

CAN *DESTIGMATIZING* MENTAL HEALTH INCREASE WILLINGNESS TO SEEK HELP? EXPERIMENTAL EVIDENCE FROM NEPAL ^{*}

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Abstract

We conducted a randomized control trial to study the impact of two information messages aimed at reducing the stigma associated with mental illness on the willingness to seek mental healthcare among adults in Nepal. The first intervention shares information about the prevalence of mental health issues and the efficacy of treatment. The second intervention shares information about the mental health struggles of a Nepali celebrity and how he benefited from treatment. We find three results. First, compared to a no information control group, both interventions increase participants' stated willingness to seek mental health treatment. This effect is driven by participants with high personal and anticipated stigma, less severe symptoms of depression and anxiety, and who hold high-masculinity beliefs. Second, the impact on participants' stated willingness to seek mental health treatment mirrors their willingness to pay for counseling. Third, participants are, on average, more likely to report willingness to seek help when the enumerator is female.

Keywords: Mental Health, Stigma, Prejudice, Seeking Help, Celebrity, Nepal.

JEL Codes: I12, I15.

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1 Introduction

More than a billion people suffer from mental health ailments such as depression and anxiety, placing these among the most significant global public health issues.¹ Yet, roughly 50% of people in need of mental health care *do not* receive treatment (Kovacevic, 2021). The treatment gap is even larger in developing countries (Kaur et al., 2021) where 75% of those with mental health issues *never* seek care (Kovacevic, 2021). The failure to seek appropriate treatment can have severe implications for future health (Prince et al., 2007), education (Brännlund et al., 2017), and economic well-being (Flatau et al., 2000). Given the aforementioned implications, in this paper, we test two information treatments that aim to increase the willingness to seek mental healthcare by reducing stigma in Nepal.

Research suggests that there are several barriers to the take-up of mental health services, both on the supply-side, such as scarcity of trained professionals and other resources, and on the demand side, such as information gaps, misinformation, and stigma. This paper tests the extent to which stigma-reducing interventions contributes to addressing the treatment gap. The underlying hypothesis is that because prejudice and discrimination against people with mental illness increases the likelihood of treatment avoidance (Sirey et al., 2001), addressing such prejudiced beliefs is one pathway to increase the willingness to seek treatment. While the benefits of such interventions to those experiencing severe mental distress are apparent, they are particularly more beneficial for those experiencing mild emotional distress. This is because when individuals have already experienced significant impairment, the effects may be difficult to reverse (Henderson et al., 2013a). Therefore, from a policy standpoint, it is important to increase the willingness to seek treatment before the onset of severe symptoms so that people can not only seek care but do so in a timely manner.

As is common in low and middle-income countries (Kovacevic, 2021), the mental health treatment gap in Nepal is wide, with less than 10% of those suffering from mental health issues receiving adequate care (Jordans et al., 2019).² In this study we randomly divided 2,485 respondents living in four districts in Nepal into two treatment groups and a control group, to estimate the impact of two information messages, delivered over the phone, aimed at reducing the stigma associated with mental illness, on the willingness to seek mental healthcare. The first treatment contains information about the prevalence of mental health issues and frames the action of seeking mental health treatment as one that exhibits strength. The second treatment details the mental health struggles of a Nepali celebrity

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²Mental health issues have become even more significant in the light of the ongoing COVID-19 pandemic, which has increased rates of social isolation, and restricted movement, and has caused shocks to employment and well-being in Nepal.

and how he benefited from treatment. After administering the information messages to the two treatment groups, we measure participants' willingness to seek mental health treatment if they were to be in emotional distress, willingness to pay, and the mode and type of counseling they would seek help from, compared to the control group.

We find that these brief stigma-reduction information interventions delivered over the phone increased participants' willingness to seek treatment for their mental health if they were to be in emotional distress. Interestingly, we find that these intervention effects are strongest among participants with higher levels of baseline prejudice (above sample median levels of anticipated and personal stigma) and participants with relatively mild mental health issues (below median GAD and PHQ scores for anxiety and depression, respectively), providing suggestive evidence of where similar interventions should be targeted, and conversely where stronger public health policies might be needed.

We contribute to the literature on mental health interventions, stigma, and prejudice in three important ways. First, ours is one of the first field experiments to use low-cost, scalable interventions aimed at increasing the use of professional mental health services by reducing the stigma associated with mental healthcare. Second, we explore the issue of barriers to mental health treatment in a developing country. This is particularly important because although mental health issues are prevalent everywhere, they are especially pervasive in low and middle-income-country contexts, where there are low levels of economic, health, and educational security (Kovacevic, 2021). Third, we make an essential public health policy contribution by identifying the population segment for whom cost-effective and scalable nudge-like interventions will effectively reduce treatment avoidance.

2 Background

This study was conducted in four Nepali districts between May and August 2021. These include (i) Gorkha (Gorkha and Palungtar municipalities) which is a hilly district located in the north bordering China and is the fourth largest in the country, (ii) Kailali (Dhangadhi, Gauriganga, Ghodaghodi, and Godawari municipalities) which is located in the Terai plains in the far western region and is the fifth most populous district, (iii) Kavrepalanchok (Banepa, Dhulikhel, and Panauti), which is a hilly district in central Nepal located east of the Kathmandu valley, and (iv) Salyan (Bagchaur, Bangad Kupinde, and Sharda municipalities) which is a hilly district in the mid-western part of the country.

Our implementation partner was the Center for Mental Health and Counseling-Nepal (CMC-N), a

national non-governmental organization (NGO), established in 2003, registered in the Kathmandu District Administration Office (838-059/060), and affiliated to the Social Welfare Council (14822) of the Government of Nepal. CMC-N aims to enhance access to high-quality and affordable mental health and psychological counseling services. In particular, it works on prevention, promotion, curative, and community rehabilitation aspects of mental health through various programs and activities in collaboration with the Government, other NGOs, and community-based organizations.

The intervention coincided with the COVID-19 lockdown restrictions, aimed at curbing the spread of the COVID-19 infection during the country's second wave, which was in place between April and August 2021. During this period, the pandemic negatively impacted mental health, with 21% of respondents reporting a worsening in their mental health since the start of the pandemic. This was further reflected in the fact that about 24% of the respondents in this study exhibited moderate to severe anxiety or depression.³ Despite a high incidence of anxiety and depression, we observed several barriers to the take up of mental health services. There is low awareness about one's own mental health (about 58% of those with moderate to severe anxiety or depression knew that they had a mental health issue), misinformation (16% of respondents do not think that counseling works), lack of trust (16% of respondents stated that they do not trust counselors or only think that they are slightly trustworthy), stigma (more than half the sample believe that seeking mental healthcare is a personal failure (57%) and a sign of weak willpower (67%)). Similarly, 17% of respondents said that they would not accept someone who seeks mental healthcare as a friend, and there exists fear of prejudice and discrimination (a large proportion of the sample believing that it is at least moderately likely they will be judged as being not as good (47%), not as smart (42%), not as trustworthy (41%), and not to be afforded with as much respect (45%) if others find out that they seek mental healthcare).⁴

3 Experimental Design

3.1 Sample Recruitment, Randomization, and Timeline

Center for Mental Health and Counseling–Nepal (CMC-Nepal), which has a strong presence in the districts of Gorkha, Kailali, Kavre, and Salyan in Nepal and the research team got consent from 2,533

³ Anxiety and depression were measured by the Generalized Anxiety Disorder Assessment (GAD-7) and Patient Health Questionnaire (PHQ-8) scales respectively, which are self-reported diagnostic tools used to screen for and measure the intensity of anxiety and depression based on the incidence of symptoms in the preceding 14 days.

⁴ Additionally, on the supply side, there is a shortage of trained professional counselors in Nepal: only 33% of respondents we spoke to reported knowing a trained mental health counselor.

households to participate in this study. However, we dropped participants with non-unique phone numbers, to avoid contamination of the study design. This left us with a final sample of 2,485 participants.⁵ The participants were assigned to three treatment groups: reducing stigma through information (821 households), reducing stigma through celebrity (827 households), and control that received no information (837 households). Furthermore, the gender of the enumerator was randomly assigned to crosscut across all these groups.

Using the contact information collected by CMC-Nepal, a team of surveyors contacted the households who had consented to participate in this study and conducted the survey over the phone with an adult in the household. On average, the survey lasted ≈ 60 minutes, and the survey team compensated each respondent who completed the phone survey with NPR 100 mobile recharge (equivalent to $\approx \$0.75$ or 235 minutes of talk time). The survey included the following topics: (i) full household roster and basic socio-demographic and economic information, (ii) subjective life satisfaction, (iii) PHQ-8 scale for depression, (iv) GAD-7 scale for anxiety, (v) beliefs regarding modern therapy and traditional healing for mental health, (vi) attitudes of the stigma associated with seeking mental healthcare, (vii) beliefs regarding norms of masculinity, (viii) willingness to employ someone with mental health issues, and (ix) the impact of COVID-19.

Upon completing the survey, the surveyors read out one of the two treatment messages, in accordance with the treatment group that the respondent had been randomized into. Following the message, one of the key questions the respondents were asked was to rate on a scale of 1-5 how willing they would be to attend a counseling session if they were in emotional distress and how comfortable they felt during the survey. Before ending the call, the enumerator provided the respondents with a helpline number which was operated by a trained counselor recruited by CMC-Nepal, that the respondents could call to avail of information on mental health counseling services free of cost.⁶ We started the survey effort in May 2021 and the intervention ended in August 2021.

