering this booklet for information purposes only, and there is no obligation for any future interaction.

checkpoint\_1

Is the respondent still present in the call? (yes/no)

booklet

To get an in-depth understanding of Science Fuse’s education style, would you be interested in receiving our “Kitchen Ki Science with Gul Rukh” booklet, for a delivery cost of only Rs. [delivery costs]? (yes/no)

address\_consent

Could you please give us the address where you would like us to mail you this booklet? (yes/no)

name

Full name:

phone

Phone number:

address\_school\_name

School name & branch:

building

Building number:

street

Street name/number:

area\_town

Area/town name:

city

City:

district

Tehsil & district name:

reason\_no\_address

Reason for not providing address

checkpoint\_2

Is the respondent still present in the call? (yes/no)

statements

Based on what we talked about today, I would like to ask you a few more brief questions to help us better understand what you think of our organization and our activities. Would you mind answering these brief questions about today's call? (yes/no)

statement\_1

To what extent do you agree with the following statement:

I believe Science Fuse's learning materials and activities are of high quality.

- Strongly disagree
- Somewhat disagree
- Neither disagree nor agree
- Somewhat agree
- Strongly agree

statement\_2

To what extent do you agree with the following statement:

Collaborating with Science Fuse will provide my school with access to high quality learning materials.

- Strongly disagree
- Somewhat disagree
- Neither disagree nor agree
- Somewhat agree
- Strongly agree

statement\_3

To what extent do you agree with the following statement:

Collaborating with Science Fuse will provide my school with the opportunity to increase its profitability.

- Strongly disagree
- Somewhat disagree
- Neither disagree nor agree
- Somewhat agree
- Strongly agree

statement\_4

To what extent do you agree with the following statement:

I believe the local community would strongly approve if my school were to collaborate with Science Fuse.

- Strongly disagree
- Somewhat disagree
- Neither disagree nor agree
- Somewhat agree
- Strongly agree

statement\_5

To what extent do you agree with the following statement:

Science Fuse is interested in an equitable partnership with my school.

- Strongly disagree
- Somewhat disagree
- Neither disagree nor agree
- Somewhat agree
- Strongly agree

statement\_6

To what extent do you agree with the following statement:

I believe that Science Fuse values me personally.

- Strongly disagree
- Somewhat disagree
- Neither disagree nor agree
- Somewhat agree
- Strongly agree

statement\_7

To what extent do you agree with the following statement:

It is important to me that Science Fuse holds a high opinion of me.

- Strongly disagree
- Somewhat disagree
- Neither disagree nor agree
- Somewhat agree
- Strongly agree

statement\_8

To what extent do you agree with the following statement:

Science Fuse is promoting gender equality and equal access to STEM education.

- Strongly disagree
- Somewhat disagree
- Neither disagree nor agree
- Somewhat agree
- Strongly agree

thanks

Have a great day, and thank you for your time.

survey\_check

Was respondent present till the end of the call? (yes/no)

## A.2 Follow-up Call

call\_respondent

Hi, this is [enumerator name] calling for the principal/owner of [school name]. Is this the principal/owner of [school name]

phone\_response

ENUMERATOR: DO NOT READ THIS ALOUD

What was the response?

- Answered the phone, correct number
- Answered, but wrong number
- No answer
- Powered off
- Number does not work

answered\_response

My name is [enumerator name] and I am a surveyor for CERP (Centre for Economic Research in Pakistan). We are currently conducting a study in collaboration with researchers at LUMS (the Lahore University of Management Sciences) and the University of Warwick in the UK.

We are interested in learning more about the attitudes, experiences and beliefs of private school owners like yourself. Your participation in this survey is completely voluntary, and if you choose to continue, you can choose not to respond to any or all of the questions I ask. All of your responses would be used for research purposes only, and will be pseudonymized, later anonymized and kept fully confidential. To the best of our knowledge, there are no risks from participating in this research. You will not receive any personal benefits, but the results of this research will improve our understanding of the private school sector as a whole. We believe this could improve future policy initiatives directed at the private school sector in Punjab.

