

Influence of Sexual Stigma on HIV Risk among MSM in China

Unpacking the Influence of Sexual Stigma on HIV Risk:

Results from a Prospective Study of Men Who Have Sex with Men in Beijing, China

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RUNNING HEAD: Influence of Sexual Stigma on HIV Risk among MSM in China

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Abstract

Objective: We examined the mediating roles of coping, depression, anxiety, and encountering difficult sexual situations in explaining the association between stigma against men who have sex with men (MSM) and HIV risk.

Methods: We conducted path analyses using longitudinal data collected from 493 Chinese MSM in Beijing at baseline, 6 months, and 12 months from 2011 to 2013.

Results: MSM stigma, specifically anticipations of stigma, had a marginally significant, protective total effect on unprotected anal intercourse at 12 months. This overall association, however, was the byproduct of five significant, indirect associations (three risk enhancing, two protective) that routed through coping, anxiety, and difficult sexual situations. Of note, heavier use of avoidant coping principally had a protective effect on risk behavior by decreasing difficult sexual situations.

Conclusions: Interventions to reduce avoidant coping would be an important tool for improving the emotional wellbeing of Chinese MSM. Such interventions, however, must be paired with biomedical or behavioral HIV prevention strategies to ensure that their benefit is not undermined by unintended increased HIV transmission risk in response to reduced social isolation among MSM.

Keywords: HIV risk, stigma, coping, mental health, men who have sex with men, China

INTRODUCTION

Sexual transmission is a driving force behind the HIV epidemic in China, accounting for almost two thirds (63.9%) of the estimated 780,000 people living with HIV.¹ Men who have sex with men (MSM) may be contributing to the epidemic's rapid acceleration in China. New infections attributable to sexual contact between men more than doubled from 12.2% in 2007 to 29.4% in 2011.^{1,2} A meta-analysis of 91 studies found that national HIV prevalence among Chinese MSM increased from 1.4% in 2001 to 5.3% in 2009.³ Unprotected anal intercourse is highly prevalent among Chinese MSM. Prior studies found that 49% and 57% of men in Beijing and Shanghai, respectively, reported unprotected anal intercourse during the prior six months.^{4,5}

Homosexuality in China, though legal, is highly stigmatized because it is considered a rejection of China's cultural tradition to marry and have children.⁶⁻⁸ Experiences of stigma and discrimination based on sexual orientation are prevalent among Chinese MSM.^{6,9-12} A study of MSM in Shanghai found that almost 90% of respondents had heard that gay men are not normal and 75% had pretended that they were not homosexual in order to be accepted.¹¹ Moreover, almost one quarter reported lifetime experiences of discrimination, such as physical violence and losing friends, a job, or housing.

Research has shown that stigma and discrimination against MSM ("MSM stigma," for short) are associated with greater HIV risk behaviors.¹³⁻¹⁹ One study of MSM in China found that men with more frequent lifetime experiences of MSM-focused discrimination were more likely to have unprotected anal intercourse with men, as well as concurrent unprotected sexual activity with both men and women.²⁰ Another study documented an association between lower levels of "public homosexual stigma" (i.e., the general public's negative attitudes, beliefs or reactions toward MSM) and consistent condom use among Chinese MSM.²¹ These findings align with research conducted elsewhere. For example, in empirical work conducted with rural MSM in the United States, perceived discrimination based on homosexuality was associated with risky

Influence of Sexual Stigma on HIV Risk among MSM in China

sexual behaviors.¹⁹ Experiences of homophobia were associated with having unprotected anal intercourse among U.S. Black and Latino MSM.^{14,22,23}

Although studies^{14,19,22} have established the direct relationship between reports of MSM stigma and sexual risk for HIV, little is known about the exact mechanisms by which stigma experiences become linked to sexual risk behaviors. Prior studies in the U.S. identified poor mental health, difficult sexual situations (e.g., sex under the influence of substances), and lack of social support as potential mediators.²²⁻²⁵ However, the generalizability of these findings to MSM in China remains unknown. Also, because the studies used cross-sectional designs, the bases for drawing causal inferences were weak.

