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 strong beliefs about conformity to masculinity. 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.

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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 contribute to addressing the treatment gap. The underlying hypothesis is that because prejudice and discrimination against people with mental illness increase 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). Furthermore, a meta-analysis of a well-known stigma reduction program, "Honest, Open, Proud" (HOP), revealed that participants with more severe mental illnesses, such as schizophrenia, and those who experienced greater shame about their mental illness, regardless of severity, benefited less from the program (Klein et al., 2023). Moreover, several studies have found correlations between more severe psychiatric symptoms and greater feelings of self-blame, lack of empowerment, and internalized stigma (Boyd et al., 2014; Livingston and Boyd, 2010), which may hinder the effectiveness of stigma reduction efforts.[2]

Taken together, the evidence suggests that low-cost interventions, such as digital programs, are likely to be more effective in treating individuals with mild emotional distress. By addressing mental health

[1] United Nations, 2022

[2] Previous research has also emphasized the importance of addressing mental health issues early, when the severity is low and participants are younger (Garrido et al., 2019). Digital interventions have gained traction in this context, as they offer accessible and cost-effective solutions. Furthermore, most clinical guidelines, including those from the National Institute for Health and Care Excellence and the "Practice Guideline for the Treatment of Patients with Major Depressive Disorder," do not recommend digital interventions as a first-line treatment for individuals with severe depression.

issues early and targeting those with less severe symptoms, we may be able to maximize the impact of these interventions and promote better mental health outcomes. Therefore, from a policy standpoint, it may be 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).[3] 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 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. The effect size we observe is consistent with the association observed in the literature between stigma and help seeking behavior (e.g. Clement et al. 2015, Goldberg et al. 2022). 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, scale-able interventions aimed at increasing the use of professional mental health services by reducing the stigma associated with mental healthcare. While previous research has explored mobile apps (Areán et al., 2016; Birney et al., 2016; Bakker et al., 2018), videoconferencing (Renfrew et al., 2020), and group based psychology via

[3]Mental 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.

phone (Parolin et al., 2021), we study a lower-cost and more scale-able text message intervention for mental health that is more adaptable to developing countries. Beyond this, an extensive body of literature reveals that stigma is associated negatively with mental health treatment (Quinn and Chaudoir, 2009; Mojtabai et al., 2016) and that stigma may contribute to low utilization of social programs (Osman and Speer, 2021). Our paper extends this literature by analyzing effective treatments to reduce stigma, and testing how such treatments may impact help seeking behavior.

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). Past research, including Patel (2007), highlights that mental health disorders in low- and middle-income countries do not attract global health policy attention despite accounting for 11.1 percent of the global burden. Patel (2007) further points out the association of mental disorders with other public health concerns, such as maternal and child health and HIV/AIDS, and suggests campaigns to increase mental health literacy at all levels of the health system. Similarly, Das et al. (2009) finds from survey data in five developing countries that the social and economic consequences of poor mental health in the developing world are presumed to be significant yet remain under-researched. Das et al. (2009) uses nationally representative surveys in Bosnia and Herzegovina, Indonesia, and Mexico, as well as special surveys in India and Tonga, to show similar patterns of association between mental health and socioeconomic characteristics. The study finds that individuals who are older, female, widowed, and report poor physical health are more likely to report worse mental health

Poor mental health can lead to poverty traps and the improvement of mental health in developing contexts has been shown to lead to human capital investment (Baranov et al., 2019) and increases in pro-social behavior (Blattman et al., 2017). Recent papers, including Ridley et al. (2020), show the negative association between mental illness and employment, and therefore income, as well as the potential positive impact of psychological interventions on income gains. Angelucci and Bennett (2024) conducts a randomized control trial in Karnataka, India, and finds that pharmacotherapy treatments reduce depression severity, with benefits that persist after treatment concludes. The study also reveals that these treatments substantially increase child human capital investment, particularly for older children, and reduce risk intolerance and the incidence of negative shocks. We add to the literature on mental health in developing contexts by measuring barriers directly in Nepal, a country rated as a fragile state by the World Bank due to psychological impacts of a 10-year-long-intra-state conflict, and

targeting these barriers directly.

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. A growing literature shows that light touch psychological interventions may be the most effective in sub-clinical populations (Meyers and Woerkom, 2012; Cohen and Sherman, 2014). We extend this literature by examining the efficacy of a scalable intervention among different populations in a developing context, and by examining effects heterogeneously within sub-clinical populations with different levels of depression and anxiety.

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, and has a strong presence in the study districts.

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 the 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.[4] 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 the respondents said that they would not accept someone who seeks mental healthcare as a friend, and there exists a 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).[5]

3 Experimental Design

3.1 Sample Recruitment, Randomization, and Timeline

The sample recruitment for this randomized controlled trial was done by CMC-N over two phases. The first phase was conducted between March and April. During this period, CMC-N went door to door in the study municipalities to collect the contact information of households, including names of all school-going adolescent children, their age and gender, names of their parents, contact information, and an indication on which parents were willing to participate in a survey, who met the inclusion criteria and expressed willingness to participate in a phone survey. The information of about 3,000 households was collected in this way.

The second wave of listing was carried out from between May and July. Since these months coincided with the second wave of the pandemic in Nepal, door to door listing was no longer possible. Therefore, the CMC-N collected contact information through the administrative records of schools in their network and augmented the household list by about 1,800 households, which was shared with us in three separate tranches creating an overall sampling frame of 4,802. Randomization into the treatment arms described in Section 3.2 was done separately for each batch of households.

[4] 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. GAD and PHQ scores above 9 are coded as moderate to severe anxiety and depression, respectively.

[5] 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.

Using this sample, our 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. We were able to reach 2,604 households (54.3%) by phone, and obtained consent for participation from 2,553 households (53.2%)[6]. We do not see differential attrition by information treatment group, but do notice that respondents initially assigned to female enumerators are about 4 percentage points more likely to be included in the sample, as shown in Table A5. The final analysis was carried out on 2,485 households (51.8%) after dropping households with non-unique phone numbers and where the randomization had been violated.[7] The participants were assigned to either one of the two treatment groups: reducing stigma through information (821 households), reducing stigma through celebrity (827 households), or a control group that received no information (837 households). Furthermore, the gender of the enumerator was randomly assigned to crosscut across all these groups and female enumerators typically did a better job of ensuring higher response rates.

On average, the survey lasted $\approx$ 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 the treatment message, 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, in addition to their willingness to pay for counselling, preferences relating to mental healthcare, 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-N, that the respondents could call for information on mental health counseling services free of cost.[8] We started the survey effort in May

[6]This response rate is in line with the response average response rates reported by IPA in a survey of remote surveys conducted during the pandemic: https://poverty-action.org/sites/default/files/2022-11/IPA-Phone-Surveying-in-a-Pandemic-Handbook-Updated-December-2020.pdf.

[7]Note that the number of cases of contamination are small, and our results are robust to including cases where the randomization was violated, using the assigned treatment as the independent variable, as shown in the Appendix tables.