This survey will take only approximately 10 to 15 minutes.

If you have concerns or complaints about this survey, you can contact the Associate Director at CERP under the following number [phone number]. Please let me know if you would like me to repeat this phone number at any point.

You have the right to object the use of your data and to withdraw from the study at a later point. If you would like to do this, please contact the Senior Field Manager at CERP within the next 7 days using the same phone number as the one I just provided you with.

consent

Do you consent to participate in this survey? (yes/no)

title

What is your exact job title?

- Teacher
- Administrator
- Coordinator
- Vice Principal
- Principal
- Principal & Owner

education

What is the highest level of education that you have received?

gender

What is your gender?

age

What is your age in years?

- 25 or less
- 26-35
- 36-45
- 46-55
- 56-65
- 66-75

- 76-85
- Refused to answer

num\_students

How many students are enrolled in your school?

num\_schools

How many schools are in your area?

avg\_fee

What is the average fee of a 1st grade student in your school?

note\_1

(Interviewer: READ) We now ask you for your willingness to act in a certain way. (Please rate each statement where 1-Completely unwilling and 5-Extremely Willing)

risk

How willing are you to take risks?

patience

How willing are you to give up something that is beneficial for you today in order to benefit more from that in the future?

altruism

How willing are you to give to good causes without expecting anything in return?

important\_subject\_boys

What do you feel are the most important subjects for boys? (Please rank them where 1-Most Important and 5-Least Important)

- Maths
- English

- Urdu
- Science
- Social Studies/Pakistan Studies/Islamiat

important\_subject\_girls

What do you feel are the most important subjects for girls? (Please rank them where 1-Most Important and 5-Least Important)

- Maths
- English
- Urdu
- Science
- Social Studies/Pakistan Studies/Islamiat

education\_wife

Wives should be less educated than their husbands.

- Strongly agree
- Somewhat agree
- Neither agree nor disagree
- Somewhat disagree
- Strongly disagree

expectation\_top\_female

What is the highest level of education that you think the top female students in your school should aspire to complete if finances and opportunity of school/college are available?

- Matric/O levels
- Intermediate (FA/FSc/A levels)
- Undergraduate
- Masters

- PhD

expectation\_top\_male

What is the highest level of education that you think the top male students in your school should aspire to complete if finances and opportunity of school/college are available?

- Matric/O levels
- Intermediate (FA/FSc/A levels)
- Undergraduate
- Masters
- PhD

girls\_study\_own

Do you think that girls should be allowed to study in college even if it is far away? (yes/no)

girls\_study\_community

Do you think that people in your village/community think that girls should be allowed to study in college even if it is far away? (yes/no)

girls\_study\_oppose

Do you think the community will oppose you if you disagree with them? (yes/no)

note\_2

(Interviewer: READ) Please answer this question as a percentage of the total number of female/male students in the last year of primary school.

share\_secondary\_education

What is the percentage of children in your school that continue to pursue secondary education?

Female:

Male:

C19\_enrollment

How did Covid-19 impact your enrollment?

- Enrollment stayed the same
- Enrollment has increased
- Enrollment has decreased

C19\_fees

What percentage of your fees were you able to collect during Covid-19?

- 0 - 30 %
- 30 - 50 %
- 50 - 70 %
- 70 - 100 %
- School does not collect fees from students
- Prefer not to answer

C19\_school\_open

How many months was your school open during Covid-19 (from March 2020 to September 2021)?

num\_teachers\_preC19

How many teachers did you employ prior to the pandemic?

num\_teachers\_duringC19

How many teachers did you employ during the pandemic?

C19\_tools

Did you use any digital learning tools for your students during COVID-19?  
(yes/no)

C19\_whatsapp

Approximately what percentage of your students' households have access to WhatsApp?