Stress and coping theory on stigma conceptualizes stigmatization as a form of stress with which people cope in varied ways.^{26,27} However, little is known about what roles various coping strategies play in the link between MSM stigma and sexual risk behaviors among MSM in China. Homosexuality is a stigmatized condition that can be hidden, a characteristic that leads to efforts to control knowledge about the stigma (what Goffman called a “discreditable stigma”²⁸). Such efforts create particularly complex social interactions for an individual because the stigmatized identity may be known by all, some, or none of the actors in any given situation. In this study, we investigated the mediating roles of coping with MSM stigma, mental health, and encountering difficult sexual situations in explaining the association between MSM stigma and sexual risk among MSM in China (see Figure 1). This study expands in four ways prior work on the effects of MSM stigma on sexual risk behaviors. First, based on research with other stigmatized groups,²⁹⁻³¹ we examined three manifestations of MSM stigma: internalization of negative attitudes (*internalized MSM stigma*), anticipations of discrimination (*anticipated MSM stigma*), and personal experiences of discrimination (*enacted MSM stigma*). Second, we investigated whether and how each stigma manifestation affects sexual risk behaviors because identification of specific stigma mechanisms (mediators) would inform interventions targeting those mechanisms. Third, we examined the effects that stigma coping strategies (i.e.,

avoidance, confrontation, social support) have on mental health, encountering difficult sexual situations, and sexual risk behaviors. Finally, we utilized a longitudinal design to provide a stronger basis for drawing inferences about causation.

METHODS

Participants

As part of the Beijing Men's Health Study, a snowball sample was recruited from June 2011 to September 2012 through referrals from colleagues working in governmental and non-governmental organizations that served the MSM community, as well as referrals from enrolled participants. In addition, peer recruiters approached men in MSM-identified venues such as brothels and public parks. Men were eligible to participate if they were age 18 or older, lived in Beijing, reported ever engaging in same-gender sex, and had not participated in previous phases of the study, which involved qualitative interviews and survey instrument pretesting. Eligible men provided written informed consent and then completed a 45-minute, standardized questionnaire using audio computer-assisted, self-interviewing (ACASI) technology. The participants received 100 yuan (approximately \$15) and were scheduled to return six and 12 months later to complete follow-up surveys that were nearly identical in content to the one completed at baseline. Those who completed 6- and 12-month assessments received 100 yuan after each survey. If they completed all three assessments, they received an additional 50 yuan. The study was approved by the Institutional Review Boards at the University of California, San Francisco and the School of Social Development and Public Policy at Beijing Normal University.

Measures

The survey was initially developed in English, then translated into Chinese script. At least two individuals separately reviewed each item. One made an initial translation and a second verified the accuracy of the translation. Newly developed instruments, such as the

Influence of Sexual Stigma on HIV Risk among MSM in China

stigma measures, were also administered to a small number of individuals in cognitive interviewing to verify that the items were understood as intended.

Demographic characteristics. Respondents were asked about their age, education, marital status, sexual orientation, and Beijing residence status (i.e., having a legal permit to live in the city with a *hukou* card).

MSM stigma. We measured three manifestations of MSM stigma: internalized, anticipated, and enacted. Content for the measures was informed by interview and survey findings from prior work.^{12,32} The design of the instruments, as well as the decision to examine three stigma manifestations, was based on an approach previously used in research on HIV-positive people in India.²⁹ Internalized MSM stigma assessed respondents' own stigmatizing views. This construct was measured using a 15-item scale (e.g., "I look down on gay men"; Cronbach's $\alpha=0.84$; 'InternalStigma'). Anticipated MSM stigma assessed respondents' expectations of discrimination from others. It was measured using an 18-item scale (e.g., "My parents would not talk to me if I told them that I am gay"; Cronbach's $\alpha=0.92$ 'AnticipStigma'). Responses for both stigma measures were provided on a six-point Likert scale (1=strongly disagree, 2=moderately disagree, 3=mildly disagree, 4=mildly agree, 5=moderately agree, 6=strongly agree). Items were averaged to create the internalized and anticipated MSM stigma scale scores. Enacted MSM stigma assessed respondents' lifetime experiences of discrimination. It was measured using an 11-item index that counted the number of different enactments of MSM stigma experienced (e.g., being ostracized by family). Scores on the enacted MSM stigma index ranged from 1 to 6 ('EnactedStigma').

