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RESEARCH ARTICLE

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Associations between HIV stigma, gender, and depression among people living with HIV in Hyderabad, India

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Abstract

The goal of this study was to explore the association between HIV stigma and depression and whether gender moderated this relationship. The theoretical framework for the study combined an adapted version of Goffman's conceptualization of stigma with gender role theory. We surveyed 150 individuals living with HIV in Hyderabad, India (51 cisgender women, 49 cisgender men, and 50 third gender people) on their experiences with HIV stigma. While third gender people had statistically higher scores for HIV stigma over their cisgender counterparts, the association between each of three different forms of stigma (internalized stigma, perceived stigma, and experienced stigma) on depression was negatively moderated by third gender status. This demonstrates that third gender research participants who experienced certain forms of HIV stigma were less likely to be depressed than cisgender participants. These findings indicate resilience amongst third gender people living with HIV and can be used to better tailor social policies and gender-affirming HIV care programs in south India.

KEYWORDS

depression, HIV, India, South Asia, Stigma

1 | BACKGROUND

Though there have been many advances in recent years in HIV medical treatment (Spinner et al., 2016), HIV continues to be a heavily stigmatized disease (Kempf et al., 2010), particularly in South Asia (Chakrapani et al., 2019). The joint United Nations programme on HIV and AIDS (UNAIDS) estimates that there are 2.35 million (95% confidence interval [CI]: 1.80–3.10) people living with HIV (PLWH) in India, with an adult (15–49 years) HIV prevalence of 0.22% (95% CI: 0.17- 0.29) (National AIDS Control Organization [NACO], 2019; UNAIDS, 2020). The south Indian states of Telangana/Andhra Pradesh have elevated HIV prevalence for the country ranging from 0.49%–0.69%, two to three times that of the national average (NACO, 2019). Given the relatively higher HIV prevalence in these states, Hyderabad, as the current capital of Telangana and the largest city in both states, was selected as the field site for our research.

HIV stigma is a social process referring to shame, negative perceptions, and discrimination of PLWH (Goffman, 1963; Herek, 2002; Scrambler, 2009; Steward et al., 2008). Stigma is a driving force in creating and maintaining health disparities among cisgender women and third gender PLWH in India (Azhar & Vaudrey, 2022; Azhar, Gandham, et al., 2021; Fikree & Pasha, 2004). Stigma has been recognized as a barrier to early detection of HIV, disclosure of HIV status to partners, and accessing health care services in India (Herek, 2002).

PLWH who experience more stigmatizing interactions regarding their illness experience higher levels of psychosocial distress (Hutton et al., 2013; Song & Ingram, 2002). Widely held sentiments about the marginalized status of PLWH create obstacles to the provision of efficient medical care and compassionate psychosocial support (Chesney & Smith, 1999). HIV stigma stems from the infection's association with behaviors such as injection drug use, homosexuality, and sex work, all of which have historically been deemed to be immoral or illicit in South Asian contexts (Azhar et al., 2020; Ghose et al., 2008). HIV stigma often increases pre-existing social prejudice, disproportionately affecting individuals already socially marginalized for other reasons, such as sexual orientation, gender nonconformity, skin color, religion, occupation, or caste (Kang et al., 2005). This heightened marginalization leads to certain populations experiencing multiple layers of stigma, from being associated both with HIV and with other intersectional identities or behaviors that are also stigmatized (Pulerwitz & Bongaarts, 2014).

How HIV stigma operates is shaped by the social construction of the epidemic in different cultures and communities (Thomas et al., 2005). PLWH in India are often blamed for their illness, causing shame, guilt, and social isolation (Mahendra et al., 2007). Stigma is often related to moral judgments about particular identities and fears regarding HIV transmission. HIV stigma impacts retention in medical care (Kinsler et al., 2007) and adherence to antiretroviral medications. Not being connected to care can in turn increase HIV transmission rates, as people who are not virally suppressed have a higher likelihood of transmitting the virus to others (Attia et al., 2009).

Research has identified that PLWH in India are at heightened risk for depression (Chandra et al., 1998; Nyamathi et al., 2011). Chronic depression, stressful events, and trauma can negatively affect HIV disease progression in terms of decreases in CD4 T cell counts, increases in viral load, and greater risk for clinical decline and mortality (Leserman, 2008). Third gender people may also experience long-term psychological distress as a result of HIV stigma (Landolt et al., 2004).

1.1 | Theoretical framework

The theoretical framework that guides the present study integrates an adapted version of Goffman's (1963) conceptualization of stigma with gender role theory (Eagly et al., 2000; Feld & Radin, 1982; Steward et al., 2008). Stigma refers to the devalued status that society attributes to a condition on the basis of what is considered difference or deviance, resulting in a spoiled identity (Goffman, 1963). Stigmatized individuals may view themselves or may be viewed by others as undesirable (Mahajan et al., 2008).

Stigma is a social process, characterized by exclusion, rejection, blame or devaluation, and resulting from an experience of social judgment (Scrambler, 2009). Through the creation of social hierarchies with demarcated status levels, stigma defines roles within social relationships. Research suggests that stigma strengthens and reproduces existing inequalities of class, race, gender, and sexuality (Parker & Aggleton, 2003), both directly through mechanisms of discrimination and indirectly via threats to personal and social identity (Major & O'Brien, 2005). In addition, stigma can have a dramatic effect on various life outcomes, including psychosocial development, income, housing, criminal involvement, education, and life span (Link & Phelan, 2001). While Goffman's conceptualization has been adapted in multiple ways to address the unique context of HIV stigma (Herek, 2007; Nyamathi et al., 2011; Ogden & Nyblade, 2005; Parker & Aggelton, 2003; Scrambler, 2009), the conceptual model and measures that we employ in this study focus on three dimensions of HIV stigma: (1) internalized stigma, (2) perceived stigma, and (3) experienced stigma (Zelaya et al., 2008).