- 0 - 30 %
- 30 - 50 %
- 50 - 70 %
- 70 - 100 %

C19\_technology

How comfortable are you with using technology (software and smartphone apps other than WhatsApp)?

demand\_programs

Which of the following programs do you think parents would be willing to pay an additional fee of Rs. 10-50 per month (Rs. 120-600 annually)

- School management software through which you can SMS parents and send regular student progress reports
- Extra English language classes for speaking and understanding
- Science and technology programs (experiments, making innovative models, etc.)
- Computer programming/coding classes
- Not interested in any of the options

recall\_call1

Do you recall being contacted recently by an NGO working to promote science education in schools across Pakistan? (yes/no)

note<sub>3</sub>

The NGO's name is Science Fuse. We are working with them to better understand the demand among school officials for the type of services provided by Science Fuse. We would like to ask you a few more questions about your interaction with Science Fuse. Please answer the following questions with either Yes or No.

response\_booklet

Did you respond to them and order “Kitchen Ki Science with Gul Rukh” to learn more about their activities?

receive\_booklet

Did you receive the Booklet?

- Yes
- No
- I refused the delivery

reason\_refusal

Why did you refuse delivery?

review\_booklet

Did you review the materials? (yes/no)

recall\_booklet

Can you name any one thing you recall about the booklet? (yes/no) Yes (if they say any of the following)

- Ice cream experiment
- Dinosaur in ice experiment
- Carbon Dioxide experiment
- Rock Candy/Crystals experiment
- Science experiments
- Gul Rukh
- Girl/Female character

materials\_useful

Do you think such materials would be helpful for you and the teachers in your school? (yes/no)

note\_4

(Interviewer: READ) As we briefly mentioned before, we work with Science Fuse to better understand school officials' demand for the services provided and activities conducted by Science Fuse and similar NGOs. More precisely, our study focuses on the question of how messages detailing NGOs motivations affect the interactions between school officials and NGOs, particularly with respect to potential collaborations promoting gender equality.

We would thus like to provide you with some additional information on our study. We will send you a text message with a link to a short summary of this information.

## B Appendix Tables

Table A1: Summary Statistics

	Mean	SD	Median	Min.	Max.	Obs.
<u>Statistics on Call 1 (Full Sample)</u>						
First time interacting with Science Fuse	0.97	0.17	1.00	0	1	4180
Answer question on booklet	0.97	0.16	1.00	0	1	4180
Accept booklet	0.73	0.45	1.00	0	1	4063
Share address	0.97	0.18	1.00	0	1	2953
Rejects booklet upon delivery	0.06	0.24	0.00	0	1	2850
Complete call 1	0.60	0.49	1.00	0	1	4180
Participate in call 2	0.55	0.50	1.00	0	1	4180
<u>Basic Demographics (Only Survey Sample)</u>						
Male	0.82	0.38	1.00	0	1	2280
Age: 25 or below	0.02	0.15	0.00	0	1	2182
Age: 26 to 35	0.29	0.45	0.00	0	1	2182
Age: 36 to 45	0.39	0.49	0.00	0	1	2182
Age: 46 to 55	0.21	0.41	0.00	0	1	2182
Age: 56 to 65	0.06	0.23	0.00	0	1	2182
Age: above 65	0.03	0.16	0.00	0	1	2182
Below undergraduate degree	0.11	0.31	0.00	0	1	2253
Undergraduate degree	0.23	0.42	0.00	0	1	2253
Postgraduate degree (Masters or PhD)	0.66	0.47	1.00	0	1	2253
<u>School Characteristics (Only Survey Sample)</u>						
Number of students	261.51	265.20	185.00	12	2750	2181
Number of schools in the area	5.35	4.94	4.00	0	35	2171
Fee for 1st grade student (in 100 Rps)	4.62	5.32	4.00	0	120	2037
<u>Gender &amp; STEM Attitudes (Only Survey Sample)</u>						
Wives should be less educated: disagree	0.88	0.32	1.00	0	1	2156
Wives should be less educated: neither agree nor disagree	0.06	0.24	0.00	0	1	2156
Wives should be less educated: agree	0.06	0.23	0.00	0	1	2156
Higher educ. attainment for top male student	0.13	0.34	0.00	0	1	2174
Most important subject (boys): math or sciences	0.47	0.50	0.00	0	1	2170
Most important subject (girls): math or sciences	0.38	0.49	0.00	0	1	2170
Math or sciences most important for boys, not for girls	0.15	0.36	0.00	0	1	2170
Girls should be allowed to study far away	0.95	0.22	1.00	0	1	2148
Community thinks girls should be allowed to study far away	0.70	0.46	1.00	0	1	2148
<u>Interaction with Science Fuse (Only Survey Sample)</u>						
Draw a connection to call 1	0.07	0.25	0.00	0	1	2221
Remember call 1 when prompted	0.78	0.42	1.00	0	1	2135
Report to have received the booklet	0.67	0.47	1.00	0	1	1454
Report to have reviewed the booklet	0.56	0.50	1.00	0	1	968
Describe booklet correctly	0.60	0.49	1.00	0	1	540