[8]Starting 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

2021 and the intervention ended in August 2021.

This study was pre-registered at the AEA RCT Registry: AEARCTR-0007778.[9]

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. 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) are 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. Additionally, we evaluate the impact of enumerator gender on reducing mental health stigma. 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

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).

[9]Pre-Analysis Plan registered at AEA RCT Registry: `https://www.socialscienceregistry.org/trials/7778`.

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 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 illnesses 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: [10]

"He [anonymous] is a famous actor and comedian in Nepal. He is known to most 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 them 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 from 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."

[10] The research team prepared this script in joint collaboration with the celebrity Nepali comedian.

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

Enumerator Gender (T3)

In this treatment (T3), we cross-randomize the enumerator's gender across the information treatment assignments, so that half of the respondents receiving each of T1, T2, and C are assigned to an enumerator who is of the same gender as the respondent, and the other half are assigned to an enumerator who is of the opposite gender.

The goal of this treatment is two-fold. First, we are interested in understanding whether the gender of the enumerator directly affects the respondent's comfort levels in discussing mental health related issues as well as their willingness to reveal their mental health status and preferences for mental health care. Second, we want to be able to test whether efficacy of the information treatments vary depending on the gender of the enumerator who is delivering them.

Men are often known to seek fewer 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)

Out of 2,485 respondents, 837 were randomly selected to the control group (C), in which no information aimed at stigma reduction was provided.

Both messages (T1 and T2) 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 (T1) provides information about the extent of the spread of mental 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 toward help-seeking behavior. Our second intervention (T2), 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 with a personal narrative around how treatment can be successful. Our third treatment (T3), which randomizes gender of enumerators, helps us understand if the efficacy of T1 and T2 varies by the gender of the provider. Each of our treatments provide information on the access and effectiveness of mental health treatment in order to encourage people to seek professional help. Additionally, our treatment arms are 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.*

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 average 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 (up-

per) 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 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 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. While comparing the observations in the three arms of this experiment across 16 variables, we make a total of 48 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 47 of the 48 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 45 out of 48 comparisons (94 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.

In our survey, we also collected information on whether the respondent's physical or mental health declined since the pandemic, and whether they lost a job since the start of the pandemic. In Table A1, we show that the treatment and control groups were balanced on these variables. Therefore, while we cannot comment on whether the overall demand for care would be higher in the absence of the pandemic, the table provides some support for the assumption that any differences between treatment and control groups may not have been driven entirely by the pandemic.

We also check for balance on mental health outcomes (PHQ-8 and GAD-7), and awareness on attitudes towards mental health issues, including the raw PHQ-8 and GAD-7 scores, shares of respondents unaware of anxiety or depression, beliefs that mental health problems can be treated, and trust in trained counsellors. As shown in the table, of the fifty one tests of differences, two are significant at the 5% level, and seven are significant at the 10% level.[11]

Further, as described in Section 3.2, we cross-randomize the enumerator's gender across information treatment assignments to understand whether the gender of the enumerators directly affects outcomes such as the respondent's comfort levels in discussing mental health related issues as well as their willingness to reveal their mental health status and preferences for mental healthcare, and also to test whether the efficacy of the information treatments vary depending on the gender of the enumerator who is delivering them. To this end, we also show balance tests in Table A6 comparing the final sample respondents assigned to female enumerators with respondents assigned to male enumerators, along demographic and economic outcomes that we do not expect to be affected by the gender of the enumerator. While there are a few variables where see some imbalance, we show that our results are robust to controlling for these (Section 5.5).

Note that, since the surveys were carried out over a relatively short period of time, over the phone, and

[11] In the Appendix tables, we show that our results are robust to controlling for baseline levels of depression, anxiety, personal stigma and anticipated stigma. These are variables along which we have suggested imbalance, and which are relevant in the context of the intervention.

during a period where pandemic restrictions severely limited social interactions, we believe contamination across treatment arms would be limited. Furthermore, to the extent that there is some limited contamination, this would bias our estimates toward zero.

4.2 Construction of Variables

4.2.1 Dependent Variables

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. In the field of psychology, using such a Likert scale [see Cohen (1999); Hinson and Swanson (1993)] is more common than using a binary response as it provides more variation. Note that we elicited their willingness to seek counseling without specifying the mode of delivery (in-person or remote).

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 counseling*, (*iv*) *preference for same-sex counselors*, (*iv*) *preference for group or individual counseling*, and (*v*) *preference for same-sex or mixed-gender group counseling*.

We describe these variables in Appendix 3.

4.2.2 Independent Variables and Heterogeneity

There are two sets of independent variables used in this study. The first is a set of three dummy variables which indicates whether the respondent received the stigma reduction (T1) treatment, the celebrity treatment (T2), or was the control (C). The second, corresponds to the enumerator gender treatment (T3) and is a dummy which takes the value 1 if the respondent had a female enumerator.

In addition, we analyze the heterogeneous treatment effect of the information treatment by partitioning the sample along the following dimensions.

Personal stigma: This refers to participants' own negative beliefs about people with mental illness. To measure this we use the scale from Eisenberg et al. (2009).

Anticipated stigma: This refers to the concern participants may have of being judged negatively or

treated worse by others if they were to seek mental healthcare. We measure this using the scale from Quinn and Chaudoir (2015).

Anxiety: We measure anxiety using the Generalized Anxiety Disorder (GAD) score, which is a commonly employed measure to assess the prevalence of anxiety, as outlined by Spitzer et al. (2006).

Depression: We measure anxiety using the Patient Health Questionnaire (PHQ), which is a widely used tool to estimate the prevalence of depression as described by Kroenke et al. (2001).

Beliefs in norms of masculinity: We measure the beliefs in norms of masculinity using a sub-set of items from the Male Role Norms Inventory (MRNI) questionnaire. To measure this we use the scale from Levant et al. (2013); McDermott et al. (2019).

Respondent gender: We also test whether the treatment effect varied by the gender of the respondent.

For personal stigma, anticipated stigma, anxiety, depression and beliefs in norms of masculinity we partitioned the sample at the median to create “high" and “low" groups. A detailed description of the scales used can be found in Appendix A3.

4.3 Empirical Specification

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

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

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 or the control group. $X_{(i,m,w)}$ is a vector of individual controls that includes the respondent's age, gender, caste, household size, and an asset index. M_m are municipality fixed effects, and $e_{(i,m,w)}$ is the error term. Finally, β (in standard deviations) 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.[12] 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) and adding municipality-fixed effects (Column 3).

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 3), we find that 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.[13] Finally, our results are robust to including the small number of contaminated cases where there was non-compliance, as shown in Table A8. We also discuss the results for the adolescent sample in Appendix 2 and report the impact on willingness to seek help in Table A12.

Overall our findings are consistent with Clement et al. (2015), who perform a meta-analysis and find

[12] We report the same with additional controls (including variables measuring mental health and stigma that were measured at baseline, before the treatments were administered through the questionnaire) in Table A2.