This study was pre-registered at the AEA RCT Registry: AEARCTR-0007778.⁷

⁵We elaborate more in 3.3.

⁶Starting in June, we also began sending all survey respondents text messages reminding them of the helpline number. The content of the text messages aligned with the message treatment that the respondents received during the survey. The helpline number became operational on May 16, 2021 (one week after the phone survey commenced) and remained live until August 15, 2021 (two weeks after the phone survey concluded).

⁷Pre-Analysis Plan registered at AEA RCT Registry: <https://www.socialscienceregistry.org/trials/7778>.

3.2 Treatment Arms

Prior literature has revealed that, there exists significant prejudice against those with mental health issues, which may, in turn, lead to discrimination in a variety of settings (Arboleda-flórez and Sartorius, 2008). People with mental health issues are stereotyped as less competent, less intelligent, and potentially violent (Corrigan and Rüsch, 2002). People suffering from mental illness are more likely to be turned down for a job, denied housing, and receive a lower standard of care in health facilities (Corrigan et al., 2014). It is plausible that individuals take into account the existing stereotypes about mental illness when considering whether they should consider seeking help for the same. This *anticipated stigma* – or the concern of being seen as weak and incompetent, and being treated worse than others – can be a barrier to seeking mental health treatment, leading to lower utilization of treatment services. This may lead to poorer treatment outcomes and adherence when treatment is sought (Quinn et al., 2015; Corrigan and Watson, 2002). In addition, people’s own negative beliefs about people with mental illness (or personal stigma) is another significant barrier to seeking help for those with mental illnesses.

Our stigma-reduction interventions are targeted at reducing these two barriers, by providing information, de-stigmatizing material, and role models. We evaluate whether standardized messages, aimed at reducing mental health stigma, delivered over the phone by an enumerator, can increase the willingness to seek mental health services. In the experiment, 2,485 respondents were randomly allocated to one of two treatment groups or a control group.

Reducing Stigma through Information (T1)

In this treatment, the participants were informed that mental health issues are common and treatable. Furthermore, they were encouraged to seek treatment if they require it and assured that seeking help is a sign of strength, not weakness.

The goal of the first treatment arm was to reduce stigma by changing the framing around mental illness. First, we provide information about how common mental health problems are in the population. We mention that mental health problems such as depression, anxiety, feelings of loneliness, and excessive fear and nervousness are very common. We provide local statistics related to Nepal and inform participants that over 30 million people in Nepal (i.e., more than 13% of the population) experience mental health problems each year. Since prejudice and stereotyping often lead to categorizing certain

people as separate social entities, we predicted that these statistics related to the widespread prevalence of mental illness would reduce perceptions of exaggerated social distance (Smith, 2007) and increase willingness to seek help. In the same treatment, we also attempt to reduce stigma by framing the action of seeking professional help as a positive action of strength (Mavandadi et al., 2019) with tangible benefits rather than an action of acceptance of personal failure. We predict that our frame of strength would encourage people to critically examine their existing prejudices (Chong and Druckman, 2007; Druckman and Bolsen, 2011; Francis, 2018) and affect their likelihood of seeking help.

The script for this treatment was as follows:

“Mental health problems such as depression, anxiety, feelings of loneliness, and excessive fear and nervousness are very common and if you are having any such issues then you are not alone. 1 in 7 people worldwide struggles with a mental health or substance abuse problem. Over 300 million experience them each year worldwide and almost 13% of people in Nepal experience them. Mental health illness does not discriminate; a person of any age, gender, ability status, socioeconomic status (rich or poor), ethnicity, sexuality (Third Gender), religion, and background can have a mental health problem. People are generally reluctant to accept and admit that they have mental illness and need any kind of treatment. This is mainly because of fear that friends, neighbors, or relatives may label them with mental illness. Having a mental health illness does not mean you are weak or broken; on the contrary, seeking help for a mental health problem is a sign of strength. Mental Health problems can be treated with the help of mental health professionals who are trained to deal with issues like depression and anxiety. These professionals help to identify what is happening to you and how it can be reduced/treated. These professionals are supportive, and you can fully trust them. If you have any emotional or behavioral issues, seek help. Do not suffer in silence. Now, I would like to ask you a few questions.”

Out of 2,485 respondents, 821 were randomly selected to receive the reducing stigma through information (T1).

Reducing Stigma through Celebrity (T2)

In the second treatment arm, the goal was to reduce stereotypes and stigma by providing information about a celebrity in Nepal who has sought help for mental health problems. We highlight the struggles of this celebrity, who experienced depression (prolonged feelings of sadness, sleeping, and eating irregularities, as well as suicidal thoughts) but recovered with the support of mental health professionals. Thus we again normalize mental health struggles by showing that even popular, successful people have them. In the intervention, the celebrity encouraged people to look out for early symptoms

of depression and then seek treatment from mental health professionals. Past research has shown that a celebrity's disclosure of mental health issues has motivated people to seek help (Ayers et al., 2013; Carpentier and Parrott, 2016). Often people conceal their mental illness as revealing them might lead others to discredit them. When people see a celebrity openly sharing similar struggles, they might become more inclined to seek help as it lowers the stigma associated with mental illness (Feldman and Crandall, 2007; Klin and Lemish, 2008). For example, in the United States, Carrie Fisher's (best known for her role as Princess Leia in Star Wars) and Michael Phelps' (Olympian swimmer) disclosures about their mental health illness led to great sharing of mental health issues on social media platforms (Park and Hoffner, 2020; Hoffner, 2020). We predict that when participants in our study in Nepal become aware of the mental health struggles of their celebrity, they will lower the stigma that they associate with mental illness. This will motivate them to seek treatment for their own mental health if needed.

The script for this treatment was as follows: ⁸

"He [anonymous] is a famous actor and comedian in Nepal. He is known to most of the Nepalese from the film he acted in. During COVID 19 pandemic and post-earthquake disaster, many of his videos were broadcasted with messages on how to stay strong and cope with the pandemic and disaster. These messages have increased the self-confidence of many Nepalese. In his lifetime he has also experienced depression (prolonged feelings of sadness, sleeping, and eating irregularities, as well as suicidal thoughts) but with his courage and with the support of mental health professionals he has recovered. He encourages potential sufferers and the people around to look out for such early symptoms of depression. According to him, it is important to identify depression and anxiety on time so that those who suffer with mental health problems can get treatment from mental health professionals. By getting treatment, someone with a mental health problem can reduce future problems and lead a happy, successful life. If you have any emotional or behavioral issues, seek help. Do not suffer in silence."

Out of 2,485 respondents, 827 were randomly selected to receive the reducing stigma through celebrity (T2).

Both of these messages utilize the theory of planned behavior (Ajzen, 1991) which asserts that most behaviors, including health behaviors, are predicted by people's intentions to perform those behaviors. A meta-analysis review of the use of the theory of planned behavior for behavior change interventions in general (Steinmetz et al., 2016) has shown them to be effective. In our context, both treatment arms touch on aspects of changing attitudes and subjective norms around mental health and mental health treatment. Our first intervention provides information about the extent of the spread of men-

⁸The research team prepared this script in joint collaboration with the celebrity Nepali comedian.

tal health problems in order to reduce negative attitudes towards those suffering from these issues as well as draw attention to how common and normative mental health concerns are. This treatment also frames seeking treatment as a sign of strength, thus promoting positive attitudes towards help-seeking behavior. Our second intervention centering around the story of a celebrity who sought treatment, illustrates that even successful people can suffer from a mental health issue, highlighting the normative nature of mental health concerns and associating a respected person with mental health. It further encourages participants to seek treatment by personal narrative around how treatment can be successful. Both our treatments provide information on the access and effectiveness of mental health treatment in order to encourage people to seek professional help. Lastly, each of our treatment arm is aimed at changing behavioral intentions. The theory of planned behavior ultimately predicts that the stronger the intentions are to perform a behavior, the more likely that behavior is performed. In our intervention, after participants receive either intervention treatment, they are asked about their willingness to seek help. *Changing intentions is perhaps the most significant contribution of these interventions, as intentions can lead to behavioral changes down the road that may allow those suffering from mental health problems to get the help they need.*

Lastly, since both these treatments were administrated through the phone, wherein a surveyor called participants to respond to a survey related to mental health, we also had an opportunity to vary the gender of the surveyors. Men are often known to seek less services related to health (Addis and Mahalik, 2003; Mahalik et al., 2007). For example, men often choose to “tough it out” by avoiding feminine associations with health care (Courtenay, 2000). These health avoidance behaviors for men are robust across age, nationality, and ethnicity (for review, see Addis and Mahalik (2003); Galdas et al. (2005); Wong et al. (2017)). Stigma may be particularly salient for men as they desire to display stereotypical masculine traits of strength; seeking help may mean admitting an inability to handle things on one’s own (Addis and Mahalik, 2003; Courtenay, 2000; Pinkhasov et al., 2010). In order to examine whether the gender of the surveyor on the phone influenced these health avoidance behaviors, we cross-randomized the gender of the surveyor who would deliver this message to the participants in our survey. We predicted that men would not want to admit their inability of handling their “own” issues in front of another man compared to a woman. They would see the act of needing counseling as a stronger sense of failure in front of another man, reducing their willingness to seek help.