*Notes:* Table A1 presents summary statistics for respondents in the full experimental sample and for the subsample of respondents who also participated in the obfuscated follow-up survey.

Table A2: Balance Table

	Control	Treatment	$\Delta$	$p(\Delta = 0)$
<u>Basic Demographics (Only Survey Sample)</u>				
Male	0.81	0.83	0.02	0.20
Age: 25 or below	0.02	0.02	0.00	0.89
Age: 26 to 35	0.29	0.29	-0.00	0.98
Age: 36 to 45	0.40	0.39	-0.01	0.67
Age: 46 to 55	0.22	0.20	-0.02	0.18
Age: 56 to 65	0.05	0.06	0.02	0.08
Age: above 65	0.02	0.03	0.01	0.03
Below undergraduate degree	0.10	0.11	0.02	0.25
Undergraduate degree	0.23	0.24	0.02	0.31
Postgraduate degree (Masters or PhD)	0.68	0.64	-0.03	0.10
 <u>School Characteristics (Only Survey Sample)</u>				
Number of students	254.65	268.20	13.55	0.23
Number of schools in the area	5.23	5.47	0.24	0.25
Fee for 1st grade student (in 100 Rps)	4.43	4.81	0.38	0.11
 <u>Gender &amp; STEM Attitudes (Only Survey Sample)</u>				
Wives should be less educated: disagree	0.89	0.87	-0.01	0.31
Wives should be less educated: neither agree nor disagree	0.06	0.06	-0.00	0.87
Wives should be less educated: agree	0.05	0.07	0.02	0.11
Higher educ. attainment for top male student	0.13	0.14	0.01	0.33
Most important subject (boys): math or sciences	0.48	0.46	-0.02	0.29
Most important subject (girls): math or sciences	0.39	0.37	-0.02	0.35
Math or sciences most important for boys, not for girls	0.15	0.15	0.00	0.87
Girls should be allowed to study far away	0.95	0.95	-0.00	0.91
Community thinks girls should be allowed to study far away	0.71	0.69	-0.03	0.20

*Notes:* Table A2 presents a balance table for the subsample of respondents who participated in the obfuscated follow-up survey. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table A3: Response Rates and Attrition

	<u>Picks up Call 1</u>		<u>Consent to Call 1</u>		<u>Complete Call 1</u>		<u>Participate in Call 2</u>	
Liberal motivation	0.010		0.016		-0.004		-0.012	
	(0.011)		(0.010)		(0.015)		(0.015)	
Liberal motivation (not private)		0.016		0.022*		0.002		-0.022
		(0.013)		(0.012)		(0.018)		(0.019)
Liberal motivation (private)		0.005		0.009		-0.011		-0.001
		(0.013)		(0.013)		(0.019)		(0.019)
Control mean	0.63	0.63	0.84	0.84	0.61	0.61	0.55	0.55
Number of Observations	7700	7700	4913	4913	4180	4180	4180	4180