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

that the *association* between stigma and help-seeking is negative and small (Cohen, 1992).[14] However, the majority of the studies are cross-sectional and from developed countries.[15] 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.[16] 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.

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* stigma. 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 be-

[14]The 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.

[15]Cross-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.

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

low 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.

The high levels of stigma towards issues relating to mental health seen in Nepal, is a common feature across many countries, particularly those in South Asia, which is home to a significant share of the world's population (Lauber and Rössler 2007). Further, several studies have also found higher levels of stigma among South Asians in the United States and the United Kingdom (see Gilbert et al. (2004); Randhawa and Stein (2007); Tabassum et al. (2000); Cinnirella and Loewenthal (1999)). The findings discussed in this section are likely to be relevant for many such groups living in similar social contexts. A natural question however, is whether these results will carry forward to societies where highly stigmatized views toward mental health are less prevalent. Put another way, there is concern about whether this intervention would only be effective in cultures where there is "enough" stigma to reduce, and that in contexts with low levels of stigma, stigma-reduction measures might be less impactful. While this is theoretically true, given that stigma interventions in the United States have demonstrated effects (see the meta-analysis by Goldberg et al. (2022)), it is likely that there is still sufficient stigma against mental illness among the general public for this type of intervention to be effective. Ultimately, to know for certain, we would need to replicate the study in both high and low stigma cultures.

Anxiety and 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 in-

creased 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.

These results indicate that, for persons with worse mental health, such a light touch intervention is perhaps insufficient to affect demand. 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).[17] Furthermore, sev-

[17] Although masculine norms may be prevalent in both genders, research suggests that the adherence to or internalization

eral 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).[18]

We test the heterogeneous impact of the intervention by a measure of conformity to masculine norms 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 about conformity to 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 counseling

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 A10reports the same for a traditional healer.[19] Overall, we *do not* find a statistically significant impact of the information

of these beliefs could differ between males and females. In many cultures, there are strong societal expectations for girls and women to be more emotionally expressive than boys and men (Kring and Gordon, 1998). Girls and women are expected to display sadness and anxiety, while boys and men are expected to be strong and calm, keeping emotions in check (Brody and Hall, 2008; Jansz et al., 2000). While both men and women are motivated to maintain their gender identity, studies indicate that men may be more sensitive to it, paying greater attention to upholding masculine norms due to facing greater social disadvantages for gender role transgressions (Carter and McCloskey, 1984; Costrich et al., 1975; Feinman, 1984; Jackson and Sullivan, 1990; McCreary, 1994). These expectations could lead masculine beliefs to correlate with greater mental health stigma in general, but exhibit heterogeneity between genders.

[18] Adolescents described help-seeking as being "weak", "pathetic" and incongruent to "a tough or self-reliant male" (Gilchrist and Sullivan, 2006).

[19] There 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.

treatment (pooled as well as separately) on willingness to pay for mental health counseling with a trained professional [Column (1) in Table 7]. It is of course worth noting that since we bound the maximum willingness to pay at 50 NPR, our estimate will be biased toward zero if respondents' true willingness to pay exceeds this amount

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: *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.

Anxiety and 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 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 strong beliefs in conformity to masculinity norms that drive the results.

Masculinity: Finally, in columns (3)–(4) of Table 8 we find that respondents who hold strong beliefs in conformity to 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.

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.

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*) *Preference for face-to-face vs. online counseling*, (*ii*) *Preference for same-sex counselors vs. counselor of any sex*, (*iii*) *Preference for a group vs. individual counseling*, and (*iv*) *Preference for same-sex vs. mixed-gender group counseling*. 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. Finally, 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; Schmalbach et al., 2022; Fujino et al., 1994). Some of this literature is descriptive, and not always adequately powered.

The cross-cutting randomization design for T3, wherein respondents were randomly assigned to be interviewed by a male or a female enumerator, ensured that gender of the enumerator was balanced across treatment groups (Table 3). But we can also test if 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.[20]

[20]We discuss the results for the adolescent sample in Appendix 2 and report the impact in Table A13 – A14.

Table A3 presents the effects of the gender enumerator (T3) on our primary set of outcomes. We see that respondents who spoke to a female enumerator were 0.07 *s.d* more willing to seek counselling. Further, respondents were 0.13 *s.d* more likely to reveal that they had a mental health issue if the enumerator was female than if the enumerator was male, and respondents reported being 0.09 *s.d* more comfortable when the enumerator was female. Next, we find no evidence that respondents are more or less likely to admit to discriminatory hiring behavior when the enumerator is female. Finally, we explore respondent's self-reported preferences for different type of counselling, and whether these responses vary with the gender of the enumerator. We find that respondents are less likely to say that they prefer face-to-face counselling to online counselling (3 percentage points) when the enumerator is female. Respondents are less likely to say that they specifically prefer a counsellor of the same sex (4 percentage points) when they speak to a female enumerator, and respondents are 6 percentage points more likely to report preferring individual counselling to group counselling when speaking to a female enumerator. Finally, the gender of the enumerator does not affect the respondents stated preferences regarding the group composition in a group counselling session.

We also explored the respondents' preferences regarding counselling for their children and find that respondents do not report different willingness to seek put their child in counselling to female enumerators, and don't see differences in the number of hours that they would be willing to spend to help their child in distress. Finally, similar to the case of the information treatments, the enumerator gender effects are also robust to including contaminated cases where there may have been non-compliance (see Table A9). Further, A6 had suggested some imbalance for a few variables – we therefore show that our results are robust to controlling for these (Table A7).

In Table A4, we report the effect of being assigned a female enumerator on self reported beliefs in masculine norms and incidence of depression and anxiety. We don't find evidence to suggest that respondents differentially state beliefs in masculine norms to female enumerators. However, respondents who spoke to female enumerators exhibited a 3 percentage points higher likelihood of suffering from moderate to severe depression (based on the PHQ measure), 3 percentage points likelihood of suffering from moderate to severe anxiety (based on the GAD measure), and 5 percentage points higher likelihood of experiencing moderate to severe anxiety or depression.

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 the stigma associated with seeking mental healthcare can be a useful demand-side tool to bridge the treatment gap in mental health care. We further 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 the take-up of mental health services.

Our paper suggests that a low-cost policy tool like messaging can improve the willingness to seek counseling, which is a critical first step in addressing mental health issues. The extent to which this willingness translates into actually receiving (or seeking) counseling is an important question that warrants further investigation. Prior research by Ajzen (1991) and Steinmetz et al. (2016) suggests that most behaviors, including health behaviors, are predicted by people's intentions to perform those behaviors, although we do not directly test this in our study. It is entirely possible that in the absence of supply-side measures, the impact of an intervention like ours may be limited.