Internalized stigma is often referred to as self-stigmatization. This social construct describes how someone feels about themselves and specifically if they feel a sense of shame (Herek, 2007). Internalized stigma can lead to low self-esteem, feelings of worthlessness, and depression, social withdrawal, and the experience of excluding oneself from particular settings due to fear of having one's status revealed. Perceived stigma refers to concerns regarding how a particular condition is viewed by society (Palomar et al., 2013). In the context of HIV, perceived stigma refers to fears regarding public perceptions of transmission or disease that may be associated with anxiety, negative feelings about life, long-term health problems, and perceived side effects of medications. Finally, experienced stigma refers to the experience of prejudice, bias or discrimination as a consequence of being associated with a particular undesirable attribute, disease, group or behavior (Parker & Aggelton, 2003). Experienced stigma is often referred to as discrimination in interpersonal interactions.

Gender role theory (Eagly et al., 2000; Feld & Radin, 1982) also offers a conceptual framework that can be applied to better understand the relationship between HIV and other social processes. To our knowledge, no study to date has applied gender role theory to the experience of HIV stigma in the south Indian context. Gender Role Theory emphasizes how individuals encounter differing expectations and experiences by virtue of their socialization as men and women. Gender roles explain the division of labor within the household and the ascription of varying traits to men and women (Agarwal, 1997). In the social construction of gender roles in India, resources are often unequally distributed among male, female, and third gender people. Women's household and labor bargaining power is influenced by a number of factors, including individual economic assets, access to employment, socioeconomic class/caste position, and social norms regarding women's decision-making capacities, and support from kin, friends, gender-progressive nongovernmental organizations (NGOs), and the state (Agarwal, 1997). Gender roles can specify tasks by gender and occupationally segregate cisgender women and third gender people. In the South Asian context, gender roles prescribe cisgender women to be modest, reserved and the primary caretakers of the home while cisgender men are expected to be independent, outgoing, and the primary breadwinners for the family (Azhar & Gunn, 2021; Azhar et al., 2019). As applied to HIV stigma, these gendered attributes can equate to different experiences of living with HIV. Gender role theory can help explain why cisgender women and third gender people may experience higher degrees of HIV stigma and depression than cisgender men.

1.2 | Study objective

The study objective was to examine the association between HIV stigma (independent variable) and depression (dependent variable) among a sample of PLWH in India, and whether gender moderated this relationship. To date, few studies have examined how HIV stigma and gender intersect to impact the mental health of PLWH in south India. To address this gap in the extant research, the goal of this study was to examine the association between HIV stigma and depression among a sample of PLWH in Hyderabad. We had three major hypotheses.

H1: Third gender people experience the highest scores for both HIV stigma and depression.

H2: Higher levels of HIV stigma are associated with higher levels of depression.

H3: Third gender status positively moderates the relationship between HIV stigma and depression, such that third gender people would experience a stronger association between HIV stigma and depression than cisgender people.

1.3 | Methods

The study population was defined as PLWH. The analytic sample was defined as cisgender women, cisgender men, and third gender people between the ages of 18 and 50 living with HIV in Hyderabad, India. Inclusion criteria for the study were: (1) self-report as being HIV-positive, (2) resident of Hyderabad, India; (3) proficient in speaking Hindi/Urdu or Telugu; and (4) between the ages of 18 and 50. The analytic sample consisted of 150 individuals living with HIV in Hyderabad: 51 cisgender women, 49 cisgender men, and 50 third gender people.

1.4 | Ethical review

Institutional Review Board (IRB) approval was obtained from the University of Chicago in September 2015, from the SHARE India Ethics Committee in Hyderabad/Secunderabad, India in November 2015, and from Fordham University in November 2018. Surveys were collected between December 2015 and June 2016.

1.5 | Recruitment and data collection

Purposive and snowball sampling techniques were utilized to recruit study participants. For purposive sampling, participants were recruited through existing collaborations with local NGOs serving individuals living with HIV in Hyderabad. Over the summer of 2014, letters of support were obtained from four NGOs in Hyderabad with which we partnered for data collection. A local research assistant posted recruitment flyers in Hindi and Telugu at the collaborating organizations: Avagaahana, HOPES+, NHP+, and Calvary Counseling Society. Our research team then regularly visited each of the four organizations to recruit and survey participants.

To include those who are not currently linked to social service organizations, we additionally utilized snowball sampling. Snowball sampling has been heavily utilized in disease intervention in public health (Magnani et al., 2005). This sampling technique is utilized to elicit "hidden" or "hard to reach" populations where no sampling frame exists or where acknowledgment of membership in the group could have negative social consequences (Atkinson & Flint, 2001; Goodman, 1961). For snowball sampling, we conducted online advertising of the study on social media and offered participants the option of recruiting individuals in their social and sexual networks. By taking advantage of the social networks of identified respondents (Thompson, 1997; Vogt, 1999), we hoped to ensure greater variance in the sample than simply recruited from partner NGOs.