Control Group (C)

Apart from the two treatment condition, we had a control condition in which no information amid at stigma reduction was provided. Out of 2,485 respondents, 837 were randomly selected to the control group (C).

3.3 Sample Description

We received consent for study participation from 2,553 participants. For our analysis we dropped participants with non-unique phone numbers, to avoid contamination of the study design and also those cases where the randomization was violated during implementation. This left us with a final sample of 2,485 participants of which 821 received the reducing stigma through information, 827 received the reducing stigma through celebrity intervention, and 837 were in the control group. We present descriptive statistics of the sample in Tables 1–2. Approximately 56% of participants are female, and the participant is about 38 years old. Most participants (94%) are married and have on average 5.82 years of schooling. More than half of our sample (58%) belong to the Brahmin/Chhetri (upper) caste, 23% are Janjati (indigenous), and 13% belong to the Dalit caste, respectively. The average household has 5.26 members including 2.29 children. Only 15% of the respondents have a full-time or permanent job, 40% are primarily employed in agriculture, and the average monthly household income is approximately 26,000 Nepali rupees. The incidence of mental ailments is high in our sample: 15% and 19% have moderate to severe anxiety and depression respectively, 24% have either moderate to severe anxiety or depression, and 21% believe that they have a mental health issue.

In Table 2, we document our sample's attitudes toward mental health illness and treatment. We first find that a large share of our sample worry that if they seek mental health care it is at least moderately likely that others will think that they are not as good (47%), think that they are not smart (42%), treat them with less respect (45%) and think that they are not to be trusted (41%). These beliefs about being negatively judged may in fact be quite accurate since 57% of our sample somewhat or strongly agree that seeking mental health care is a sign of personal failure and 67% of our sample somewhat or strongly agree that seeking mental health care is a sign of weak will-power. Approximately 17% of the sample are unwilling to befriend someone who seeks mental health care. These prejudices are reflected in intended behavior with 21% of the sample reporting that they would not hire a skilled employee who had a mental health issue and 9% reporting that they would pay the skilled employee a lower salary if they had a mental health issue. These statistics show that there is considerable prejudice

and stigma associated with mental health care in our sample, and therefore means that there is scope for interventions aimed at reducing these beliefs.

4 Design Validity and Empirical Specifications

4.1 Design Validity

We report the baseline characteristics of the sample by treatment status in Table 3 and to test whether the randomization was successful. Columns (1) – (3) report the mean and the standard deviations of the baseline variables for the sample in the respective treatment groups. In conducting the balance checks, we cluster standard errors at the ward level and include municipality dummies. While comparing the observations in the three arms of this experiment across 15 variables, we make a total of 45 comparisons. Columns (4) – (6) test for statistical differences across the two groups. In particular, we test the difference between control and the reducing stigma through information (T1) in column (4), control and the reducing stigma through celebrity (T2) in column (5), and control and reducing stigma through information + reducing stigma through celebrity (T1 + T2) in column (6). For the baseline balance, we focus on column (6). At the 5 percent confidence interval, we cannot reject equality of means in 44 of the 45 comparisons (98 percent), the only exception being that the incidence of above median PHQ scores is slightly higher in the control group than in the stigma reduction group. If we extend to the 10 percent confidence interval, we find that we cannot reject 43 out of 45 comparisons (96 percent); respondents in the pooled treatment group have completed slightly more years of schooling than those in the control group. Given the low rates of incidence, these differences can be attributed to chance, and therefore we can conclude that the randomization in this study was successful.

4.2 Outcome Measures

The primary outcome of this study was to measure the *willingness to seek help for mental health services*. In particular, we ask respondents on a scale of 1–5 how willing they would be to attend a counseling session if they were in emotional distress.

We also measure a set of secondary outcomes that are hypothetical and not incentivized: (i) *willingness to pay for a trained mental health professional*, (ii) *willingness to pay for a traditional healer (sometimes used in*

place of mental health counselors in Nepal), (iii) preference for face to face or online counselling, (iv) preference for same-sex counsellors, (v) preference for group or individual counselling, and (vi) preference for same-sex or mixed-gender group counselling.

We describe these variables in Appendix 2.

4.3 Empirical Specification

We first estimate the intent-to-treat (ITT) impact of the destigmatizing interventions for both the treatments together (reducing stigma through information and reducing stigma through celebrity combined, relative to the control) using the following specification:

$$Y_{(i,m,w)} = \alpha + \beta T_{(i,m,w)} + \gamma X_{(i,m,w)} + \lambda M_m + e_{(i,m,w)} \quad (1)$$

where $Y_{(i,m,w)}$ is the outcome variable of respondent i living in ward number w in municipality m . $T_{(i,m,w)}$ is an indicator for whether the respondent i living in ward number w in municipality m had been assigned to either treatment group. $X_{(i,m,w)}$ is a vector of individual controls that includes the respondent's age, gender, caste, and household size. M_m are municipality fixed effects, and $e_{(i,m,w)}$ is the error term. Finally, β is our main coefficient of interest and provides the ITT effect of the intervention (reducing stigma through information and reducing stigma through celebrity combined, relative to the control) on our outcomes of interest.

We further present the ITT impact of the destigmatizing interventions by the two treatment groups separately, relative to the control using the following specification:

$$Y_{i,m,w} = \alpha + \beta_1 T1_{(i,m,w)} + \beta_2 T2_{(i,m,w)} + \gamma X_{(i,m,w)} + \lambda M_m + e_{(i,m,w)} \quad (2)$$

where $T1_{(i,m,w)}$ is the reducing stigma through information, $T2_{(i,m,w)}$ is the reducing stigma through celebrity, and all other variables are the same as in Equation 1. Finally, β_1 and β_2 (in standard deviations) will provide the ITT effects for each of the two treatment groups, relative to the control) on our outcomes of interest.

5 Results

5.1 Treatment Effects on Willingness to Seek Help

We report the causal impact of the combined mental health information treatments on willingness to seek counseling as stated by the respondents in Table 4.⁹ Panel A reports the results for the pooled treatment. We find that respondents who received an information treatment stated that they were 0.11 *standard deviations (s.d.)* more willing to seek counseling than respondents in the control group. This estimate is robust to adding baseline controls (Column 2), clustering standard errors at the ward level (Column 3), and adding municipality fixed effects (Column 4).

Panel B reports the impact of the two treatments (reducing stigma through information and reducing stigma through celebrity), separately. In the fully specified model (Column 4), we find that the reducing stigma through information increased the willingness to seek counseling by 0.12 *s.d.* and the celebrity information increased the willingness to seek counseling by 0.11 *s.d.* Across all specifications, we do not find a statistically significant difference in the impact of the two stigma reduction information treatments.¹⁰

Overall our findings are consistent with Clement et al. (2015), who perform a meta-analysis and find that the *association* between stigma and help-seeking is negative and small (Cohen, 1992).¹¹ However, the majority of the studies are cross-sectional and from developed countries.¹² More importantly, our study adds to a limited number of randomized control trials (RCTs) interventions aiming to increase help-seeking outcomes in developing country contexts using a large sample size. In particular, Gulliver et al. (2012) suggests that mental health literacy interventions are promising in terms of increasing help-seeking attitudes, but not effective in terms of help-seeking behavior.¹³ Findings from our study are promising as we find a statistically significant *positive* impact of destigmatizing mental health information interventions on willingness to seek help.

⁹We report the same with additional controls in Table 13.

¹⁰Meta-analyses by van Agteren et al. (2021) found that singular positive psychological interventions, cognitive and behavioural therapy-based, acceptance and commitment therapy-based, and reminiscence interventions were impactful, however the effect sizes were moderate at best, but differed according to target population and moderator, and most notably intervention intensity.

¹¹The median effect size using Cohen's *d* in the association studies was 0.27 and ranged from -2.73 to 0.36 for individual studies, the negative association indicating that stigma reduces help-seeking.

¹²Cross-sectional studies with attitudinal/intentional help-seeking measures reported a moderate median effect size of -0.52 (range 0.273 to 0.34), with the majority reporting a statistically significant negative association between stigma and help-seeking.

¹³Gulliver et al. (2012) does a systematic review of RCTs of interventions aiming to increase help-seeking reported that two out of three anti-stigma interventions improved help-seeking attitudes. In particular, Sharp et al. (2006) and Buckley and Malouff (2005) finds positive impact of destigmatisation information on help-seeking attitudes, while Han et al. (2006) did not find any impact.

5.2 Heterogeneous Treatment Effects on Willingness to Seek Help

We now report the heterogeneous effects of the treatments to explore the role of individual characteristics on the effectiveness of the treatments in Tables 5–6.

Stigma: Panel A in Table 5 reports the impact by two measures of stigma as measured pre-treatment: *personal* and *anticipated*. We find that the impact on willingness to seek counseling is driven by respondents who have highly stigmatized (above median) views as measured by personal and anticipated stigma in terms of seeking mental healthcare.