*Notes:* Table A3 presents OLS regressions of different indicators for responsiveness and survey completion on a treatment indicator. The unit of observation is the individual. In Columns 1 and 2, the sample consists of all 7,700 school owners for whom we were provided with a phone number. In Columns 3 and 4, the sample consists of all school owners whose phone number is active and who answered the call. In Columns 5, 6, 7 and 8, the sample consists of all school owners who consent to participate in the first phone survey (on behalf of our partner NGO). *Picks up Call 1* is equal to 1 if the phone number is active and the respondent answers the call, 0 otherwise. *Consent to Call 1* is equal to 1 if the respondent agrees to talk to the surveyor introducing herself as a representative of our partner NGO, 0 otherwise. *Complete Call 1* is equal to 1 if the respondent answers all questions during the first phone survey, 0 otherwise. *Participate in Call 2* is equal to 1 if the respondent consents to participate in the second phone survey (on behalf of CERP), 0 otherwise. Robust standard errors in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table A4: Equitable and Less-than-Equitable Partnership Conditions

	<u>Answer Booklet</u>	<u>Request Booklet</u>	<u>Share Address</u>	<u>Reject Booklet</u>
Liberal motivation	-0.007 (0.008)	0.024 (0.024)	-0.001 (0.011)	0.009 (0.016)
Equitable	-0.003 (0.008)	0.029 (0.024)	-0.011 (0.012)	-0.007 (0.015)
Less-than-equitable	-0.002 (0.008)	0.011 (0.025)	-0.002 (0.012)	-0.011 (0.015)
Equitable x Liberal Motivation	-0.001 (0.012)	-0.046 (0.034)	0.017 (0.017)	-0.011 (0.022)
Less-than-equitable x Liberal Motivation	-0.014 (0.013)	-0.017 (0.034)	0.003 (0.016)	-0.000 (0.022)
Control mean	0.98	0.73	0.96	0.06
Number of Observations	4180	4063	2953	2850

*Notes:* Table A4 presents OLS regressions of different measures of school owners' expression of interest in a collaboration with our partner NGO on a treatment indicator, indicators for the cross-randomized *equitable partnership* and *less-than-equitable partnership* treatment conditions and the corresponding interaction terms. The unit of observation is the individual. Please refer to Table 1 for more details on the definition of the outcome variables. Robust standard errors in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table A5: Heterogeneity by Delivery Costs

	<u>Answer Booklet</u>	<u>Request Booklet</u>	<u>Share Address</u>	<u>Reject Booklet</u>
Liberal motivation	-0.008 (0.007)	-0.008 (0.018)	0.007 (0.008)	0.000 (0.010)
100 Rps	-0.001 (0.007)	-0.175*** (0.022)	-0.028** (0.012)	0.020 (0.013)
200 Rps	-0.016* (0.008)	-0.279*** (0.023)	-0.012 (0.012)	0.061*** (0.017)
100 Rps x Liberal Motivation	-0.006 (0.011)	0.041 (0.031)	0.018 (0.015)	0.017 (0.019)
200 Rps x Liberal Motivation	-0.005 (0.013)	-0.011 (0.033)	-0.029 (0.018)	0.000 (0.025)
Control mean	0.98	0.73	0.96	0.06
Number of Observations	4180	4063	2953	2850

*Notes:* Table A5 presents OLS regressions of different measures of school owners' expression of interest in a collaboration with our partner NGO on a treatment indicator, indicators for the different levels of the pre-announced delivery costs (Rps 100 and Rps 200) and the corresponding interaction terms. The unit of observation is the individual. Please refer to Table 1 for more details on the definition of the outcome variables. Robust standard errors in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table A6: Distribution of Conservative Gender Attitudes

	<u>College</u>	<u>Wife</u>	<u>Ambition</u>
Liberal motivation	0.001 (0.010)	0.043 (0.045)	0.014 (0.015)
Control mean	0.05	-0.00	0.13
Number of Observations	2148	2156	2174

*Notes:* Table A6 presents OLS regressions of different proxies for conservative gender attitudes on a treatment indicator. The unit of observation is the individual. In Column 1, the outcome variable “College” is equal to 1 if respondents indicate that girls should not be allowed to study at college if it is far away, 0 otherwise. In Column 2, the outcome variable “Wife” is a z-scored measure of respondents’ agreement with the statement that “*wives should be less educated than their husbands.*” In Column 3, the outcome variable “Ambition” is equal to 1 if respondents expressed the believe that the top male student in their school will achieve a higher educational attainment than the top female student in their school. Robust standard errors in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table A7: Heterogeneity by Conservative Gender-Related Beliefs (Including Controls)