1.6 | Language of surveys

Surveys were conducted in both Hindi and Telugu. To ensure translation accuracy and internal consistency, all relevant documents (consent forms and surveys) were translated both forwards and backwards from English to both Hindi and Telugu. A local research assistant conducted Telugu translations, and a local translator conducted Hindi translations. Certificates of translation were produced for the University of Chicago University IRB and the

ethics committee at Share India. The principal investigator conducted surveys in Hindi/Urdu while a research assistant conducted surveys in Telugu. Written, informed consent was obtained from all participants before data collection and were stored in a locked filing cabinet at Share India. Copies of informed consent forms will be retained by our partner research organization in Hyderabad for a period of 7 years following data collection, as approved by the IRB.

1.7 | Incentives

All participants who completed a 90-min survey were compensated 200 Rupees, equivalent to slightly less than $4 USD at the time of data collection. This amount was deemed fair after consulting with local staff members at NGOs, who indicated that this is a typical sum for research participants in Hyderabad. Individuals who were initially recruited from the four collaborating organizations were asked to share information pertaining to the study to eligible peers and received an additional incentive for referrals. If a participant assisted in recruiting other individuals through snowball sampling, the recruiter received an additional incentive of 100 Rupees per completed referral.

1.8 | Measures

1.8.1 | Independent variable: HIV stigma

The scale used was Zelaya et al.'s (2008) measure of HIV stigma, which has previously been validated in the south Indian context with PLWH. The measure contains three main theoretical domains: (1) internalized stigma, referring to experiences of shame, blame, and judgment, (2) perceived stigma, referring to fears regarding public perceptions of transmission and disease, and (3) experienced stigma, referring to experiences of social exclusion, marginalization, and rejection. Using a 4-point Likert scale, participants were asked to respond to statements in each domain of the scale, where 1 = strongly disagree and 4 = strongly agree. The internalized stigma domain contained eight items. A sample question from the internalized stigma domain was: "When I think about my HIV infection, I feel disgusting." The Cronbach's α for the Internalized Stigma scale in our sample was 0.937. The adapted version of the perceived stigma scale contained three items. A sample question from this domain was: "I feel that if I disclosed my HIV/AIDS status to some people they would think that I am cursed." The experienced stigma scale also contained eight items. The Cronbach's α for this scale in our sample was 0.968. A sample question from the experienced stigma domain was: "People I know have told me that I have HIV/AIDS because I have participated in illicit and immoral activities." The Cronbach's α for this scale in our sample was 0.856.

1.8.2 | Dependent variable: Depression symptoms

Depression symptoms were assessed using the Center for Epidemiological Studies-Depression Scale-Revised (CESD-R) (Eaton et al., 2004). The CESD-R is a screening test for depression symptoms, defined by the American Psychiatric Association's Diagnostic and Statistical Manual (DSM-5) for Major Depressive Disorder (American Psychiatric Association, 2013). The measure involves 20 statements to which participants are asked to respond. For example, the first statement reads: "Last week my appetite was poor." Respondents are asked to indicate how frequently they have felt this way in the past week by choosing from the following five options: (1) Not at all or less than 1 day (score = 1), (2) 1–2 days (score = 2), (3) 3–4 days (score = 3), (4) 5–7 days (score = 4), and (5) nearly every day for 2 weeks (score = 5). A cumulative CESD-R score of 16 or above indicates risk for clinical depression (Safren et al., 2009) with a

maximum score on the scale being 60 (Boyd et al., 1982). The CESD-R has been validated in research conducted in South Asia (Chokkanathan & Mohanty, 2013; Safren et al., 2009) and has been found to be reliable (Cronbach's $\alpha = 0.86$) among PLWH in India (Zelaya et al., 2008). The Cronbach's α for the CESD-R in our sample was 0.961.

1.8.3 | Moderating variable: Third gender status

Gender identity was assessed in this study as a dichotomous variable: either being third gender or not being third gender. While gender-nonconforming people in India may also identify as hijra, khwaja sira, aravani, kothi, khusra, zenana and a number of other sexual, and gender minority identities, for the purposes of simplicity, we used the nomenclature of "third gender" to be inclusive of all these identities. While this nomenclature may hide the variation within the third gender label, we do not find this to be any different than the masking of heterogeneity experienced within the label of "transgender," "cisgender man," or "cisgender woman."

1.8.4 | Covariate: Monthly income

Income was self-reported by participants and measured in Rupees per month. Because monthly income had an outlier of one-third gender person who earned 60,000 rupees/month, the distribution was skewed non-normally. As such, we transformed the income variable by taking its log to normalize the distribution.

1.8.5 | Covariate: Sex work

Sex work was measured as a dichotomous variable where participants who had ever engaged in sex work in their lives were coded as 1 and those who had never engaged in sex work in their lives were coded as 0.

1.8.6 | Potential confounding variables: Age

Age was measured in years and treated as a continuous variable.

1.8.7 | Potential confounding variables: CD4 count

A CD4 count is a test that measures the number of CD4 cells in the blood sample. Also known as T-cells, CD4 cells are white blood cells that are responsible for fighting infection and offer a snapshot into the functioning of the immune system. CD4 counts between 500 and 1500 copies/ml are considered normal. CD4 counts under 200 copies/ml are considered indicative of high risk for opportunistic infections and AIDS (Hunt et al., 2003). CD4 counts in the study were based on the client's self-report of their most recent bloodwork and had not been confirmed with independent lab work by the investigators.