Understanding the barriers to the uptake of mental health services is an exciting yet challenging area of research. Given the scarcity of well-identified papers on help-seeking behavior, we believe our paper provides valuable evidence for the first crucial step in this process. Future research should focus on experimentally varying demand and supply-side measures and testing their effectiveness in order to build upon our findings and further advance our understanding of how to improve access to mental health services. ■

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Main Tables

Table 1: Demographic, economic, and mental health profile

	Mean	SD	N
Respondent details			
Female	0.56	0.50	2485
Age in years	38.32	7.33	2485
Currently married	0.94	0.24	2485
Years of schooling completed	5.82	4.26	2485
Caste			
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
Household demographics			
Household size	5.26	1.44	2485
Kids in household	2.29	0.92	2485
Income and employment			
Full-time / Permanent job	0.15	0.36	2485
Primary employment in agriculture	0.40	0.49	2485
Household monthly income (1000s NPR)	26.02	54.60	1831
Mental wellbeing			
Moderate to severe anxiety	0.15	0.36	2485
Moderate to severe depression	0.19	0.39	2485
Moderate to severe anxiety or depression	0.24	0.43	2485
Self reported mental health 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; (3) GAD and PHQ scores above 9 are coded as moderate to severe anxiety and depression respectively.

Table 2: Attitudes toward mental illness and treatment

	Mean	SD	N
If I seek mental health care others will think			
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 agree with the statement that			
I'm willing to befriend someone who seeks mental health care	0.83	0.38	2485
Seeking mental health care is a sign of failure	0.57	0.49	2485
Seeking mental health care is a sign of weak will power	0.67	0.47	2485
If a potential employee had a mental health issue			
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 mental health 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 mental health issues; (3) For the set of statements beginning with 'If a potential employee has a mental health issue ....', the means indicate the shares of respondents who answered 'yes' to each question about a hypothetical employee who has a mental health 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	0.55	0.57	0.97	0.58	0.73
	(0.50)	(0.50)	(0.50)			
Age in years	38.62	37.99	38.34	0.10	0.42	0.15
	(7.42)	(7.39)	(7.16)			
Years of schooling completed	5.62	5.86	5.97	0.22	0.09	0.09
	(4.17)	(4.34)	(4.25)			
Household size	5.28	5.24	5.25	0.51	0.81	0.61
	(1.46)	(1.41)	(1.43)			
Kids in household	2.30	2.30	2.26	0.72	0.37	0.47
	(0.95)	(0.89)	(0.93)			
Household monthly income (1000s NPR)	28.90	25.24	23.71	0.32	0.14	0.20
	(85.35)	(27.71)	(24.39)			
Days unemployed in last month	9.04	7.76	9.28	0.13	0.83	0.48
	(12.00)	(11.05)	(11.83)			
Assets owned (share)	0.33	0.32	0.33	0.30	0.71	0.42
	(0.18)	(0.18)	(0.18)			
Above median masculine norms	0.54	0.51	0.55	0.15	0.76	0.52
	(0.50)	(0.50)	(0.50)			
Above Median Anticipated Stigma	0.58	0.56	0.60	0.38	0.52	0.89
	(0.49)	(0.50)	(0.49)			
Above Median Personal Stigma	0.57	0.54	0.60	0.25	0.17	0.90
	(0.50)	(0.50)	(0.49)			
Above Median GAD Score	0.57	0.54	0.57	0.20	0.69	0.61
	(0.50)	(0.50)	(0.50)			
Above Median PHQ Score	0.57	0.52	0.57	0.01	0.85	0.19
	(0.49)	(0.50)	(0.49)			
Self reported mental health issues	0.19	0.20	0.22	0.71	0.20	0.33
	(0.40)	(0.40)	(0.41)			
Knows a trained counselor	0.34	0.33	0.31	0.79	0.22	0.39
	(0.47)	(0.47)	(0.46)			
Female Enumerator	0.51	0.52	0.53	0.86	0.53	0.64
	(0.50)	(0.50)	(0.50)			

Notes: (1) Standard deviations in parenthesis; (2) Checks done after controlling for municipality fixed effects and using robust standard errors.

Table 4: Impact of mental health information on willingness to seek counselling

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

Notes: (1) Standard errors in parentheses; (2) The dependent variable is "Willingness to seek counseling" where the 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. In the regressions, the dependent variable is the standard normal distribution of the responses received to this question; (3) The baseline controls used in columns 2 and 3 are the respondent's gender, age, caste, household size, and asset index; (4) Municipalities are the lowest local body level, and the regressions include municipality dummies in Columns 3; (5) * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 5: Impact of mental health information on willingness to seek counselling by stigma and mental health status

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

Notes: (1) Standard errors in parentheses; (2) The dependent variable is "Willingness to seek counseling" where the 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. In the regressions, the dependent variable is the standard normal distribution of the responses received to this question; (3) All regressions presented here use the fully specified model with baseline controls (respondent's gender, age, caste, household size, and asset index) and municipality dummies; (4) 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 median. 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 median; (5) * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 6: Impact of mental health information on willingness to seek counselling by gender and measures of masculinity

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

Notes: (1) Standard errors in parentheses; (2) The dependent variable is "Willingness to seek counseling" where the 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. In the regressions, the dependent variable is the standard normal distribution of the responses received to this question; (3) All regressions presented here use the fully specified model with baseline controls (respondent's gender, age, caste, household size, and asset index) and municipality dummies; (4) In columns 1 and 2 the regressions are run for only male and female respondents respectively; (5) 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 median. In column 4, the regression is run for those whose beliefs in norms of masculinity are less than the sample median; (6) * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 7: Impact of mental health information on willingness to pay for counselling by stigma and mental health status

Dependent variable:	**Willingness to pay for counselling**								
	Full sample	**Personal stigma**		**Anticipated stigma**		**Anxiety**		**Depression**	
		High	Low	High	Low	High	Low	High	Low
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
					Panel A				
Pooled (T1 + T2)	0.97	2.20**	-0.56	1.39	0.22	0.50	1.86*	1.35	0.60
	(0.71)	(0.95)	(1.08)	(0.92)	(1.13)	(0.96)	(1.06)	(0.95)	(1.08)
					Panel B				
Stigma (T1)	0.98	2.43**	-0.56	1.74	-0.21	0.90	1.43	1.16	0.77
	(0.82)	(1.12)	(1.23)	(1.07)	(1.29)	(1.13)	(1.21)	(1.12)	(1.22)
Celebrity (T2)	0.96	1.99*	-0.55	1.07	0.68	0.13	2.31*	1.52	0.40
	(0.82)	(1.09)	(1.27)	(1.05)	(1.32)	(1.11)	(1.24)	(1.09)	(1.26)
Observations	2485	1412	1073	1441	1044	1387	1098	1380	1105
Stigma=Celebrity (p-value)	0.98	0.70	0.99	0.53	0.49	0.50	0.47	0.75	0.76

Notes: (1) Standard errors in parentheses; (2) The dependent variable is "Willingness to pay counselor" where the 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; (3) All regressions presented here use the fully specified model with baseline controls (respondent's gender, age, caste, household size, and asset index) and municipality dummies; (4) In column 1 the regression is 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 median. 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 median; (5) * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 8: Impact of mental health information on willingness to pay for counselling by gender and measures of masculinity