	Answer Booklet			Request Booklet			Share Address			Reject Booklet		
	College	Wife	Ambition	College	Wife	Ambition	College	Wife	Ambition	College	Wife	Ambition
Liberal motivation	0.008 (0.019)	0.007 (0.019)	0.009 (0.021)	0.063 (0.051)	0.060 (0.050)	0.045 (0.051)	-0.013 (0.024)	-0.012 (0.024)	0.005 (0.028)	0.000 (0.030)	0.002 (0.030)	0.012 (0.030)
Conservative	0.012*** (0.004)	-0.008 (0.006)	0.017*** (0.004)	0.034 (0.060)	0.003 (0.014)	0.038 (0.039)	-0.024 (0.036)	-0.001 (0.005)	0.017 (0.016)	0.000 (0.038)	0.013 (0.011)	-0.018 (0.022)
Conservative x Liberal motivation	-0.029 (0.026)	0.014** (0.006)	-0.039** (0.017)	-0.170* (0.091)	-0.029 (0.019)	-0.026 (0.054)	0.026 (0.048)	0.000 (0.007)	-0.004 (0.021)	0.037 (0.063)	-0.020 (0.013)	0.021 (0.032)
Control mean	0.98	0.98	0.98	0.73	0.73	0.73	0.96	0.96	0.96	0.06	0.06	0.06
Number of Observations	2074	2081	2074	2038	2045	2034	1555	1560	1550	1511	1516	1501

*Notes:* Table A7 presents OLS regressions of different measures of school owners' expression of interest in a collaboration with our partner NGO on a treatment indicator, an indicator for school owners' agreement with a conservative statement and the corresponding interaction term. The unit of observation is the individual. Please refer to Table 1 for more details on the definition of the outcome variables. In Columns 1, 4, 7 and 10, the dummy variable for agreement with a conservative statement is equal to 1 if respondents indicate that girls should not be allowed to study at college if it is far away, 0 otherwise. In Columns 2, 5, 8 and 11, the measure of agreement with a conservative statement is a z-scored measure of respondents' agreement with the statement that *"wives should be less educated than their husbands."* In Columns 3, 6, 9 and 12, the dummy variable for agreement with a conservative statement is equal to 1 if respondents expressed the believe that the top male student in their school will achieve a higher educational attainment than the top female student in their school. In addition, all regressions include controls for demographic characteristics (gender, indicator for above the median age and an indicator for not having any college education) and the respective interaction terms with the treatment indicator. Robust standard errors in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table A8: Heterogeneity by Gender Norms in the Community

	Answer Booklet	Request Booklet	Share Address	Reject Booklet
	Community	Community	Community	Community
Liberal motivation	0.002 (0.010)	-0.002 (0.035)	-0.002 (0.013)	0.011 (0.023)
Agree	0.001 (0.009)	0.019 (0.030)	-0.012 (0.011)	-0.007 (0.019)
Agree x Liberal motivation	-0.007 (0.012)	0.006 (0.041)	-0.000 (0.016)	-0.015 (0.026)
Control mean	0.98	0.73	0.96	0.06
Number of Observations	2148	2110	1600	1556

*Notes:* Table A8 presents OLS regressions of different measures of school owners' expression of interest in a collaboration with our partner NGO on a treatment indicator, an indicator whether school owners believe that members of their local community would agree with the statement that *"girls should be allowed to study at college even if it is far away"* and the corresponding interaction term. The unit of observation is the individual. Please refer to Table 1 for more details on the definition of the outcome variables. Robust standard errors in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table A9: Heterogeneity by Attitudes about Importance of STEM