In particular, for respondents with above-median levels of personal stigma, the pooled treatment increased the willingness to seek counseling by 0.15 *s.d* (Column 1 in Panel A), and the stigma reduction information and celebrity information treatments increased willingness to seek counseling by 0.14 *s.d* (Column 1 in Panel B) and 0.16 *s.d* (Column 1 in Panel B), respectively. We do not find a statistically significant impact for respondents who have below median levels of personal stigma (Column 2). We find similar results on willingness to seek help for respondents with above-median levels of anticipated stigma. In particular, the pooled treatment increased the willingness to seek counseling by 0.22 *s.d* (Column 3 in Panel A), and the stigma reduction information and celebrity information treatments increased willingness to seek counseling by 0.19 *s.d* (Column 3 in Panel B) and 0.25 *s.d* (Column 3 in Panel B), respectively. We do not find a statistically significant impact for respondents who have below median levels of personal and anticipated stigma (Columns 2 and 4). In both cases, we do not find any statistical difference in the outcome measures between the stigma reduction information and celebrity information treatments.

Overall, our results are in line with previous systematic reviews (Clement et al., 2015; Schnyder et al., 2017) examining the correlation between mental health-related stigma beliefs and help-seeking. These correlational studies have shown that as stigma beliefs increase – such as anticipating greater devaluation from others if one seeks mental health treatment or more negative personal beliefs about people with mental illness – intentions to seek help decrease. Given this relationship, only people with higher levels of stigma beliefs should be responsive to a stigma-lowering intervention. People who are already low in their levels of mental health stigma beliefs are not likely to be affected. This is exactly the pattern we see in Table 5.

Depression: From Column 5 onward, we report the treatment effects by measures of anxiety (*Generalized Anxiety Disorder (GAD-7) score*) and depression (*Personal Health Questionnaire Depression Scale*

(*PHQ-8 score*). We find that impact on willingness to seek counseling is driven by respondents who have below the median level of anxiety and depression.

In particular, for respondents with below-median levels of GAD-7 score, the pooled treatment increased the willingness to seek counseling by 0.18 *s.d* (Column 6 in Panel A), and the stigma reduction information and celebrity information treatments increased willingness to seek counseling by 0.21 *s.d* (Column 6 in Panel B) and 0.15 *s.d* (Column 6 in Panel B), respectively. We do not find a statistically significant impact for respondents who have above median levels of GAD-7 score (Column 5). We find similar results on willingness to seek help for respondents with below-median levels PHQ-8 score. In particular, the pooled treatment increased the willingness to seek counseling by 0.21 *s.d* (Column 8 in Panel A), and the stigma reduction information and celebrity information treatments increased willingness to seek counseling by 0.23 *s.d* (Column 8 in Panel B) and 0.18 *s.d* (Column 8 in Panel B), respectively. We do not find a statistically significant impact for respondents who have above median levels of PHQ-8 score (Column 7). In both cases, we do not find any statistical difference in the outcome measures between the stigma reduction information and celebrity information treatments.

Overall, our results are not entirely surprising since it would take more than just providing information to reduce mental health stigma to enable individuals suffering from high levels of anxiety and depression to seek help.

Gender: It is argued that there exist gender differences in mental health help-seeking as men express less emotion, are hesitant to exhibit their weakness, and are less likely to seek professional help than women (Juvrud and Rennels, 2017; Addis and Mahalik, 2003). Furthermore, help-seeking behavior among men in the context of mental health is further compounded due to fear of being judged or stigmatized (Harding and Fox, 2015; Chandra and Minkovitz, 2006).

We test the heterogeneous impact of the intervention by gender and present the finding in Table 6. Panel A reports the impact of the pooled treatment, while Panel B reports the impact of the two treatments, separately. Contrary to the findings in the literature, we find that the information treatment increased the willingness to seek help for both males and females (Columns 1–2). In fact, the point estimates are identical (0.12 *s.d*). We find similar results when we look at the two treatments separately. In both cases, we do not find any statistical difference in the outcome measures between the stigma reduction information and celebrity information treatments.

Masculinity: Prior research documents that in both adult and adolescent males, mental health help-seeking is negatively correlated with norms of hegemonic masculinity and a socially constructed ‘men

don't seek help' gender stereotype (Seidler et al., 2016; Addis and Mahalik, 2003). Furthermore, several qualitative studies have identified social norms of traditional hegemonic masculinity as a barrier to male mental health help-seeking due to a fear of stigma (Gair and Camilleri, 2003; Gilchrist and Sullivan, 2006).¹⁴

We test the heterogeneous impact of the intervention by measure of masculinity and present the finding in Columns (3)–(4) in Table 6. Panel A reports the impact of the pooled treatment, while Panel B reports the impact of the two treatments, separately. We find the impact of the information treatment on willingness to seek help is driven by respondents who hold stronger beliefs in masculinity norms (Column 3 in Panel A). When we look at the two treatments separately, we find that the stigma reduction information increased the willingness to seek counseling by 0.15 *s.d* (Column 3 in Panel B) for respondents who hold stronger (above median) beliefs in masculinity norms, and is statistically insignificant for respondents who hold weaker (below median) beliefs in masculinity norms. Contrary to this, for the celebrity information, the impact is driven by respondents who hold weaker beliefs in masculinity norms. In particular, we find that the celebrity information increased the willingness to seek counseling by 0.13 *s.d* (Column 4 in Panel B), although this is statistically significant at 10%. Across all specifications, we do not find a statistically significant difference in the impact of the two stigma reduction information treatments.

5.3 Willingness to Pay for Mental Health Counselling

We study the impact of the intervention on stated willingness to pay for a counseling session with a mental health professional using a hypothetical question. Table 7 reports the impact on willingness to pay for a counseling session with a trained professional, while Appendix Table 11–12 reports the same for a traditional healer.¹⁵ Overall, we *do not* find a statistically significant impact of the information treatment (pooled as well as separately) on willingness to pay for mental health counseling with a trained professional [Column (1) in Table 7]. Next, we present the results similar to the analysis in Section 5.2.

Stigma: Similar to Table 5, we report the impact by two measures of stigma as measured pre-treatment:

¹⁴Adolescents described help-seeking as being “weak”, “pathetic” and incongruent to “a tough or self-reliant male” (Gilchrist and Sullivan, 2006).

¹⁵There is a rich body of ethnographic and qualitative literature from Nepal on traditional healers and mental health (Pham et al., 2021). Panel A reports the impact of the pooled treatment, while Panel B reports the impact of the two treatments, separately. A review article by Van der Watt et al. (2018) suggested that traditional healers in low-and middle-income countries were perceived to affect the most change among those who suffered from less severe mental illness, expected positive change, and believed in the inherent meaning of their treatment.

personal and *anticipated*, on willingness to pay for mental health counseling with a trained counselor in columns (2)–(5) of Table 7. We find that respondents who have above-median levels of personal stigma are willing to pay an additional 2.20 Nepalese Rupee (NPR) in the pooled treatment, 2.43 additional NPR for the stigma reduction information (T1), and 1.99 NPR for celebrity information (T2) treatment, respectively.

Depression: We report the impact by measures of anxiety (*Generalized Anxiety Disorder (GAD-7) score*) and depression (*Personal Health Questionnaire Depression Scale (PHQ-8) score*) in columns (6)–(9) of Table 7. Similar to the results in Table 5, we find that impact on willingness to pay for mental health counseling with a trained counselor is driven by respondents who have below the median level of anxiety. In particular, we find that respondents who have below-median levels of GAD-7 score are willing to pay an additional 1.86 Nepalese Rupee (NPR) in the pooled treatment, 1.43 additional NPR for the stigma reduction information (T1), and 2.31 NPR for celebrity information (T2) treatment, respectively. However, the point estimate is not statistically significant for T1.

Gender: We report the impact by gender on willingness to pay for mental health counseling with a trained counselor in in columns (1)–(2) of Table 8. Although the point estimates are positive, they are not statistically significant.

A plausible explanation is that it is not the gender but the stronger beliefs in masculinity norms that drive the results.¹⁶

Masculinity: Finally, in columns (3)–(4) of Table 8 we find that respondents who hold stronger beliefs in masculinity norms are willing to pay an additional 2.03 Nepalese Rupee (NPR) in the pooled treatment, 1.92 additional NPR for the stigma reduction information (T1), and 2.14 NPR for celebrity information (T2) treatment, respectively. However, the point estimate is not statistically significant for T1.

Overall these results are reassuring as we found similar results for these sub-samples (except for high anticipated stigma, low PHQ-8, and by gender) for willingness to seek counseling in Section 5 (see Tables 5–6). Similar to other results, we do not find any statistical difference in the outcome measures between the stigma reduction information and celebrity information treatments.

¹⁶The interaction of gender and masculinity norms suggests that regardless of the gender, it is the stronger beliefs in masculinity norms that drives the willingness to seek counseling (see Table ??).

5.4 Treatment Effects on *How* and *Whom* to Seek Help From

We study the impact of the intervention on several secondary outcomes that may be relevant for policy not just in a low-income country context. Table 9 reports the impact on the following outcomes: (i) *Willingness to pay for a trained mental health professional*, (ii) *Willingness to pay for a traditional healer*, (iii) *Preference for face to face or online counselling*, (iv) *Preference for same-sex counsellors*, (iv) *Preference for group or individual counselling*, and (v) *Preference for same-sex or mixed-gender group counselling*. Panel A reports the impact of the pooled treatment, while Panel B reports the impact of the two treatments, separately.