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

Notes: (1) Standard errors in parentheses; (2) The dependent variable is "Willingness to pay counselor" where the 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; (3) All regressions presented here use the fully specified model with baseline controls (respondent's gender, age, caste, household size, and asset index) and municipality dummies; (4) In columns 1 and 2 the regressions are run for only male and female respondents respectively; (5) 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 median. In column 4, the regression is run for those whose beliefs in norms of masculinity are less than the sample median; (6) * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 9: Impact of mental health information on preferences for type of counselling

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

Notes: (1) Standard errors in parentheses; (2) The dependent variable in column 1 is a dummy which takes the value 1 if the respondent prefers face to face counselling to online counselling, in column 2 is a dummy which takes the value 1 if the respondent specifically prefers a same-sex counsellor, in column 3 is a dummy which takes the value 1 if the respondent prefers group counselling to individual counselling, and in column 4 is a dummy which takes the value 1 if the respondent prefers a same-sex groups over mixed sex groups for group counselling; (3) All regressions presented here use the fully specified model with baseline controls (respondent's gender, age, caste, household size, and asset index) and municipality dummies; (4) * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 10: Impact of mental health information on willingness to seek counselling by the gender of the enumerator

Dependent variable:	**Willingness to seek counseling**		
	(1)	(2)	(3)
Female Enumerator	0.07*	0.14**	0.14**
	(0.04)	(0.07)	(0.07)
Pooled (T1 + T2)		0.17***	0.17**
		(0.06)	(0.08)
Pooled (T1 + T2) × Female Enumerator		-0.11	-0.11
		(0.08)	(0.08)
Female Respondent	-0.28***	-0.28***	-0.29***
	(0.04)	(0.04)	(0.07)
Pooled (T1 + T2) × Female Respondent			0.01
			(0.08)
Observations	2485	2485	2485
Baseline Controls	Yes	Yes	Yes
Municipality FE	Yes	Yes	Yes

Notes: (1) Standard errors in parentheses; (2) The dependent variable is "Willingness to seek counseling" where the 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. In the regressions, the dependent variable is the standard normal distribution of the responses received to this question; (3) All regressions presented here use the fully specified model with baseline controls (respondent's gender, age, caste, household size, and asset index) and municipality dummies; (4) * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Appendix 1: Supplementary Tables and Figures

Table A1: Additional 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)
If I seek mental health care others will think						
I'm not as good as them	0.47	0.46	0.48	0.76	0.61	0.90
	(0.50)	(0.50)	(0.50)			
I'm not as smart as them	0.40	0.42	0.44	0.60	0.08	0.18
	(0.49)	(0.49)	(0.50)			
I'm not to be trusted	0.43	0.39	0.42	0.07	0.76	0.22
	(0.50)	(0.49)	(0.49)			
I'm to be given less respect	0.45	0.42	0.48	0.19	0.29	0.89
	(0.50)	(0.49)	(0.50)			
I agree with the statement that						
I'm willing to befriend someone who seeks mental health care	0.83	0.84	0.82	0.66	0.54	0.91
	(0.38)	(0.37)	(0.38)			
Seeking mental health care is a sign of failure	0.57	0.57	0.58	0.99	0.57	0.74
	(0.50)	(0.50)	(0.49)			
Seeking mental health care is a sign of weak will power	0.68	0.65	0.69	0.21	0.55	0.70
	(0.47)	(0.48)	(0.46)			
If a potential employee had an mental health issue						
I would hire them if they are skilled	0.78	0.78	0.80	0.79	0.24	0.41
	(0.42)	(0.41)	(0.40)			
I would pay a lower salary	0.08	0.09	0.10	0.97	0.17	0.40
	(0.28)	(0.28)	(0.30)			
Mental Health Related						
PHQ 8	5.96	5.46	5.82	0.01	0.65	0.08
	(4.35)	(4.23)	(4.22)			
GAD 7	5.12	4.80	5.08	0.09	0.97	0.32
	(4.30)	(4.26)	(4.24)			
Unaware of own anxiety/depression	0.63	0.53	0.58	0.04	0.43	0.10
	(0.48)	(0.50)	(0.49)			
Mental health problems are treatable	0.84	0.84	0.85	0.74	0.78	0.98
	(0.36)	(0.37)	(0.36)			
Trusts counsellor	0.82	0.84	0.84	0.36	0.32	0.28
	(0.38)	(0.37)	(0.37)			
Impact of Covid 19						
Lost job	0.38	0.35	0.38	0.38	0.93	0.59
	(0.49)	(0.48)	(0.49)			
Physical health declined	0.18	0.14	0.19	0.06	0.62	0.45
	(0.38)	(0.35)	(0.39)			
Mental health declined	0.21	0.19	0.22	0.50	0.51	1.00
	(0.41)	(0.40)	(0.41)			

Notes: (1) Standard deviations in parenthesis; (2) Checks done after controlling for municipality fixed effects and using robust standard errors.

Table A2: Impact of mental health information on willingness to seek counseling (additional controls)

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

Notes: (1) Standard errors in parentheses; (2) The dependent variable is "Willingness to seek counseling" where the 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. In the regressions, the dependent variable is the standard normal distribution of the responses received to this question; (3) In column 1, the baseline controls are the respondent's gender, age, caste, household size, asset index, and municipality dummies. In column 2, mental health controls are dummies for high (above median) GAD and PHQ scores. In column 3, stigma controls are dummies for high (above median) anticipated and personal stigma scores; (4) * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A3: Impact of enumerator gender on primary outcomes from PAP

	Full sample	Male	Female
	(1)	(2)	(3)
Standardized willingness to seek care			
Female Enumerator	0.07*	0.10*	0.05
	(0.04)	(0.06)	(0.06)
Standardized self-reported mental health problem			
Female Enumerator	0.13***	0.12**	0.15***
	(0.04)	(0.06)	(0.06)
Standardized comfort during call			
Female Enumerator	0.09**	-0.01	0.15***
	(0.04)	(0.06)	(0.05)
Would hire someone with MH issues			
Female Enumerator	-0.02	-0.02	-0.02
	(0.02)	(0.02)	(0.02)
Would pay someone with MH issues less			
Female Enumerator	-0.01	-0.02	-0.01
	(0.01)	(0.02)	(0.02)
Prefers face to face over online counselling			
Female Enumerator	-0.03*	-0.05**	-0.02
	(0.02)	(0.02)	(0.02)
Prefers same-sex counsellor			
Female Enumerator	-0.04**	-0.15***	0.04
	(0.02)	(0.03)	(0.03)
Prefers group over individual counselling			
Female Enumerator	-0.06***	-0.01	-0.09***
	(0.02)	(0.03)	(0.03)
Prefers same-sex group counselling over mixed sex			
Female Enumerator	-0.01	-0.04	0.01
	(0.02)	(0.03)	(0.03)
Standardized willingness to put child in counselling			
Female Enumerator	0.03	-0.01	0.07
	(0.04)	(0.06)	(0.06)
Prefers group over individual counselling for child			
Female Enumerator	-0.03	0.03	-0.07***
	(0.02)	(0.03)	(0.03)
Hours willing to spend to help child in distress			
Female Enumerator	0.03	0.01	0.05
	(0.23)	(0.36)	(0.30)