Coping styles. We assessed three types of coping: avoidant, confrontational, and social support. Avoidant and confrontational coping were measured by using items from Button's Identity Management Strategies Scale.³³ The five-item avoidant coping measure assessed respondents' withdrawal from stigmatizing situations (Cronbach's $\alpha=0.86$; 'AvoidantCoping'). The five-item confrontational coping measure assessed the extent to which respondents publicly

acknowledge their MSM behavior or confront anti-MSM sentiments (Cronbach's $\alpha=0.74$). Social support coping was measured with three items assessing the perceived availability of emotional social support specific to the experience of MSM stigma (e.g., "When I feel treated unfairly or discriminated against because of my sexual orientation, there are straight friends I can rely on to be there for me;" Cronbach's $\alpha=0.78$ 'SupportCoping'). Each item from the coping measures was assessed on a six-point Likert response scale ranging from 1 (strongly disagree) to 6 (strongly agree). Items were averaged to form the avoidant, confrontation, and social support coping scale scores.

Psychological distress. We assessed both depression and anxiety. Depression was measured using the 20-item, Center for Epidemiologic Studies Depression Scale (CES-D).³⁴ It asked about the number of days in the previous week respondents experienced each of 20 depressive symptoms (Cronbach's $\alpha=0.84$) using a four-point response set (1=less than one day; 2=1-2 days; 3=3-4 days; 4=5-7 days). Anxiety was measured with the five-item Anxiety subscale of the Brief Symptom Inventory ('Anxiety').³⁵ It asked about the level of discomfort respondents felt about each of six anxious states in the previous week (Cronbach's $\alpha=0.93$) using a five-point response set (0=no discomfort; 1=a little bit of discomfort; 2=moderate discomfort; 3=quite a bit of discomfort; and 4=extreme discomfort). Responses were averaged to create the depression and anxiety scales.

Difficult sexual situations. This variable was measured with a 20-item scale (Diaz et al., 2004).²² It assessed contexts, settings, and situations that made it difficult for respondents to practice safer sex in the past six months (e.g., sex under the influence of substances, sex within interpersonal relations of unequal power) using a four-point response set (1=never; 2=once or twice; 3=a few times; 4=many times). Response scores were averaged to create the difficult sexual situations scale (Cronbach's $\alpha=0.84$; 'DiffSexSit').

Sexual risk for HIV. We defined sexual risk for HIV as having any unprotected anal intercourse with a male partner in the prior three months ('UAI'). This variable was derived from

Influence of Sexual Stigma on HIV Risk among MSM in China

partner-by-partner data on respondents' sexual behavior (up to their five most recent sexual partners). For each partner, respondents were asked about the biological sex of the partner, the number of times they had anal sex with the partner, and the number of times they used male condoms during these sexual acts.

Self-reported HIV serostatus. Respondents were asked to indicate if they had ever tested for HIV. If tested, they were asked for its result or to indicate that they never returned for the result.

Statistical Analysis

The conceptual model implies a combination of seven regression models (Figure 1):

- each baseline stigma coping measure (avoidant, confrontational, social support) regressed onto the set of baseline MSM stigma measures (internalized, enacted, anticipated; three linear models);
- each psychological distress measure assessed at six-month follow-up (depression, anxiety) regressed onto the baseline MSM stigma and stigma coping measures (two linear models);
- difficult sexual situations assessed at 12 month follow-up regressed onto the baseline MSM stigma and stigma coping measures, as well as onto the six-month psychological distress measures (one linear model); and
- the binary sexual risk indicator (i.e., any UAI with any male partner), assessed at 12 month follow-up, regressed onto the baseline MSM stigma and stigma coping measures, the six-month psychological distress measures, and the 12-month difficult sexual situations measure (one logistic model).