1.8.8 | Potential confounding variables: Caste

To capture caste variation in India, a number of castes specific to the states of Telangana and Andhra Pradesh, were included as survey options. Following British colonialism, a system of scheduled castes (SC) and tribes was created

in India that has continued to remain in place. Dalits (lowest caste members), adivasis (tribal groups), and other minoritized groups like Muslims, are classified under the rubrics of "scheduled castes" (SC), "scheduled tribes" (ST), or "other backward classes" (OBC), all formal designations within the contemporary bureaucracy of the Central Government of India and operationalized at the state level. Caste was treated as a dichotomous variable in our analysis in terms of whether or not the respondent indicated that they were a member of any SC, ST, or OBC.

1.8.9 | Potential confounding variables: Education

Education was measured as a dichotomous variable with individuals with less than a secondary level of education (up to approximately 16 years of age) being considered the reference group.

1.8.10 | Potential confounding variables: Sexual orientation

In data analyses, sexual orientation was treated as a dichotomous variable, namely heterosexual/straight, or not heterosexual/straight.

1.9 | Data analysis

The distributions of all independent and dependent variables were examined to identify non-normal distributions. All categorical variables were analyzed as dummy variables where the presence of the factor was coded as 1 and the absence of the factor was coded as 0. Missing data would have been handled by listwise deletion where any individual in the data set was deleted from analysis if there was any missing data for any variable in the analysis. However, there was no missing data for the variables we examined in this analysis, so no respondents were removed from the final data set. All data were analyzed in the statistical analysis program, SPSS 28 (IBM Corp, 2019).

As indicated in Table 1, descriptive statistics were assessed across the three gender groups. The sizes of the three gender groups were planned to be roughly the same size to avoid confounding the effect of the independent variables through unequal sample sizes (Jaccard, 1998). The final sample included an unintended slight variation, with 51 cisgender women, 50 third gender people, and 49 cisgender men.

Analysis of variance (ANOVA) tests were conducted to determine whether statistically significant differences existed between sociodemographic variables across the three gender groups. If the ANOVA test was significant, then additional significance testing were conducted using Tukey's Honest Significant Difference test to note where the statistically significant differences specifically occurred across the three gender groups. Hypothesis testing was used to explore associations between variables, as outlined in the three, previously stated hypotheses.

To calculate associations between HIV stigma (Zelaya et al., 2008) on depression, multiple linear regression models were run for each of the three forms of HIV stigma. Given that these scales were highly correlated, we did not want to include multiple scales into one analysis and therefore treated each of the forms of HIV stigma as unique independent variables. Bivariate correlations were tested between depression (dependent variable) and each of the independent variables (internalized stigma, perceived stigma, experienced stigma) and socio-demographic characteristics. All variables that had statistically significant associations with depression at the $p < 0.10$ level, or which had been shown in previous research to be significantly associated with the outcomes of interest, were included in final regression models. Interaction effects were then tested, using third gender status as a moderator. To further test the interaction effects, we conducted simple slopes analysis for moderation for each form of HIV stigma and plotted the results (Robinson et al., 2013). Given that third gender status was treated as a

TABLE 1 Descriptive statistics of people living with HIV in Hyderabad, India

	Third Gender People (*n* = 50)	Cisgender Women (*n* = 51)	Cisgender Men (*n* = 49)	Total (*n* = 150)
Age—mean (SD)				
	36.04 (7.60)	37.25 (7.67)	40.88 (6.85)	38.03 (7.62)
Monthly income—mean (SD)				
	9558 (8508)	6776 (4121)	7939 (3605)	8083 (5917)
CD4 count—mean (SD)				
	454 (188)	432 (299)	381 (7)	447 (258)
Caste—*n* (%)				
Brahmin	1 (2)	2 (4)	2 (4)	5 (3)
Other forward castes (e.g., Vaishya, Komati, Kamma, Kapu, and Reddy)	8 (16)	10 (20)	9 (18)	27 (18)
Member of any SC/ST	42 (84)	38 (75)	38 (78)	118 (79)
Scheduled Caste	14 (28)	14 (27)	16 (33)	43 (29)
Scheduled Tribe/Adivasi	1 (2)	0 (0)	1 (2)	2 (1)
Backward Class—A	10 (20)	1 (2)	5 (10)	16 (11)
Backward Class—B	7 (14)	13 (25)	8 (16)	28 (19)
Backward Class—C (Christian converts)	1 (2)	1 (2)	1 (2)	2 (1)
Backward Class—D	9 (18)	8 (16)	1 (2)	23 (15)
Backward Class—E	0 (0)	0 (0)	6 (12)	2 (1)
Religion *n* (%)				
Hindu	47 (94)	39 (77)	41 (84)	127 (85)
Muslim	2 (4)	8 (16)	2 (4)	12 (8)
Christian	1 (2)	4 (8)	6 (12)	11 (7)
Education—*n* (%)				
No Formal	8 (16)	17 (51)	14 (29)	39 (26)
Primary	4 (8)	7 (14)	9 (18)	20 (13)
Secondary	16 (32)	18 (35)	15 (31)	49 (33)
Intermediate	15 (30)	7 (14)	8 (16)	30 (20)
Bachelor's degree	4 (8)	1 (2)	3 (6)	8 (5)
Graduate degree	3 (6)	1 (2)	0 (0)	4 (3)
Native language—*n* (%)				
Hindi	1 (2)	4 (8)	5 (11)	5 (3)
Urdu	2 (4)	4 (8)	1 (2)	6 (4)
Telugu	47 (94)	43 (87)	43 (87)	133 (89)

TABLE 1 (Continued)