Notes: (1) Standard errors in parentheses; (2) The dependent variables are: standard normal measure of willingness to seek care (collected on a 5 point Likert scale) in panel 1, standard normal measure of self reported MH issue (collected as binary) in panel 2, and standard normal measure of comfort during the call (collected on a 5 point Likert scale) in panel 3. In panels 4-9 and panel 11 the dependent variables are dummy variables. In panel 10 the dependent variable is standard normal measure of willingness to put child in counselling if needed (collected on a 5 point Likert scale), and in panel 12 the dependent variable is the number of hours in a day the respondent is willing to spend to help their child if they are in emotional distress; (3) All regressions presented here use the fully specified model with baseline controls (respondent's gender, age, caste, household size, and asset index) and municipality dummies; (4) * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A4: Impact of enumerator gender on secondary outcomes from PAP

	Full sample	Male	Female
	(1)	(2)	(3)
Standardized masculinity			
Female Enumerator	-0.02	0.03	-0.06
	(0.04)	(0.06)	(0.05)
Moderate to severe depression			
Female Enumerator	0.03*	0.07***	-0.00
	(0.02)	(0.02)	(0.02)
Moderate to severe anxiety			
Female Enumerator	0.03**	0.05**	0.01
	(0.01)	(0.02)	(0.02)
Moderate to severe anxiety and/or depression			
Female Enumerator	0.05***	0.08***	0.02
	(0.02)	(0.02)	(0.02)

Notes: (1) Standard errors in parentheses; (2) The dependent variables are: standard normal measure of beliefs in norms of masculinity based on responses to a series of questions in panel 1, dummy variable which takes value 1 if PHQ score is greater than 9 in panel 2, dummy variable which takes value 1 if GAD score is greater than 9 in panel 3, and a dummy variable which takes value 1 if PHQ or GAD score is greater than 9 in panel 4; (3) All regressions presented here use the fully specified model with baseline controls (respondent's gender, age, caste, household size, and asset index) and municipality dummies; (4) * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A5: Response rates by treatment status

	Out Sample (N=2318)	In Sample (N=2485)	p-value
	(1)	(2)	(3)
Asigned to Control	0.33	0.34	0.66
	(0.47)	(0.47)	
Assigned to Stigma Treatment	0.34	0.33	0.57
	(0.47)	(0.47)	
Assigned to Celebrity Treatment	0.33	0.33	0.91
	(0.47)	(0.47)	
Assigned Female Enumerator	0.48	0.52	0.01
	(0.50)	(0.50)	

Notes: (1) Standard deviations in parentheses.

Table A6: Balance checks (Enumerator Gender)

	Enumerator Gender		
	Male (N=1190)	Female (N=1295)	p value
	(1)	(2)	(3)
Female	0.55	0.56	0.58
	(0.50)	(0.50)	
Age in years	38.26	38.38	0.59
	(7.39)	(7.27)	
Years of schooling completed	5.99	5.66	0.05
	(4.15)	(4.34)	
Household size	5.19	5.32	0.04
	(1.40)	(1.47)	
Number of kids in HH	2.28	2.29	0.97
	(0.91)	(0.94)	
Total monthly income (1000s)	24.67	27.15	0.25
	(24.90)	(70.27)	
Days unemployed in last month	2.74	4.80	0.00
	(7.44)	(9.85)	
Assets owned (share)	0.33	0.33	0.49
	(0.18)	(0.18)	

Notes: (1) Standard deviations in parenthesis; (2) Checks done after controlling for municipality fixed effects and using robust standard errors.

Table A7: Impact of enumerator gender on primary outcomes from PAP (additional controls)

	Full sample	Male	Female
	(1)	(2)	(3)
Standardized willingness to seek care			
Female Enumerator	0.08**	0.11**	0.06
	(0.04)	(0.06)	(0.05)
Standardized self-reported mental health problem			
Female Enumerator	0.11***	0.10*	0.14**
	(0.04)	(0.06)	(0.06)
Standardized comfort during call			
Female Enumerator	0.10**	0.00	0.17***
	(0.04)	(0.06)	(0.05)
Would hire someone with MH issues			
Female Enumerator	-0.02	-0.03	-0.02
	(0.02)	(0.02)	(0.02)
Would pay someone with MH issues less			
Female Enumerator	-0.01	-0.02	-0.01
	(0.01)	(0.02)	(0.02)
Prefers face to face over online counselling			
Female Enumerator	-0.03*	-0.06**	-0.01
	(0.02)	(0.02)	(0.02)
Prefers same-sex counsellor			
Female Enumerator	-0.04**	-0.14***	0.04
	(0.02)	(0.03)	(0.03)
Prefers group over individual counselling			
Female Enumerator	-0.06***	-0.02	-0.10***
	(0.02)	(0.03)	(0.03)
Prefers same-sex group counselling over mixed sex			
Female Enumerator	-0.01	-0.04	0.01
	(0.02)	(0.03)	(0.03)
Standardized willingness to put child in counselling			
Female Enumerator	0.03	-0.02	0.08
	(0.04)	(0.06)	(0.06)
Prefers group over individual counselling for child			
Female Enumerator	-0.03	0.03	-0.08***
	(0.02)	(0.03)	(0.03)
Hours willing to spend to help child in distress			
Female Enumerator	-0.00	-0.04	0.03
	(0.23)	(0.36)	(0.30)

Notes: (1) Standard errors in parentheses; (2) The dependent variables are: standard normal measure of willingness to seek care (collected on a 5 point Likert scale) in panel 1, standard normal measure of self reported MH issue (collected as binary) in panel 2, and standard normal measure of comfort during the call (collected on a 5 point Likert scale) in panel 3. In panels 4-9 and panel 11 the dependent variables are dummy variables. In panel 10 the dependent variable is standard normal measure of willingness to put child in counselling if needed (collected on a 5 point Likert scale), and in panel 12 the dependent variable is the number of hours in a day the respondent is willing to spend to help their child if they are in emotional distress; (3) Regressions include baseline controls (gender, age, caste, household size, asset index), municipality dummies, and additional controls for employment status in the past month (dummy), days unemployed in the past month (coded as zero for those who are not in employment), and years of schooling ; (4) * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A8: Impact of mental health information on willingness to seek counselling (as randomized)

Dependent variable:	**Willingness to seek counseling**		
	(1)	(2)	(3)
		Panel A	
Assigned: Pooled (T1 +T2)	0.11***	0.11***	0.12***
	(0.04)	(0.04)	(0.04)
		Panel B	
Assigned: Information	0.11**	0.11**	0.12**
	(0.05)	(0.05)	(0.05)
Assigned: Celebrity	0.11**	0.11**	0.11**
	(0.05)	(0.05)	(0.05)
Observations	2514	2514	2514
Baseline Controls	No	Yes	Yes
Municipality FE	No	No	Yes
Stigma=Celebrity (p-value)	0.87	0.88	0.87