We find two important results. First, the respondents have a strong preference to seek face-to-face counseling over online counseling. Second, we *do not* find evidence that supports a preference for same-sex counselors. In fact, we find a statistically significant and *negative* impact on preference for same-sex counselors. We *do not* find any statistically significant impact of the intervention on the composition of counseling sessions (preference for a group over individual counseling and preference for same-sex over mixed-gender group counseling). These findings can be helpful in better targeting individuals with mental health illnesses.

5.5 Does *Gender* of Caller Matter?

Although we are not aware of experimental studies that exploit the role of gender in help-seeking in the context of mental health, there is existing literature on the role of gender on policy outcomes that finds mixed results. Bhati (2014) studies the role of gender matching on the therapeutic relationship and finds that female clients matched with female therapists reported therapeutic alliance ratings higher than dyads with a male therapist.¹⁷ On the contrary, Schmalbach et al. (2022) *did not* find evidence to support the paradigm of improved treatment outcomes in same-gender client therapy dyads.¹⁸ Similarly, Fujino et al. (1994) studies the simultaneous effects of ethnic and gender therapist-client match on mental health services, and finds that ethnic and/or gender match conditions were significantly associated with reduced premature termination, increased treatment duration, and the assignment of higher functioning at admission in comparison to the no-match condition.¹⁹ Within the

¹⁷In the context of self-disclosure, Derlega et al. (1985) finds that males disclosed more intimately than females to an opposite-sex partner whom they had just met. Males paired with a female partner also exceeded the level of disclosure intimacy achieved by females paired with a female or males paired with a male.

¹⁸Schmalbach et al. (2022) finds evidence in favor of same-gender client-therapist (female-female) in terms of symptom reduction and quality of life in the context of psychodynamic approaches, compared to CBT-based psychotherapy.

¹⁹The sample consisted of over 1,000 Asian-American women who received mental health services at Los Angeles County facilities in the mid-1980s. Neither ethnic nor gender match was a significant predictor of initial diagnoses or client func-

realm of gender but in a slightly different context, Llimona et al. (2015) finds a significant correlation between self-reported customer satisfaction at the end of the call and gender homophily between the customer and the call center’s agent. There are two critical drawbacks to the above-mentioned studies. First, they are descriptive, and second, they are not adequately powered. On the contrary, the *causal* evidence on the role of gender in crime reporting is more consistent.²⁰

Using a cross-cutting randomization design the respondents were randomly assigned to be interviewed by a male or a female enumerator. This allows us to test whether the *gender* of the caller matters when it comes to willingness to seek help for mental health services. Table 10 reports these results. We find that while respondents are more likely to report a higher willingness to seek help on average when the enumerator is female, there are no heterogeneous treatment effects of the gender of the enumerator on the stated willingness to seek help.

6 Conclusion

Globally, more than 70% of people with mental health illnesses do not receive treatment from trained counselors (Henderson et al., 2013b). Although there exist several barriers to seeking help, mental health stigma is one of the leading factors (Sirey et al., 2001). In this paper, using a large-scale randomized control trial in Nepal—a developing country—we find causal evidence that phone-based interventions aimed at reducing stigma associated with seeking mental healthcare can be a useful demand-side tool to bridge the treatment gap in mental health care. We explore various heterogeneities and find that the effect is driven by respondents with higher levels of both personal and anticipated stigma, low GAD and PHQ scores, and higher levels of norms associated with hegemonic masculinity. These findings have important policy implications as it suggests that first screening individuals on the aforementioned indicators can improve the efficacy of interventions aiming to increase take-up of mental health services. ■

tioning at discharge. Moreover, ethnic and gender match was found to be more important for Asian-American women than for Asian-American men, White-American women, or White-American men. Implications for treatment are discussed.

²⁰Using a large scale randomized control trial, Sukhtankar et al. (forthcoming) finds a positive impact of dedicated spaces for women in local police stations on crime reporting in India. In particular, it suggests that, even in resource-constrained and patriarchal environments, police responsiveness can be improved by focusing and mainstreaming attention to women’s cases and by greater gender representation within the police. Similarly, Miller and Segal (2019) studies the *causal* impact of the integration of women in U.S. policing between the late 1970s and early 1990s on violent crime reporting and domestic violence and finds that female officers improved police quality.

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Main Tables

Table 1: Demographic, economic, and mental health profile

	Mean	SD	N
<i>Respondent details</i>			
Female	0.56	0.50	2485
Age in years	38.32	7.33	2485
Currently married	0.94	0.24	2485
Years of schooling	5.82	4.26	2485
<i>Caste</i>			
Brahmin/Chhetri	0.58	0.49	2485
Dalit	0.13	0.33	2485
Janjati	0.23	0.42	2485
Other	0.06	0.23	2485
<i>Household demographics</i>			
Household size	5.26	1.44	2485
Kids in HH	2.29	0.92	2485
<i>Income and employment</i>			
Full-time / Permanent job	0.15	0.36	2485
Primary employment in agriculture	0.40	0.49	2485
HH monthly income (1000's NPR)	26.02	54.60	1831
<i>Mental wellbeing</i>			
Moderate to severe anxiety	0.15	0.36	2485
Moderate to severe depression	0.19	0.39	2485
Moderate to severe anxiety/depression	0.24	0.43	2485
Self reported MH issues	0.21	0.40	2485
Knows a trained counselor	0.33	0.47	2485

Notes: (1) Years of schooling does not include higher education, therefore for respondents who have partially or fully completed some form of higher education or vocational training, the years of schooling is coded as 12 years, i.e. they have fully completed school; (2) Household income data was only provided by 1,831 respondents.

Table 2: Attitudes toward mental illness and treatment

	Mean	SD	N
<i>If I seek MH care others will think</i>			
I'm not as good as them	0.47	0.50	2485
I'm not as smart as them	0.42	0.49	2485
I'm to be given less respect	0.45	0.50	2485
I'm not to be trusted	0.41	0.49	2485
<i>I agree with the statement that</i>			
I'm willing to befriend someone seeking MH care	0.83	0.38	2485
Seeking MH care is a sign of failure	0.57	0.49	2485
Seeking MH care is a sign of weak will power	0.67	0.47	2485
<i>If a potential employee had an MH issue</i>			
I would hire them if they are skilled	0.79	0.41	2485
I would pay a lower salary	0.09	0.29	2485

Notes: (1) For the set of statements beginning with "If I seek MH care others will think", the means indicate the shares of respondents who think that it is moderately likely, very likely, or extremely likely that others will hold each of the stated opinions about them; (2). For the set of statements beginning with "I agree with the statement that", the means indicate the shares of respondents who either somewhat agree or strongly agree with each of the statements about persons with MH issues; (3) For the set of statements beginning with "If a potential employee has an MH issue", the means indicate the shares of respondents who answered 'yes' to each question about a hypothetical employee who has a MH issue.

Table 3: Balance checks

	Treatment groups			p value for test of:		
	Control (N=837)	Stigma (T1) (N=821)	Celebrity (T2) (N=827)	1=2	1=3	1 = (2 $\cup$ 3)
	(1)	(2)	(3)	(4)	(5)	(6)
Female	0.55 (0.50)	0.55 (0.50)	0.57 (0.50)	0.97	0.58	0.73
Age in years	38.62 (7.42)	37.99 (7.39)	38.34 (7.16)	0.10	0.42	0.15
Years of schooling completed	5.62 (4.17)	5.86 (4.34)	5.97 (4.25)	0.22	0.09	0.09
Household size	5.28 (1.46)	5.24 (1.41)	5.25 (1.43)	0.51	0.81	0.61
Number of kids in HH	2.30 (0.95)	2.30 (0.89)	2.26 (0.93)	0.72	0.37	0.47
Total monthly income (1000s)	28.90 (85.35)	25.24 (27.71)	23.71 (24.39)	0.32	0.14	0.20
Days unemployed in last month	9.04 (12.00)	7.76 (11.05)	9.28 (11.83)	0.13	0.83	0.48
Asset index	0.33 (0.18)	0.32 (0.18)	0.33 (0.18)	0.30	0.71	0.42
Above median masculine norms	0.54 (0.50)	0.51 (0.50)	0.55 (0.50)	0.15	0.76	0.52
Above median anticipated stigma	0.58 (0.49)	0.56 (0.50)	0.60 (0.49)	0.38	0.52	0.89
Above median personal stigma	0.57 (0.50)	0.54 (0.50)	0.60 (0.49)	0.25	0.17	0.90
Above median GAD	0.57 (0.50)	0.54 (0.50)	0.57 (0.50)	0.20	0.69	0.61
Above median PHQ	0.57 (0.49)	0.52 (0.50)	0.57 (0.49)	0.01	0.85	0.19
Self reported MH issues	0.19 (0.40)	0.20 (0.40)	0.22 (0.41)	0.71	0.20	0.33
Knows a trained counselor	0.34 (0.47)	0.33 (0.47)	0.31 (0.46)	0.79	0.22	0.39

Notes: (1) In conducting the balance checks, we cluster standard errors at the ward level and include municipality dummies; (2) While comparing the observations in the three arms of this experiment across 15 variables, we make a total of 45 comparisons. At the 5 percent confidence interval, we cannot reject equality of means in 44 of the 45 comparisons (98 percent), the only exception being that the incidence of above median PHQ scores is slightly higher in the control group than in the stigma reduction group. If we extend to the 10 percent confidence interval, we find that we cannot reject the for 43 out of 45 comparisons (96 percent); respondents in the pooled treatment group have completed slightly more years of schooling than those in the control group. Given the low rates of incidence, these differences can be attributed to chance, and therefore we can conclude that the randomization in this study was successful.