Total effects of each MSM stigma measure on UAI were estimated by a single logistic model that included the three stigma measures as *X* variables. Each model included covariates describing respondent age and education level in years, as well as indicators (1 vs. 0) of self identifying as gay, ever having been married, being sure of HIV-seronegativity (versus unsure),

and having a Beijing *hukou* card. A backward elimination procedure dropped effects with a *p*-value >0.20. To accommodate missing values, each model was fit to 10 multiply imputed data sets; parameter estimates were averaged across imputed data sets using Rubin's rules. Direct, indirect, and total effects of each regressor on all 'downstream' variables, with 95% confidence intervals, were estimated by a naïve bootstrap procedure with 2000 bootstrap samples.

RESULTS

Four hundred ninety-three participants completed baseline assessments, of whom 410 (83%) and 416 (84%) returned for 6- and 12-month assessments, respectively. Thirty-eight participants reported being HIV-positive at one or more assessments, only 13 of whom were HIV-positive at baseline. Because this number was not sufficient for stratified analyses and because HIV status might separately affect experiences and perceptions of stigma, we excluded these participants from our analysis. Table 1 reports sample characteristic of the remaining 455 participants. The average age of these participants was 30 years old. Approximately half (49%) had a high school diploma or less. About one quarter (23%) were ever married to a woman. A majority self-identified as gay (70%) or bisexual (24%). Twenty percent reported having a Beijing residence card, *hukou*. Forty-five percent reported having never received HIV testing or being unsure of their HIV serostatus.

Table 2 presents means, standard deviations, and bivariate correlations of all variables considered in the path models. The total effects of internalized and enacted stigma on UAI were nonsignificant, odds ratio [OR]=0.89 (95% confidence interval [CI]: 0.58, 1.36), *p*=0.5804 and OR=1.09 (95% CI: 0.79, 1.51), *p*=0.5894, respectively. In contrast, the total effect of anticipated stigma on UAI was marginally significant, OR=1.35 (95% CI: 0.999, 1.82), *p*=0.0509. To simplify presentation and emphasize the main findings, Figure 2 shows an abbreviated set of path estimates after excluding all nonsignificant direct effects (*p*>0.05) and modeled variables that did not have significant direct or indirect effects on UAI; the complete set of path estimates is provided in the appendix <http://links.lww.com/QAI/A940>. The pathways represent six statistically

Influence of Sexual Stigma on HIV Risk among MSM in China

significant indirect effects of MSM stigma on UAI. Enacted stigma had one statistically significant indirect effect on UAI, via difficult sexual situations, OR=1.12 (95% CI: 1.06, 1.21). Anticipated stigma had five statistically significant indirect effect pathways to UAI, as outlined below, where, '→' represents a positive effect and '⇨' a negative effect (also see the Appendix <http://links.lww.com/QAI/A940>).

- a. AnticipStigma → DiffSexSit → UAI, OR=1.10 (95% CI: 1.05, 1.17),
- b. AnticipStigma → SupportCoping → DiffSexSit → UAI, OR=1.01 (95% CI: 1.001, 1.03),
- c. AnticipStigma → SupportCoping ⇨ Anxiety → DiffSexSit → UAI, OR=0.998 (95% CI: 0.995, 0.999),
- d. AnticipStigma → AvoidantCoping ⇨ DiffSexSit → UAI, OR=0.97 (95% CI: 0.95, 0.99), and
- e. AnticipStigma → AvoidantCoping → Anxiety → DiffSexSit → UAI, OR=1.003 (95% CI: 1.001, 1.007)

Two of these indirect pathways of anticipated stigma on UAI were relatively substantial in magnitude: positive indirect effect *a*, mediated by difficult sexual situations; and negative indirect effect *d*, mediated by avoidant stigma management and difficult sexual situations. The remaining three indirect pathways from anticipated stigma to UAI were relatively small in magnitude.