Notes: (1) Standard errors in parentheses; (2) The dependent variable is "Willingness to seek counseling" where the 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. In the regressions, the dependent variable is the standard normal distribution of the responses received to this question; (3) The baseline controls used in columns 2 and 3 are the respondent's gender, age, caste, household size, and asset index; (4) Municipalities are the lowest local body level, and the regressions include municipality dummies in Columns 3; (5) In addition to the sample used for the main analysis, the regressions presented here include cases where the survey team implemented the incorrect treatment to the respondent. The independent variable is the assigned treatment; (6) * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A9: Impact of enumerator gender on primary outcomes from PAP (as randomized)

	Full sample	Male	Female
	(1)	(2)	(3)
Standardized willingness to seek care			
Assigned: Female Enumerator	0.07*	0.10*	0.06
	(0.04)	(0.06)	(0.05)
Standardized self-reported mental health problem			
Assigned: Female Enumerator	0.13***	0.12**	0.15***
	(0.04)	(0.06)	(0.06)
Standardized comfort during call			
Assigned: Female Enumerator	0.09**	-0.00	0.16***
	(0.04)	(0.06)	(0.05)
Would hire someone with MH issues			
Assigned: Female Enumerator	-0.02	-0.02	-0.02
	(0.02)	(0.02)	(0.02)
Would pay someone with MH issues less			
Assigned: Female Enumerator	-0.01	-0.02	-0.01
	(0.01)	(0.02)	(0.02)
Prefers face to face over online counselling			
Assigned: Female Enumerator	-0.03*	-0.05**	-0.01
	(0.02)	(0.02)	(0.02)
Prefers same-sex counsellor			
Assigned: Female Enumerator	-0.04**	-0.15***	0.04
	(0.02)	(0.03)	(0.03)
Prefers group over individual counselling			
Assigned: Female Enumerator	-0.06***	-0.01	-0.10***
	(0.02)	(0.03)	(0.03)
Prefers same-sex group counselling over mixed sex			
Assigned: Female Enumerator	-0.01	-0.04	0.01
	(0.02)	(0.03)	(0.03)
Standardized willingness to put child in counselling			
Assigned: Female Enumerator	0.04	-0.02	0.08
	(0.04)	(0.06)	(0.06)
Prefers group over individual counselling for child			
Assigned: Female Enumerator	-0.02	0.03	-0.07***
	(0.02)	(0.03)	(0.03)
Hours willing to spend to help child in distress			
Assigned: Female Enumerator	0.05	0.04	0.07
	(0.23)	(0.35)	(0.30)

Notes: (1) Standard errors in parentheses; (2) The dependent variables are: standard normal measure of willingness to seek care (collected on a 5 point Likert scale) in panel 1, standard normal measure of self reported MH issue (collected as binary) in panel 2, and standard normal measure of comfort during the call (collected on a 5 point Likert scale) in panel 3. In panels 4-9 and panel 11 the dependent variables are dummy variables. In panel 10 the dependent variable is standard normal measure of willingness to put child in counselling if needed (collected on a 5 point Likert scale), and in panel 12 the dependent variable is the number of hours in a day the respondent is willing to spend to help their child if they are in emotional distress; (3) All regressions presented here use the fully specified model with baseline controls (respondent's gender, age, caste, household size, and asset index) and municipality dummies; (4) In addition to the sample used for the main analysis, the regressions presented here include cases where the survey team implemented the incorrect treatment to the respondent. The independent variable is the assigned enumerator gender; (5) * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A10: Impact of mental health information on willingness to pay for a traditional healer by stigma and mental health status

Dependent variable:	**Willingness to pay for traditional healer**								
	Full	High PS	Low PS	High AS	Low AS	High GAD	Low GAD	High PHQ	Low PHQ
	Full sample	**Personal stigma**		**Anticipated stigma**		**Anxiety**		**Depression**	
		High	Low	High	Low	High	Low	High	Low
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
					Panel A				
Pooled (T1 + T2)	0.09	0.59	-0.60	0.15	-0.22	-0.66	1.32	-0.10	0.49
	(0.68)	(0.93)	(1.00)	(0.90)	(1.05)	(0.94)	(1.00)	(0.93)	(1.01)
					Panel B				
Stigma (T1)	0.57	1.20	-0.02	0.46	0.52	0.39	1.21	0.62	0.82
	(0.79)	(1.09)	(1.14)	(1.05)	(1.21)	(1.10)	(1.14)	(1.10)	(1.15)
Celebrity (T2)	-0.38	0.05	-1.26	-0.15	-1.02	-1.63	1.43	-0.74	0.12
	(0.79)	(1.06)	(1.18)	(1.03)	(1.23)	(1.08)	(1.16)	(1.07)	(1.19)
Observations	2485	1412	1073	1441	1044	1387	1098	1380	1105
Stigma=Celebrity (p-value)	0.23	0.29	0.29	0.56	0.21	0.07	0.84	0.22	0.54

Notes: (1) Standard errors in parentheses; (2) The dependent variable is "Willingness to pay traditional healer" where the 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; (3) All regressions presented here use the fully specified model with baseline controls (respondent's gender, age, caste, household size, and asset index) and municipality dummies; (4) In column 1 the regression is 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 median. 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 median; (5) * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Appendix 2: Effects on Adolescents

For all of our outcomes, we measure impacts for adolescents as well as adults. However, we find limited effects for this group.

We began by examining correlations between adolescents and their parents' mental health. As shown in Table A11, we find that adolescents are 0.16 percentage points more likely to have moderate to severe depression if their parents have moderate to severe depression. Similarly, adolescents are 0.16 percentage points more likely to have moderate to severe anxiety if their parents have moderate to severe anxiety. Finally adolescents are 0.17 percentage points more likely to have either moderate to severe depression or anxiety if their parents have moderate to severe depression or anxiety.

Table A11: Correlation between adolescent and parent mental health

Dependent variable:	**Moderate to severe**		
	Depression	Anxiety	Depression ∪ Anxiety
	(1)	(2)	(3)
Parent: Moderate to severe depression	0.16***		
	(0.02)		
Parent: Moderate to severe anxiety		0.16***	
		(0.01)	
Parent: Moderate to severe depression ∪ anxiety			0.17***
			(0.02)

Notes: (1) Standard errors in parentheses; (2) The dependent variable is the child's mental health status; (3) All regressions presented here use the fully specified model with baseline controls (respondent's gender, age, caste, household size, and asset index) and municipality dummies; (4) * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

The impact of the information treatments on the stated willingness of adolescents to call a mental health helpline is presented in Table A12. We do not find any evidence that the information treatments, either combined (Panel A) or individually (Panel B), had any effect on the stated willingness of adolescents to seek care.