Table 4: Impact of the information intervention on the willingness to seek mental health counseling

Dependent variable:	Willingness to seek counselling		
	(1)	(2)	(3)
Panel A			
Pooled (T1 + T2)	0.11*** (0.04)	0.11*** (0.04)	0.11*** (0.04)
Panel B			
Stigma (T1)	0.12** (0.05)	0.12** (0.05)	0.12** (0.05)
Celebrity (T2)	0.10** (0.05)	0.10** (0.05)	0.11** (0.05)
Observations	2485	2485	2485
Baseline Controls	No	Yes	Yes
Municipality FE	No	No	Yes
Stigma=Celeb (p-value)	0.81	0.82	0.80

Notes: (1) Respondents were asked to rate, on a scale of 1-5, how willing they would be to attend a counseling session with a trained counselor if they were in emotional distress. The dependent variable in these regressions is the standard normal distribution of the responses received to this question; (2) In Panel A, the independent variable is a dummy indicating the "pooled" treatment, i.e., which takes the value 1 if a respondent was in either the stigma reduction or the celebrity information groups. The coefficient indicates the effect that is assigned to either the stigma reduction or the celebrity group had in increasing the intention to seek counseling (in SD), in relation to the control group. In Panel B, the regressions use two separate independent variables for the stigma reduction and celebrity information groups respectively; (3) Standard errors are in parenthesis; (4) The baseline controls used in Columns 2-3 are the respondent's gender, age, caste, and household size and an asset index; (5) Municipalities are the lowest local body level, and the regressions include municipality dummies in Columns 3; (6) * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$; (8) Stigma=Celeb (p-value) shows the p-value while comparing the coefficients for the stigma reduction and celebrity information dummies in Panel B.

Table 5: Impact of the information intervention on the intention to seek mental health counseling by levels of personal stigma, anticipated stigma, anxiety, and depression

Dependent variable:	Willingness to seek counseling:							
	Personal stigma		Anticipated stigma		GAD		PHQ	
	High	Low	High	Low	High	Low	High	Low
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A								
Pooled (T1 + T2)	0.15** (0.06)	0.07 (0.06)	0.22*** (0.05)	-0.03 (0.07)	0.06 (0.06)	0.18*** (0.06)	0.05 (0.06)	0.21*** (0.06)
Panel B								
Stigma (T1)	0.14** (0.07)	0.09 (0.07)	0.19*** (0.06)	0.03 (0.08)	0.05 (0.07)	0.21*** (0.07)	0.03 (0.07)	0.23*** (0.07)
Celebrity (T2)	0.16** (0.07)	0.05 (0.07)	0.25*** (0.06)	-0.10 (0.08)	0.07 (0.06)	0.15** (0.07)	0.06 (0.06)	0.18** (0.07)
Observations	1412	1073	1441	1044	1387	1098	1380	1105
Stigma=Celeb (p-value)	0.77	0.62	0.33	0.10	0.71	0.42	0.69	0.48

Notes: (1) All regression presented here use the fully specified model with baseline controls and municipality dummies; (2) In columns 1, 3, 5, and 7, the regressions are run for respondents with personal stigma, anticipated stigma, GAD scores, and PHQ scores which are respectively at least equal to the sample mean. In columns 2, 4, 6, and 8, the regressions are run for respondents with personal stigma, anticipated stigma, GAD scores, and PHQ scores which are respectively less than the sample mean; (3) Standard errors are in parenthesis; (4) * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 6: Impact of the information intervention on the intention to seek mental health counseling by respondent gender and beliefs in norms of masculinity

Dependent variable:	Willingness to seek counseling			
	Gender		Masculinity	
	Male (1)	Female (2)	High (3)	Low (4)
Panel A				
Pooled (T1 + T2)	0.12** (0.06)	0.12** (0.06)	0.12** (0.06)	0.10 (0.06)
Panel B				
Stigma (T1)	0.14** (0.07)	0.12* (0.07)	0.15** (0.07)	0.07 (0.07)
Celebrity (T2)	0.10 (0.07)	0.13* (0.07)	0.10 (0.07)	0.13* (0.07)
Observations	1097	1388	1330	1155
Stigma=Celeb (p-value)	0.59	0.88	0.41	0.41

Notes: (1) All regressions presented here use the fully specified model with baseline controls and municipality dummies; (2) In columns 1 and 2 the regressions are run for only male and female respondents respectively. In Column 3, the regression is run for those whose beliefs in norms of masculinity, measured using an index constructed based on responses to a series of questions, is at least the sample mean. In Column 4, the regression is run for those whose beliefs in norms of masculinity are less than the sample mean; (3) Standard errors are in parenthesis; (4) * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 7: Impact of the information intervention on the maximum willingness to pay for a counseling session with a trained professional on the full sample and by levels of personal stigma, anticipated stigma, anxiety, and depression

Dependent variable:	Max willingness to pay counselor							
	Personal stigma		Anticipated stigma		GAD		PHQ	
	Full	High	Low	High	Low	High	Low	High
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A								
Pooled (T1 + T2)	0.97 (0.71)	2.20** (0.95)	-0.56 (1.08)	1.39 (0.92)	0.22 (1.13)	0.50 (0.96)	1.86* (1.06)	1.35 (0.95)
Panel B								
Stigma (T1)	0.98 (0.82)	2.43** (1.12)	-0.56 (1.23)	1.74 (1.07)	-0.21 (1.29)	0.90 (1.13)	1.43 (1.21)	1.16 (1.12)
Celebrity (T2)	0.96 (0.82)	1.99* (1.09)	-0.55 (1.27)	1.07 (1.05)	0.68 (1.32)	0.13 (1.11)	2.31* (1.24)	1.52 (1.09)
Observations	2485	1412	1073	1441	1044	1387	1098	1105
Stigma=Celeb (p-value)	0.98	0.70	0.99	0.53	0.49	0.50	0.47	0.75

Notes: (1) Respondents were asked how much money between 0-50 NPR they would be willing to pay to attend a counseling session with a trained counselor; this is the dependent variable in these regressions; (2) All regression presented here use the fully specified model with baseline controls and municipality dummies; (3) In Column 1 the regression are run for the full sample. In columns 2, 4, 6, and 8, the regressions are run for respondents with personal stigma, anticipated stigma, GAD scores, and PHQ scores which are respectively at least equal to the sample mean. In columns 3, 5, 7, and 9, the regressions are run for respondents with personal stigma, anticipated stigma, GAD scores, and PHQ scores which are respectively less than the sample mean; (4) * p < 0.10, ** p < 0.05, *** p < 0.01.

Table 8: Impact of the information intervention on the maximum willingness to pay for a counseling session with a trained professional by respondent gender and beliefs in norms of masculinity

Dependent variable:	Max willingness to pay counselor			
	Gender		Masculinity	
	Male	Female	High	Low
	(1)	(2)	(3)	(4)
Panel A				
Pooled (T1 + T2)	0.86 (1.06)	1.26 (0.96)	2.03** (0.97)	-0.24 (1.05)
Panel B				
Stigma (T1)	0.87 (1.22)	1.32 (1.12)	1.92* (1.13)	0.13 (1.20)
Celebrity (T2)	0.85 (1.23)	1.21 (1.11)	2.14* (1.11)	-0.64 (1.22)
Observations	1097	1388	1330	1155
Stigma=Celeb (p-value)	0.98	0.92	0.85	0.52

Notes: (1) All regressions presented here use the fully specified model with baseline controls and municipality dummies; (2) In columns 1 and 2 the regressions are run for only male and female respondents respectively. In Column 3, the regression is run for those whose beliefs in norms of masculinity, measured using an index constructed based on responses to a series of questions, is at least the sample mean. In Column 4, the regression is run for those whose beliefs in norms of masculinity are less than the sample mean; (3) Standard errors are in parenthesis; (4) * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 9: Impact of the information intervention on the preferences for the type of counseling

Dependent variable:	Counselling type preference dummies			
	Face to face (1)	Same-sex counsellor (2)	Group counseling (3)	Same-sex group (4)
Panel A				
Pooled (T1 + T2)	0.03* (0.02)	-0.04* (0.02)	0.01 (0.02)	0.03 (0.02)
Panel B				
Stigma (T1)	0.03 (0.02)	-0.02 (0.02)	0.02 (0.02)	0.03 (0.02)
Celebrity (T2)	0.04** (0.02)	-0.05** (0.02)	0.01 (0.02)	0.02 (0.02)
Observations	2485	2485	2485	2485
Stigma=Celeb (p-value)	0.39	0.11	0.49	0.54

Notes: (1) All regression presented here use the fully specified model with baseline controls and municipality dummies; (2) In Column 1, the dependent variable is a dummy that takes the value 1 if the respondent prefers face-to-face counseling to online counseling. In Column 2, the dependent variable is a dummy which takes the value 1 if the respondent states a preference for having a counselor who is the same sex as them as opposed to a counselor of any sex. In Column 3, the dependent variable is a dummy that takes the value 1 if the respondent states a preference for group counseling over one-on-one counseling. In Column 4, the dependent variable is a dummy which takes the value 1 if the respondent states a preference for group counseling sessions where all the members of the group are the same sex as them as opposed to a mixed-sex group; (3) Standard errors are in parenthesis; (4) * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 10: Impact of enumerator gender on the intention to seek mental health counseling