	Third Gender People (*n* = 50)	Cisgender Women (*n* = 51)	Cisgender Men (*n* = 49)	Total (*n* = 150)
Sexual orientation—*n* (%)				
Heterosexual/straight	0 (0)	51 (100)	47 (96)	96 (64)
Homosexual/gay	33 (66)	0 (0)	4 (8)	35 (23)
Bisexual	17 (34)	0 (0)	0 (0)	17 (11)
Sex Work—*n* (%)	31 (62)	0 (0)	0 (0)	31 (21)
HIV stigma scores—mean (SD)				
Internalized stigma	14.68 (6.44)	15.64 (9.51)	13.67 (8.26)	15.46 (18.89)
Perceived stigma	8.66 (3.21)	8.35 (4.03)	7.98 (4.11)	8.33 (3.79)
Experienced stigma	19.38 (8.33)	20.59 (10.33)	21.28 (12.93)	20.40 (10.59)
CES-D depression scores—mean (SD)				
	31.44 (14.07)	33.12 (15.76)	29.82 (17.75)	31.48 (15.87)

Abbreviations: CES-D, Center for Epidemiological Studies-Depression; SC, scheduled castes; SD, standard deviation; ST, scheduled tribes.

dichotomous variable, simple slopes with values of 0 and 1 were used. Given the relatively small sample size of the study, a parsimonious model was pursued.

2 | RESULTS

As indicated in Table 1, the average age of participants was 38.03 years (SD = 7.62); participants had an average self-reported CD4 count of 446.74 (SD = 258). The bulk of the sample (79%) hailed from SC and tribes, indicating a marginalized socioeconomic status in the South Asian context. The majority of participants were Hindu (85%) and spoke Telugu as their native language (89%). The average monthly income was 8083 Rupees (SD = 5917).

ANOVA tests revealed statistically significant differences across gender for the variables of age, income, education, sexual orientation, and sex work. In terms of age, cisgender men in the sample were significantly older than cisgender women ($p = 0.041$) and third gender people ($p = 0.004$), though the largest difference in means across all three groups was not more than 4 years. In terms of monthly income, third gender people in the sample earned significantly more income than cisgender women ($p = 0.047$), but did not earn significantly more money than cisgender men ($p = 0.355$). In terms of education, third gender people were significantly more likely to have completed a secondary level of education than both cisgender men ($p = 0.002$) and cisgender women ($p = 0.006$). In terms of sexual orientation, third gender people were less likely to identify as heterosexual (0%) than cisgender women (100%, $p < 0.001$) and men (96%, $p < 0.001$). In terms of sex work, third gender participants were more likely to engage in sex work (62%) than cisgender women (0%; $p < 0.001$) and cisgender men (0%; $p < 0.001$).

H1: Third gender people experience the highest scores for HIV stigma and depression by gender. As we had expected, third gender people reported statistically significantly higher scores for internalized stigma ($p = 0.006$), perceived stigma ($p < 0.001$), and experienced stigma ($p = 0.013$) than cisgender people. On average, PLWH in our sample met the center for epidemiological studies depression scale-revised (CESD-R) criteria for depression symptoms. As indicated in Table 1, cisgender women demonstrated higher depression scores on the CESD-R

although these differences were not statistically significantly higher than third gender people ($p = 0.336$) or cisgender men ($p = 0.911$).

H2: All three forms of HIV stigma (internalized, perceived, experienced) are independently associated with depression. As predicted, all three forms of HIV stigma were independently associated with depression. Table 2 presents findings for the adjusted association between third gender status ($\beta = 0.597$; $p < 0.001$), internalized stigma ($\beta = 0.597$; $p = 0.006$), and depression. Table 3 presents findings for the adjusted association between third gender status ($\beta = 0.850$; $p < 0.001$); perceived stigma ($\beta = 0.362$; $p < 0.001$) and depression. And Table 4 presents findings for the adjusted association between third gender status ($\beta = 0.614$; $p = 0.004$); experienced stigma ($\beta = 0.264$; $p < 0.001$); and depression.

H3: Third gender status positively moderates the relationship between all three forms of HIV stigma and depression, such that third gender people experience a stronger association between HIV stigma and depression than cisgender people. All three interaction terms for each of the three forms of HIV stigma and third gender status

TABLE 2 Association between internalized stigma and depression

Variable	Unstandardized coefficient (*b*)	Standardized coefficient (*β*)	*p* Value
Constant	36.171	_	0.094
Third gender	20.045	0.597	**0.006**
Internalized gtigma	0.869	0.451	**<0.001**
Internalized stigma *third gender	−0.952	−0.532	**0.001**
Age	0.198	0.095	0.218
Log Income	−2.867	−0.095	0.223
Sex Work Ever	−7.729	−0.198	.072
R	0.435		
R^2	0.189		
Adjusted R^2	0.155		

Note: The bold values indicate those values which were statistically significant.

TABLE 3 Association between perceived stigma and depression

Variable	Unstandardized coefficient (*b*)	Standardized coefficient (*β*)	*p* Value
Constant	44.439	_	0.043
Third gender	28.516	0.850	**<0.001**
Perceived stigma	1.517	0.362	**<0.001**
Perceived stigma *third gender	−2.828	−0.800	**<0.001**
Age	0.222	0.164	0.178
Log income	−3.860	−0.128	0.110
Sex work ever	−5.520	−0.141	0.226
R	0.385		
R^2	0.149		
Adjusted R^2	0.113		

Note: The bold values indicate those values which were statistically significant.