Table A12: Impact of mental health information on willingness to call helpline (Adolescent)

Dependent variable:	**Willingness to call helpline**		
	(1)	(2)	(3)
		Panel A	
Pooled (T1 + T2)	0.01	0.01	0.01
	(0.01)	(0.01)	(0.01)
		Panel B	
Stigma (T1)	0.02	0.02	0.02
	(0.01)	(0.01)	(0.01)
Celebrity (T2)	0.01	0.01	0.01
	(0.01)	(0.01)	(0.01)
Observations	2348	2348	2348
Baseline Controls	No	Yes	Yes
Municipality FE	No	No	Yes
Stigma=Celebrity (p-value)	0.58	0.57	0.59

Notes: (1) Standard errors in parentheses; (2) The dependent variable is a dummy variable which takes the value 1 if the respondent says that they would be willing to call MH helpline. The baseline controls used in columns 2 and 3 are the respondent's gender, age, caste, household size, and asset index; (3) Municipalities are the lowest local body level, and the regressions include municipality dummies in Columns 3; (4) * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A13 explores the effect of being assigned to a female enumerator on the primary outcomes of interest. In panel 1, we observe that being assigned to a female enumerator does not have an effect on the willingness to call the helpline. Adolescents who were assigned female enumerators were however 0.2 SD more likely to self-report having a mental health issue. This is true for both male (0.16 SD) and female respondents (0.23 SD). As with the adults, the adolescents in our sample reported being 0.13 SD more comfortable during the call when they were assigned to a female enumerator, and this was driven entirely by female respondents, for whom the coefficient was 0.26 SD. The estimated coefficient for male adolescents was not statistically significant. Panels 4-7 analyze the effect of being assigned to a female enumerator on the adolescents' preferences regarding counselling. In panel 4, we see that adolescents assigned to female enumerators were 5 percentage points less likely to prefer face-to-face over online counselling, an effect that was driven by female respondents (6 percentage points). In panel 5, we see that male respondents who were assigned to female enumerators were 6 percentage points less likely to express a preference for a same sex counsellor. In panels 6 and 7, we see that being assigned to a female enumerator did not have any effect on preferences for group counselling.

Table A13: Impact of enumerator gender on primary outcomes from PAP (Adolescent)

	Full sample	Male	Female
	(1)	(2)	(3)
Willingness to call helpline			
Female Enumerator	-0.00	-0.01	0.00
	(0.01)	(0.02)	(0.01)
Standardized self reported MH problem			
Female Enumerator	0.20***	0.16***	0.23***
	(0.04)	(0.06)	(0.06)
Standardized comfort during call			
Female Enumerator	0.13***	-0.04	0.26***
	(0.04)	(0.06)	(0.05)
Prefers face to face over online counselling			
Female Enumerator	-0.05**	-0.03	-0.06**
	(0.02)	(0.03)	(0.03)
Prefers same-sex counsellor			
Female Enumerator	-0.03	-0.06**	0.00
	(0.02)	(0.03)	(0.03)
Prefers group over individual counselling			
Female Enumerator	-0.02	-0.01	-0.02
	(0.02)	(0.03)	(0.03)
Prefers same-sex group counselling over mixed sex			
Female Enumerator	-0.02	-0.03	-0.01
	(0.02)	(0.03)	(0.03)

Notes: (1) Standard errors in parentheses; (2) The dependent variable are: a dummy variable which takes the value 1 if the respondent says that they would be willing to call MH helpline, in panel 1, standard normal measure of self reported MH issue (collected as binary) in panel 2, and standard normal measure of comfort during the call (collected on a 5 point Likert scale) in panel 3, and dummy variables in panels 4-7; (3) All regressions presented here use the fully specified model with baseline controls (respondent's gender, age, caste, household size, and asset index) and municipality dummies; (4) * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Finally, in Table A14 we note that being assigned to female enumerators did not have a significant effect on reported beliefs in masculine norms, or the incidence of moderate to severe anxiety and/or depression as measured by the PHQ and GAD scales.

Table A14: Impact of enumerator gender on secondary outcomes from PAP (Adolescent)

	Full sample	Male	Female
	(1)	(2)	(3)
Standardized masculinity			
Female Enumerator	0.04	-0.01	0.08
	(0.04)	(0.06)	(0.05)
Moderate to severe depression			
Female Enumerator	0.01	0.00	0.03
	(0.01)	(0.02)	(0.02)
Moderate to severe anxiety			
Female Enumerator	0.00	0.00	-0.00
	(0.01)	(0.01)	(0.02)
Moderate to severe anxiety and/or depression			
Female Enumerator	0.01	-0.00	0.01
	(0.01)	(0.02)	(0.02)

Notes: (1) Standard errors in parentheses; (2) The dependent variables are: standard normal measure of beliefs in norms of masculinity based on responses to a series of questions in panel 1, dummy variable which takes value 1 if PHQ score is greater than 9 in panel 2, dummy variable which takes value 1 if GAD score is greater than 9 in panel 3, and dummy variable which takes value 1 if PHQ or GAD score is greater than 9 in panel 4; (3) All regressions presented here use the fully specified model with baseline controls (respondent's gender, age, caste, household size, and asset index) and municipality dummies; (4) * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Appendix 3: 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 a certified mental health counselor? (*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 scores were standardized by subtracting the sample mean from each participant's score 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 counselor 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 counselor:**
  - **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 counselor; Any counselor*)
  - **Variable construction**: This is a dummy variable which is equal to 1 if the participant responds to the above question with "Same-sex counselor".
- **Preference for a same-sex group counseling:**
  - **Survey questions used:** If you were in a group counseling session with a trained mental health counselor, would you prefer the group to be formed of a "same-gender" group or a "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 counselor:**
  - **Survey questions used:** Suppose you were experiencing serious emotional distress and decided to attend a counseling session with a trained mental health counselor. 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 0-50 NPR range.

Baseline Controls

- **Respondent's gender:**

  - **Survey questions used:** We collected basic socio-demographic information of all household members including the 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 the 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 motorbike, (5) cycle, (6) color tv, (7) computer, (8) inverter 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 willpower. (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 it 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 it 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 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 every day (4 points))
    * In the 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 every day (4 points))
    * In the 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 every day (4 points))
    * In the 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 every day (4 points))
    * In the 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 every day (4 points))
    * In the past 2 weeks how often has it been the case that you have been easily annoyed or irritable (Not at all (1 point), Several days (2 points), More than half the days (3 points), Almost every day (4 points))
    * In the 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 every day (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 it 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 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 every day (4 points))
    * In the 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 every day (4 points))
    * In the 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 every day (4 points))
    * In the 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 every day (4 points))

    * In the past 2 weeks how often has it been the case that you have been having poor appetite or overeating (Not at all (1 point), Several days (2 points), More than half the days (3 points), Almost every day (4 points))
    * In the past 2 weeks how often has it been the case that you have 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 every day (4 points))
    * In the 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 every day (4 points))
    * In the 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 every day (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 it 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 the 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 it 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.