Dependent Variable:	Willingness to seek counseling		
	(1)	(2)	(3)
Female Enumerator	0.072* (0.042)	0.150** (0.072)	0.150** (0.072)
Pooled (T1 + T2)		0.180*** (0.064)	0.175** (0.080)
Pooled (T1 + T2)*Female Enumerator		-0.120 (0.088)	-0.121 (0.088)
Female Respondent			-0.310*** (0.074)
Pooled (T1 + T2)*Female Respondent			0.009 (0.089)
Observations	2,485	2,485	2,485
Baseline Controls	Yes	Yes	Yes

Notes: (1) All regression presented here use the fully specified model with baseline controls and municipality dummies; (2) Dependent variable measures the willingness to seek counseling; (3) Columns 2 and 3 show specifications where the pooled treatment indicator interacts with the dummy for being assigned a female enumerator and the respondent being female; (4) Standard errors are in parenthesis; (4) * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Appendix 1: Supplementary Tables

Table 11: Impact of the information intervention on the maximum willingness to pay for a counseling session with a traditional healer on the full sample and by levels of personal stigma, anticipated stigma, anxiety, and depression

Dependent variable:	Max willingness to pay healer							
	Personal stigma		Anticipated stigma		GAD		PHQ	
	Full	High	Low	High	Low	High	Low	High
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	(9)							
Panel A								
Pooled (T1 + T2)	0.09 (0.68)	0.59 (0.93)	-0.60 (1.00)	0.15 (0.90)	-0.22 (1.05)	-0.66 (0.94)	1.32 (1.00)	-0.10 (0.93)
								0.49 (1.01)
Panel B								
Stigma (T1)	0.57 (0.79)	1.20 (1.09)	-0.02 (1.14)	0.46 (1.05)	0.52 (1.21)	0.39 (1.10)	1.21 (1.14)	0.62 (1.10)
Celebrity (T2)	-0.38 (0.79)	0.05 (1.06)	-1.26 (1.18)	-0.15 (1.03)	-1.02 (1.23)	-1.63 (1.08)	1.43 (1.16)	-0.74 (1.07)
								0.12 (1.19)
Observations	2485	1412	1073	1441	1044	1387	1098	1380
Stigma=Celeb (p-value)	0.23	0.29	0.29	0.56	0.21	0.07	0.84	0.22
								0.54

Notes: (1) Respondents were asked how much money between 0-50 NPR they would be willing to pay to attend a counseling session with a traditional healer; this is the dependent variable in these regressions; (2) All regression presented here use the fully specified model with baseline controls and municipality dummies; (3) In Column 1 the regression are run for the full sample. In columns 2, 4, 6, and 8, the regressions are run for respondents with personal stigma, anticipated stigma, GAD scores, and PHQ scores which are respectively at least equal to the sample mean. In columns 3, 5, 7, and 9, the regressions are run for respondents with personal stigma, anticipated stigma, GAD scores, and PHQ scores which are respectively less than the sample mean; (4) Standard errors are in parenthesis; (4) * p < 0.10, ** p < 0.05, *** p < 0.01.

Table 12: Impact of the information intervention on the maximum willingness to pay for a counseling session with a traditional healer by respondent gender and beliefs in norms of masculinity

Dependent variable:	Max willingness to pay counselor					
	High Masculinity			Low Masculinity		
Resp. Gender:	All	Male	Female	All	Male	Female
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A						
Pooled (T1 + T2)	2.03** (0.97)	2.11 (1.39)	2.12 (1.38)	-0.24 (1.05)	-0.94 (1.69)	0.28 (1.37)
Panel B						
Stigma (T1)	1.92* (1.13)	2.41 (1.62)	1.61 (1.62)	0.13 (1.20)	-1.29 (1.91)	1.21 (1.57)
Celebrity (T2)	2.14* (1.11)	1.82 (1.60)	2.56 (1.57)	-0.64 (1.22)	-0.54 (1.97)	-0.67 (1.59)
Observations	1330	628	702	1155	469	686
Stigma=Celeb (p-value)	0.85	0.72	0.55	0.52	0.69	0.23

Notes: (1) All regressions presented here use the fully specified model with baseline controls and municipality dummies; (2) In columns 1 and 2 the regressions are run for only male and female respondents respectively. In Column 3, the regression is run for those whose beliefs in norms of masculinity, measured using an index constructed based on responses to a series of questions, is at least the sample mean. In Column 4, the regression is run for those whose beliefs in norms of masculinity are less than the sample mean; (3) Standard errors are in parenthesis; (4) * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 13: Impact of the information intervention on the willingness to seek mental health counseling (additional controls)

Dependent variable:	Willingness to seek counseling		
	(1)	(2)	(3)
Panel A			
Pooled (T1 + T2)	0.11*** (0.04)	0.12*** (0.04)	0.12*** (0.04)
Panel B			
Stigma (T1)	0.12** (0.05)	0.12** (0.05)	0.12** (0.05)
Celebrity (T2)	0.11** (0.05)	0.11** (0.05)	0.11** (0.05)
Observations	2485	2485	2485
Baseline Controls	Yes	Yes	Yes
MH Controls	No	Yes	Yes
Stigma Controls	No	No	Yes
Stigma=Celeb (p-value)	0.80	0.75	0.79

Notes: (1) Respondents were asked to rate, on a scale of 1-5, how willing they would be to attend a counseling session with a trained counsellor if they were in emotional distress. The dependent variable in these regressions is the standard normal distribution of the responses received to this question; (2) In Panel A, the independent variable is a dummy indicating the "pooled" treatment, i.e., which takes the value 1 if a respondent was in either the stigma reduction or the celebrity information groups. The coefficient indicates the effect that being assigned to either the stigma reduction or the celebrity group had in increasing the intention to seek counseling (in SD), in relation to the control group. In Panel B, the regressions two separate independent variables for the stigma reduction and celebrity information groups respectively; (3) Standard errors are in parenthesis; (4) The baseline controls used in Columns 2-3 are the respondent's gender, age, caste, and household size and an asset index; (5) Municipalities are the lowest local body level, and the regressions include municipality dummies in Columns 3; (6) * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$; (8) Stigma=Celeb (p-value) shows the p-value while comparing the coefficients for the stigma reduction and celebrity information dummies in Panel B.

Appendix 2: Variables used in the analysis

In this appendix, we explain all the variables which have in our analysis.

Dependent Variables

- **Willingness to seek treatment:**

- **Survey questions used:** If you were experiencing serious emotional distress, how willing would you be to attend a counseling session with certified mental health counsellor? (*Not at all willing, Slightly willing, Moderately willing, Very much willing, Extremely willing*)
- **Variable construction:** Study participants' response to the question was first scored using the following rule: Not at all willing (1 point); Slightly willing (2 points); Moderately willing (3 points); Very much willing (4 points); Extremely willing (5 points). Next, the the scores were standardized by subtracting the sample mean from each participant's score the and then dividing by the sample standard deviation.

- **Preference for face to face counseling:**

- **Survey questions used:** If you were experiencing serious emotional distress, would you rather attend a face-to-face session with a certified mental health counsellor or an online session (say on a phone/skype/app) with a certified mental health counselor? (*Face to face; Online*)
- **Variable construction:** This is a dummy variable which is equal to 1 if the participant responds to the above question with "Face to face".

- **Preference for a same sex counsellor:**

- **Survey questions used:** If you were experiencing serious emotional distress and had to choose the type of counseling session that you attend, would you prefer to go to for counseling session with a trained mental health who is of the same-sex? (*Same-sex counsellor; Any counsellor*)
- **Variable construction:** This is a dummy variable which is equal to 1 if the participant responds to the above question with "Same-sex counsellor".

- **Preference for a same-sex group counseling:**

- **Survey questions used:** If you were in a group counseling session with a trained mental health counsellor, would you prefer the group to be formed of “same-gender” group or “mixed-gender” group? (*Same gender group; Mixed gender group*)
- **Variable construction:** This is a dummy variable which is equal to 1 if the participant responds to the above question with “Same gender group”.
- **Maximum willingness to pay counsellor:**
 - **Survey questions used:** Suppose you were experiencing serious emotional distress and decided to attend a counseling session with a trained mental health counsellor. What is the maximum amount of money that you would be willing to pay? Please choose any number between rupiah 0 and rupiah 50.
 - **Variable construction:** This variable is the participants’ response to the above question and lies in the $[0,1]$ interval
- **Maximum willingness to pay traditional healer:**
 - **Survey questions used:** If you were experiencing serious emotional distress and decided to meet with a traditional healer (Dhami/Jhankri). What is the maximum amount of money that you would be willing to pay?
 - **Variable construction:** This variable is the participants’ response to the above question and lies in the $[0,1]$ interval

Baseline Controls

- **Respondent’s gender:**
 - **Survey questions used:** We collected basic socio-demographic information of all household members including gender of the respondent.
 - **Variable construction:** The respondent’s gender is coded as 1 if they are male and 2 if they are female. We control for gender by adding a dummy which is equal to 1 if the respondent is female.
- **Respondent’s age:**
 - **Survey questions used:** We collected basic socio-demographic information of all household members including age (years completed) of the respondent.