	Answer Booklet	Request Booklet	Share Address	Reject Booklet
	STEM	STEM	STEM	STEM
Liberal motivation	-0.004 (0.006)	0.005 (0.020)	0.002 (0.009)	0.001 (0.013)
Conservative	-0.016 (0.014)	0.026 (0.036)	0.023** (0.010)	-0.006 (0.022)
Conservative x Liberal motivation	0.011 (0.019)	-0.033 (0.051)	-0.018 (0.019)	0.008 (0.032)
Control mean	0.98	0.73	0.96	0.06
Number of Observations	2170	2131	1614	1569

*Notes:* Table A9 presents OLS regressions of different measures of school owners' expression of interest in a collaboration with our partner NGO on a treatment indicator, an indicator for school owners who indicate that STEM fields are the most important subject for boys, but not for girls, and the corresponding interaction term. The unit of observation is the individual. Please refer to Table 1 for more details on the definition of the outcome variables. Robust standard errors in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table A10: Heterogeneity by Basic Demographic Characteristics

	Answer Booklet			Request Booklet			Share Address			Reject Booklet		
	Male	Old	No College	Male	Old	No College	Male	Old	No College	Male	Old	No College
Liberal motivation	0.001 (0.019)	-0.005 (0.008)	-0.004 (0.007)	0.003 (0.048)	0.020 (0.022)	-0.014 (0.019)	0.003 (0.025)	0.011 (0.010)	0.003 (0.009)	0.013 (0.028)	-0.001 (0.014)	-0.007 (0.012)
Characterisitc	0.023* (0.014)	0.005 (0.009)	0.020*** (0.004)	0.102*** (0.036)	0.049* (0.028)	-0.083* (0.046)	0.013 (0.019)	0.017 (0.012)	0.005 (0.020)	0.012 (0.020)	-0.021 (0.017)	-0.045*** (0.016)
Characteristic x Liberal motivation	-0.009 (0.020)	0.006 (0.013)	-0.019 (0.015)	-0.018 (0.051)	-0.079** (0.040)	0.022 (0.064)	-0.000 (0.026)	-0.029 (0.019)	-0.011 (0.028)	-0.012 (0.031)	0.004 (0.024)	0.100*** (0.038)
Control mean	0.98	0.98	0.98	0.73	0.73	0.73	0.96	0.96	0.96	0.06	0.06	0.06
Number of Observations	2280	2182	2253	2231	2136	2206	1680	1623	1661	1629	1573	1611

*Notes:* Table A10 presents OLS regressions of different measures of school owners' expression of interest in a collaboration with our partner NGO on a treatment indicator, an indicator for school owners with a particular demographic characteristic and the corresponding interaction term. The unit of observation is the individual. Please refer to Table 1 for more details on the definition of the outcome variables. In Columns 1, 4, 7 and 10, the dummy variable for the demographic characteristic of interest is equal to 1 if the respondent is male, 0 otherwise. In Columns 2, 5, 8 and 11, the dummy variable for the demographic characteristic of interest is equal to 1 if the respondent is older than 45 years of age, 0 otherwise. In Columns 3, 6, 9 and 12, the dummy variable for the demographic characteristic of interest is equal to 1 if the respondent does not have any college education, 0 otherwise. Robust standard errors in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table A11: Heterogeneity by School Fees

	Answer Booklet	Request Booklet	Share Address	Reject Booklet
	Most Fees	Most Fees	Most Fees	Most Fees
Liberal motivation	-0.004 (0.008)	-0.000 (0.028)	-0.007 (0.012)	-0.001 (0.017)
Characteristic	-0.001 (0.010)	0.052 (0.035)	-0.001 (0.015)	-0.036** (0.016)
Characteristic x Liberal motivation	-0.005 (0.016)	-0.026 (0.049)	-0.011 (0.024)	0.040 (0.028)
Control mean	0.98	0.73	0.96	0.06
Number of Observations	1421	1397	1063	1031

*Notes:* Table A11 presents OLS regressions of different measures of school owners' expression of interest in a collaboration with our partner NGO on a treatment indicator, an indicator for school owners who were able to collect at least 30% of their school fees during Covid-19 and the corresponding interaction term. The unit of observation is the individual. Please refer to Table 1 for more details on the definition of the outcome variables. Robust standard errors in parentheses. \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$