TABLE 4 Association between experienced stigma and depression

Variable	Unstandardized Coefficient (*b*)	Standardized coefficient (*β*)	*p* Value
Constant	43.318	_	0.057
Third gender	20.723	0.614	**0.004**
Experienced stigma	0.598	0.364	**<0.001**
Experienced stigma * third gender	−0.749	−0.485	**0.021**
Age	0.229	0.109	0.181
Log income	−3.73	−0.123	0.138
Sex work ever	−7.132	−0.181	0.127
R	0.311		
R^2	0.097		
Adjusted R^2	0.058		

Note: The bold values indicate those values which were statistically significant.

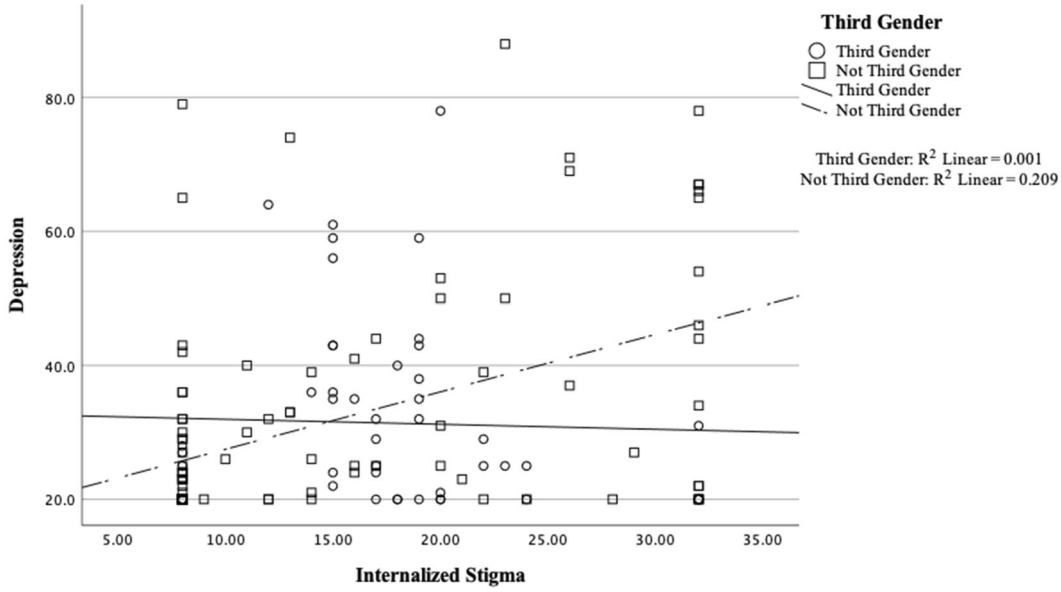

FIGURE 1 Third gender as moderator to internalized stigma's effect on depression

were statistically significantly associated with depression (internalized stigma [$\beta = -0.532$, $p = 0.001$]; perceived stigma [$\beta = -0.800$, $p < 0.001$]; and experienced stigma [$\beta = -0.800$, $p = 0.001$]). However, contrary to our expectations that the direction of the moderation of third gender status would be positive, it was in fact *negative* for all three HIV stigma scales. Simple slopes analyses, as depicted in Figures 1–3, demonstrate that the slope of the association between depression and each of the three forms of HIV stigma (internalized, perceived, and experienced) was significantly lower for third gender participants. Given that third gender status was coded as 1 and not being third gender was coded as 0, a negative interaction term indicates that the association between internalized stigma and depression was *less* for third gender participants as compared to cisgender participants.