- **Variable construction:** This variable is the participants' (integer) response to the above question in relation to the respondent.
- **Household caste:**
 - **Survey questions used:** We collected basic socio-demographic information of all household members including the household caste.
 - **Variable construction:** The household's caste is coded as follows: (1) Brahmin/Chhetri, (2) Madhesi, (3) Dalit, (4) Newar, (5) Janjati, (6) Muslim, (7) Other. We control for caste by adding 7 dummies corresponding to each of the responses above.
- **Household size:**
 - **Survey questions used:** We collected basic socio-demographic information of all household members including the household size.
 - **Variable construction:** This variable is the participants' (integer) response to the above question.
- **Asset index:**
 - **Survey questions used:** We asked whether the respondent's household had access to the following assets and amenities: (1) electricity, (2) gas stove, (3) car, (4) scooter or motor-bike, (5) cycle, (6) colour tv, (7) computer, (8) invertor or electric generator, (9) internet, (10) sofa or couch.
 - **Variable construction:** This variable is the first principle component of the above ten variables.

Heterogeneous Treatment Effect Categories for Analysis

- **High / Low personal stigma:**
 - **Survey questions used:** We use the following questions (scoring schema in parenthesis) to calculate a personal stigma score
 - * I would willingly accept someone who has received mental health treatment as a friend (Strongly disagree (5 points), Somewhat disagree (4 points), Neither agree nor disagree (3 points), Somewhat agree (2 points), Strongly agree (1 point))

- * I feel that when a person receives mental health treatment, it is a sign of his/her personal failure (Strongly disagree (1 point), Somewhat disagree (2 points), Neither agree nor disagree (3 points), Somewhat agree (4 points), Strongly agree (5 points))
- * I would think that a person who has received mental health treatment has weak will-power. (Strongly disagree (1 point), Somewhat disagree (2 points), Neither agree nor disagree (3 points), Somewhat agree (4 points), Strongly agree (5 points))
- **Variable construction:** First a personal stigma score is created by adding up the scores for the above 3 questions based on the scoring schema. Next, the resulting score is standardized by subtracting the sample mean and then dividing by the sample standard deviation. A respondent is said to have a high personal stigma score if their standardized personal stigma score is at least equal to the sample median, else they are said to have a low personal stigma score.

- **High / Low anticipated stigma:**

- **Survey questions used:** We use the following questions (scoring schema in parenthesis) to calculate an anticipated stigma score
 - * If people (including parents, family, friends and relatives) knew you had a mental health problem, how likely do you think that they would act as if they think you are not as good as they are (Not at all likely (1 point), Slightly likely (2 points), Moderately likely (3 points), Very likely (4 points), Extremely likely (5 points))
 - * If people (including parents, family, friends and relatives) knew you had a mental health problem, how likely do you think that they would act as if they think you are not smart (Not at all likely (1 point), Slightly likely (2 points), Moderately likely (3 points), Very likely (4 points), Extremely likely (5 points))
 - * If people (including parents, family, friends and relatives) knew you had a mental health problem, how likely do you think that you would be treated with less respect than other people (Not at all likely (1 point), Slightly likely (2 points), Moderately likely (3 points), Very likely (4 points), Extremely likely (5 points))
 - * If people (including parents, family, friends and relatives) knew you had a mental health problem, how likely do you think that they would act as if they think you are not to be trusted (Not at all likely (1 point), Slightly likely (2 points), Moderately likely (3 points), Very likely (4 points), Extremely likely (5 points))

- **Variable construction:** First an anticipated stigma score is created by adding up the scores for the above 4 questions based on the scoring schema. Next, the resulting score is standardized by subtracting the sample mean and then dividing by the sample standard deviation. A respondent is said to have a high anticipated stigma score if their standardized anticipated stigma score is at least equal to the sample median, else they are said to have a low anticipated stigma score.

- **High / Low GAD:**

- **Survey questions used:** We use the following questions (scoring schema in parenthesis) to calculate an anticipated stigma score
 - * In the past past 2 weeks how often has it been the case that you have been feeling nervous, anxious or tensed/worried (Not at all (1 point), Several days (2 points), More than half the days (3 points), Almost everyday (4 points))
 - * In the past past 2 weeks how often has it been the case that you have not been able to stop or control worrying (Not at all (1 point), Several days (2 points), More than half the days (3 points), Almost everyday (4 points))
 - * In the past past 2 weeks how often has it been the case that you have been worrying too much about different things (Not at all (1 point), Several days (2 points), More than half the days (3 points), Almost everyday (4 points))
 - * In the past past 2 weeks how often has it been the case that you have had trouble relaxing (Not at all (1 point), Several days (2 points), More than half the days (3 points), Almost everyday (4 points))
 - * In the past past 2 weeks how often has it been the case that you been so restless that it was hard to sit still (Not at all (1 point), Several days (2 points), More than half the days (3 points), Almost everyday (4 points))
 - * In the past past 2 weeks how often has it been the case that you been easily annoyed or irritable (Not at all (1 point), Several days (2 points), More than half the days (3 points), Almost everyday (4 points))
 - * In the past past 2 weeks how often has it been the case that you felt afraid as though something awful might happen (Not at all (1 point), Several days (2 points), More than half the days (3 points), Almost everyday (4 points))
- **Variable construction:** First a GAD score is created by adding up the scores for the above

7 questions based on the scoring schema. Next, the resulting score is standardized by subtracting the sample mean and then dividing by the sample standard deviation. A respondent is said to have a high GAD score if their standardized GAD score is at least equal to the sample median, else they are said to have a low GAD score.

- **High / Low PHQ:**

- **Survey questions used:** We use the following questions (scoring schema in parenthesis) to calculate an anticipated stigma score

- * In the past past 2 weeks how often has it been the case that you had little interest or pleasure in doing things (Not at all (1 point), Several days (2 points), More than half the days (3 points), Almost everyday (4 points))
- * In the past past 2 weeks how often has it been the case that you have been feeling down, unhappy/miserable, or hopeless (Not at all (1 point), Several days (2 points), More than half the days (3 points), Almost everyday (4 points))
- * In the past past 2 weeks how often has it been the case that you have had falling or staying asleep, or sleeping too much (i.e. due to nightmares) (Not at all (1 point), Several days (2 points), More than half the days (3 points), Almost everyday (4 points))
- * In the past past 2 weeks how often has it been the case that you have been tired or having little energy (Not at all (1 point), Several days (2 points), More than half the days (3 points), Almost everyday (4 points))
- * In the past past 2 weeks how often has it been the case that you been having poor appetite or overeating (Not at all (1 point), Several days (2 points), More than half the days (3 points), Almost everyday (4 points))
- * In the past past 2 weeks how often has it been the case that you been feeling bad about yourself – or that you are a failure or have let yourself or your family down (Not at all (1 point), Several days (2 points), More than half the days (3 points), Almost everyday (4 points))
- * In the past past 2 weeks how often have you had trouble concentrating on things, such as reading the newspaper (Not at all (1 point), Several days (2 points), More than half the days (3 points), Almost everyday (4 points))
- * In the past past 2 weeks how often have you been moving or speaking so slowly that other people could have noticed; or the opposite—being so anxious or restless that you

have been moving around a lot more than usual (Not at all (1 point), Several days (2 points), More than half the days (3 points), Almost everyday (4 points))

- **Variable construction:** First a PHQ score is created by adding up the scores for the above 7 questions based on the scoring schema. Next, the resulting score is standardized by subtracting the sample mean and then dividing by the sample standard deviation. A respondent is said to have a high PHQ score if their standardized PHQ score is at least equal to the sample median, else they are said to have a low PHQ score.

Respondent's gender:

- **Survey questions used:** We collected basic socio-demographic information of all household members including gender of the respondent.
- **Variable construction:** The respondent's gender is coded as 1 if they are male and 2 if they are female. We control for gender by adding a dummy which is equal to 1 if the respondent is female.

Respondent's beliefs in norms of masculinity:

- **Survey questions used:** We use the following questions (scoring schema in parenthesis) to calculate a masculinity score
 - A guy should never depend on someone else to help him (Strongly disagree (1 point), Somewhat disagree (2 points), Neither agree nor disagree (3 points), Somewhat agree (4 points), Strongly agree (5 points))
 - Guys shouldn't cry, especially in front of others (Strongly disagree (1 point), Somewhat disagree (2 points), Neither agree nor disagree (3 points), Somewhat agree (4 points), Strongly agree (5 points))
 - Guys should never tell others if they're worried or afraid (Strongly disagree (1 point), Somewhat disagree (2 points), Neither agree nor disagree (3 points), Somewhat agree (4 points), Strongly agree (5 points))
 - Guys shouldn't ever show their feelings. (Strongly disagree (1 point), Somewhat disagree (2 points), Neither agree nor disagree (3 points), Somewhat agree (4 points), Strongly agree (5 points))

- **Variable construction:** First a masculinity score is created by adding up the scores for the above 4 questions based on the scoring schema. Next, the resulting score is standardized by subtracting the sample mean and then dividing by the sample standard deviation. A respondent is said to have a high masculinity score if their standardized masculinity score is at least equal to the sample median, else they are said to have a low masculinity score.