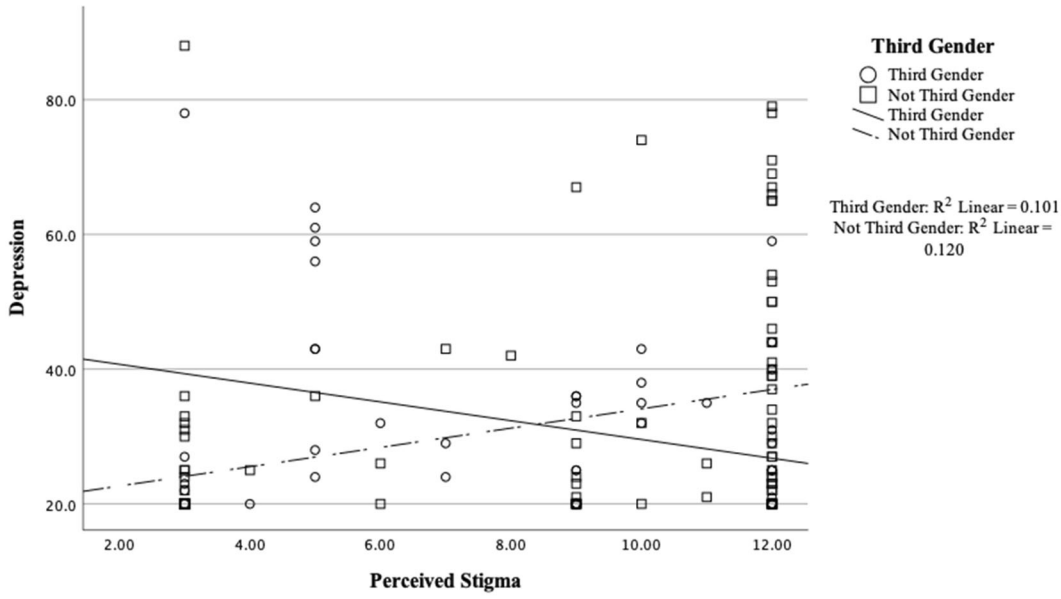

FIGURE 2 Third gender as moderator to perceived stigma's effect on depression

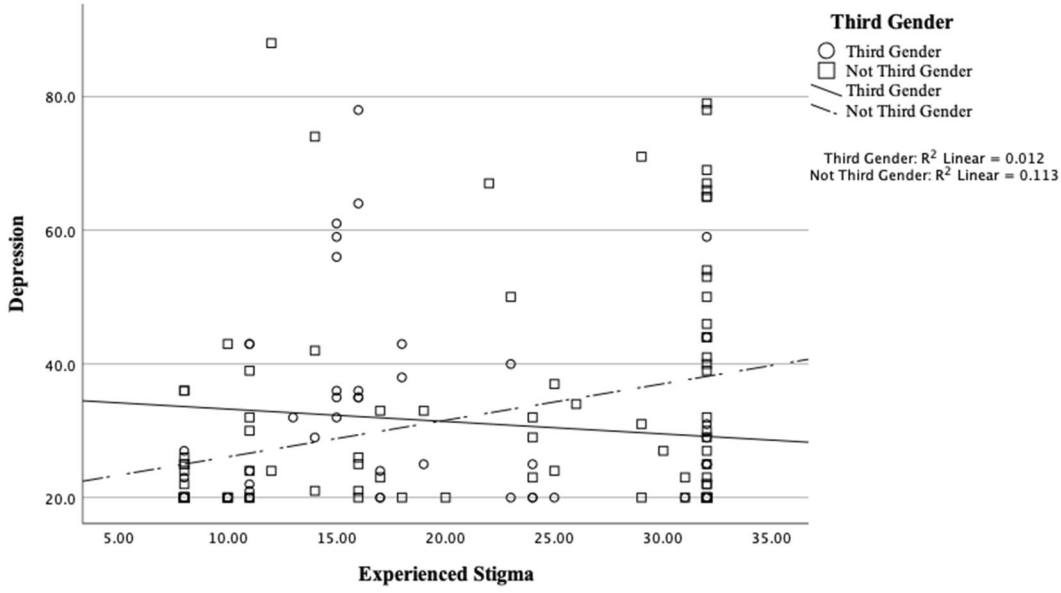

FIGURE 3 Third gender as moderator to experienced stigma's effect on depression

3 | DISCUSSION

The goal of this study was to explore the association between HIV stigma and depression among a sample of PLWH in south India, and whether third gender status moderated this relationship. Our main findings are as follows. (1) Third gender PLWH in Hyderabad experience statistically significantly higher scores for HIV stigma than

cisgender men and women. (2) All three forms of HIV stigma (internalized, perceived, and experienced) are independently associated with depression. (3) Even when experiencing statistically significantly higher scores for HIV stigma than their cisgender counterparts, the effect of HIV stigma on depression symptoms was negatively moderated by third gender status.

In regard to our first finding, previous research has validated the notion that third gender, transgender or gender-nonconforming people experience more stigma than their cisgender counterparts (Cook et al., 2013; Hughto et al., 2015). Antitrans stigma refers to the ways in which cultural ideologies that strictly reinforce the male/female gender binary systemically disadvantage people who are not cisgender (King et al., 2020). For third gender people, these findings are in alignment with what we had expected from our application of gender role theory. However, for cisgender women, in contrast to what we had anticipated regarding the stricter gender roles assumed of cisgender women, they did not in fact have statistically significantly higher HIV stigma or depression scores compared to cisgender men.

In regard to our second main finding, we found that all forms of HIV stigma (internalized stigma, perceived stigma, and experienced stigma) are strongly associated with depression, as has been demonstrated by other recent HIV research (Earnshaw et al., 2020; MacLean & Wetherall, 2021; Rao et al., 2012). Further, longitudinal research has indicated that although internalized stigma and depression symptoms are strongly associated with one another among PLWH in India, both factors dropped significantly over time (Steward et al., 2011). This may suggest that while HIV stigma may limit disclosure, it does not inevitably lead to psychological maladjustment (Steward et al., 2011).

In regard to our last main finding, contrary to our expectations, the effect of HIV stigma on depression was reduced for third gender people, across all three domains of HIV stigma, as compared to cisgender people, indicating a protective effect of third gender status on the association between HIV stigma and depression. This finding may be indicative of the fact that HIV stigma may not translate into depression for third gender people in India because of the experience this community already has with dealing with both HIV and gender-nonconformity stigma, as compared to cisgender communities. This protective effect may ultimately be a result of the ways the community has collectively built resilience in reaction to situations that are often challenging for mental health. Previous research has shown that transgender youth of color have demonstrated resilience, despite experiencing prejudice, through redefining racial/ethnic, and gender identities, self-advocacy within systems, and finding one's place within queer spaces (Singh, 2013). The development of community, namely engagement with others with similar sexual or gender identities, may be a key feature of the development of such resilience within queer communities of color (Stone et al., 2020; Testa et al., 2014).

Another possible explanation for this finding is the fact that third gender people in our study reported higher incomes than cisgender women (although the same income as cisgender men) and were also more educated than their cisgender counterparts. Aspects of the socioeconomic backgrounds of third gender participants may have served as protective factors against experiencing depression. The fact that our third gender participants generally earned higher incomes and were more educated than cisgender participants may also be the result of selection bias in our sample from having recruited participants from well-resourced, community-based organizations serving third gender people in Hyderabad.

3.1 | Limitations

The most significant limitation to this study is the fact that the study design utilizes cross-sectional data. Therefore, statements can only be made about associations, not causal relationships, between HIV stigma and depression. There are also limitations to the generalizability of the findings, given the relatively small sample size of 150. Because this was not a longitudinal study, we were not able to assess changes in the experiences of stigma among individuals over time to better understand the potentially causal relationship between HIV stigma and depression.

Future longitudinal and qualitative research is needed to more fully understand the complex relationships between HIV stigma, gender and depression.

Survey responses were also subject to social desirability bias, where respondents answer questions or behave in a way that will portray them favorably to the researcher. This may cause respondents to either exaggerate or minimize negative experiences of living with HIV, depending on their expectations for what the researcher desires to hear and in expectation of judgment or shame during the interview. Because the CD4 count was self-reported and not independently verified by lab tests, the validity of these reports may also be influenced by recall bias.

Given the diversity within South Asian culture, there are problems regarding generalizability of these findings outside of south India, or perhaps even outside of the city of Hyderabad. The context for third gender PLWH in India is not likely to be comparable to other sexual/gender minority populations outside of the South Asian subcontinent, so global generalizations regarding gender-nonconforming PLWH are hard to make. Given the diversity of language, culture, and gender norms in South Asia, the context for PLWH in Hyderabad may also not be generalizable to that of PLWH in other parts of India or outside of the states of Telangana/Andhra Pradesh.

In terms of the sampling method for the study, using an exclusively organizational recruiting method entails a strong source of sampling bias (Watters & Biernacki, 1989). PLWH who are recruited from social service organizations are by definition connected to resources, so this may be eschewing the very population that we are seeking to find—those individuals who are *so* stigmatized by their HIV status that they are avoiding medical treatment altogether. Though we additionally utilized snowball sampling and online recruiting to identify other respondents, this method may also be considered biased because it is not random and selects individuals on the basis of social networks, who are again more likely to be more open regarding their HIV status (Browne, 2005). Another issue with snowball sampling is whether the phenomenon being studied actually results in the formation of social networks itself. If the phenomenon is private, as is HIV stigma, and snowball sampling is network dependent, we could expect to encounter problems in capturing the actual variance of the population. Additionally, the verification of eligibility and the accounts of respondents may be compromised as the sources used to initiate referral chains become more distant (Bernacki & Waldorf, 1981).

4 | IMPLICATIONS FOR SOCIAL POLICY AND PRACTICE

By understanding the ways that third gender PLWH cope with HIV stigma to maintain psychological well-being, we can better tailor social interventions and health policies to better suit the needs of this population. Knowing that many third gender people in our sample were well connected to HIV services and perhaps therefore less impacted by depression, we may seek to train these individuals as patient navigators in assisting their peers to access services in the spectrum of HIV care. Local and central government agencies, such as the Telangana State AIDS Control Society and the NACO, as well as local and international development organizations, can benefit from this knowledge of community needs in the planning of future HIV prevention and care programs.

Our findings also underscore that greater attention needs to be paid to fully engage PLWH in mental health support. Social responses to HIV, particularly in response to HIV stigma, may serve to assert and reproduce normativity (Goffman, 1963; Parker & Aggleton, 2003; Van Hollen, 2010). Gendered considerations regarding health care should therefore be taken into consideration in the planning of HIV policies and programs in south India. For example, NGOs may need to more fully engage family and community members to ensure that HIV stigma is not reproduced in the homes and communities of PLWH through both intentional and unintentional actions.

Cisgender women living with HIV in Hyderabad may require greater outreach to ensure their inclusion in the receipt of mental health care. This might entail the provision of mental health services at home, where cisgender women may feel less stigmatized, or the provision of group or social support activities that may feel less stigmatizing than one-on-one counseling sessions in the formal office settings of NGOs. To better counteract the social impacts of depression, public health policy makers, and clinical practitioners should utilize a multidisciplinary

approach in their address of mental health. Because alienation, shame, and community isolation are often the immediate causes for depression (Scheff, 2001), community-level interventions that emphasize social support may be the most effective in the south Indian context.

HIV stigma reduction interventions and social policies should assert the rights of gender-nonconforming people and create greater avenues for the access of supportive care, particularly for members of SC and tribes. International development organizations and queer advocacy groups may provide platforms for the assertion of these human rights. Some efficacious strategies to reduce stigma against PLWH have included cognitive behavioral interventions with PLWH, the involvement of community members in psychoeducation around attitudes regarding HIV, and structural changes in public policy (Cook et al., 2013). Research has also found that increased social support is associated with decreased depressive symptomatology among PLWH (Rao et al., 2012).

Given the reluctance of many people in South Asia to access mental health counseling or therapy services and the greater expense of time/resources that is required by individual level interventions, community, or structural level interventions may be more culturally appropriate and economical choices in the South Asian context. Structural level interventions may call for a restructuring of the funding priorities of public health entities to ensure the provision of public programs offering mental health services and social support to PLWH. Structural level interventions may include mass media campaigns that serve to normalize the experiences of PLWH and reduce negative stereotypes about the communities most impacted by the epidemic. As evidenced by our findings, third gender PLWH have been resilient to the impacts of multiple forms of HIV stigma on their mental health. Understanding this resilience and operationalizing it within social interventions would be an important step forward in outreaching those members of the third gender community that have previously been eclipsed by HIV prevention and care efforts.

5 | CONCLUSION

Our research highlights the strong relationship between HIV stigma and depression among a sample of PLWH in south India. While third gender people experience a statistically significantly higher degree of HIV stigma than their cisgender counterparts, the effect of HIV stigma on depression was negatively moderated by third gender status. These findings indicate resilience amongst third gender communities against experienced the compounding effects of HIV stigma on depression and can be used to better tailor social policies and gender-affirming HIV care programs in south India.

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DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

PEER REVIEW

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