DISCUSSION

Our longitudinal research identified multiple pathways by which MSM stigma exerts effects on HIV sexual risk among Chinese MSM. Notably, these pathways were primarily tied to anticipated stigma, with a limited role evidenced for enacted stigma and no role for internalized stigma. Because the relationship of anticipated stigma to HIV risk was complex, it bears close scrutiny. Although the total association of anticipated stigma with UAI was marginally significant and positive, this overall relationship was in fact the byproduct of five modeled pathways, mediated by two forms of coping, anxiety, and difficult sexual situations. The pathways elucidate the complex relationships that bind stigma and HIV risk, and highlight why interventions must be carefully tailored. The coping strategy with the strongest—and, interestingly, protective—effect

Influence of Sexual Stigma on HIV Risk among MSM in China

on UAI was avoidance. Men who avoided situations in which they anticipated stigma also encountered fewer difficult sexual situations and opportunities for UAI. But there were consequences. Avoidant coping was also associated with anxiety, which itself was linked to greater risk of difficult sexual situations and UAI (although not to an extent it offsetted the risk-reducing impact of isolating themselves).

A second significant coping mediator of the association between anticipated stigma and HIV risk was social support. Its influence was opposite of avoidant coping, although with weaker effects. Seeking out emotional support was associated with lower anxiety, which was linked to somewhat lower risk of difficult sexual situations and UAI. But this effect was counteracted by the direct association of social support coping with more difficult sexual situations and UAI.

Collectively, the findings highlight a key challenge for stigma-reduction interventions with Chinese MSM. Promoting greater social support coping and less avoidant coping would be beneficial to mental health. Other results from this same study showed that baseline anticipated stigma was linked, via avoidant coping, to anxiety and depression 12 months later.³⁶ Numerous other studies have documented the mental health benefits of having support from family and friends.^{13,29,37-39} Our analyses complicate this understanding by highlighting the differing effects of coping on HIV risk. For Chinese MSM, avoidant coping contributes to social isolation, which may protect against disease transmission. Men who avoid situations for fear of prejudice would also be avoiding other gay men. Prior qualitative research supports this contention.¹² Participants spoke about their fears of what would happen if their attraction to other men was revealed. Those fears led to limited disclosure and elaborate routines to avoid marital pressures or feign interest in women.¹² It is not surprising that these men would have limited opportunities for sex—and, by extension, HIV risk. For UAI to occur, they first need the opportunity to meet other gay men. The recent rise in HIV among Chinese MSM suggests that sexual opportunities are occurring,^{1,2} but anticipated stigma and the use of avoidant coping appear to limit its frequency.

Given these considerations, stigma reduction interventions that promote social support coping and discourage avoidant coping would need ensure that they do not counteract their benefit by opening up the opportunity for more HIV transmission. Preventing this unwanted outcome could be achieved by pairing such interventions with other prevention strategies. For example, an intervention to promote social support coping might also encourage the use of antiretroviral medications (ARVs) for preventive purposes among both HIV-positive (treatment as prevention)^{40,41} and HIV-negative men (pre-exposure prophylaxis, or PrEP).⁴² In fact, the intervention could encourage use of new social support structures to reinforce ARV adherence and engagement with clinical services.⁴³ Similarly, a social support coping intervention might also be paired with behavioral strategies, such as popular opinion leader, to enhance condom use norms.⁴⁴

Our findings are also intriguing for what was not observed. Specifically, there was no association between internalized stigma and HIV risk, and only a limited indirect association between enacted stigma and risk. The latter might simply be a byproduct of anticipated stigma. We previously found that Chinese MSM reported little overt discrimination because, fearing repercussions, they rarely disclosed their sexual orientation.¹² The nonsignificant effect for internalized stigma is more surprising. It stands in contrast to prior findings in other parts of the world.^{45,46} One possible explanation is statistical. Internalized and anticipated stigma were correlated. The models suggest that, if there are effects of internalized stigma, they are not independent of the effects of anticipated stigma. A second explanation involves cultural norms. Internalized stigma concerns are most salient for Chinese MSM with more of an individualist orientation, whereas anticipated stigma is most salient for those with more of a collectivist orientation.²¹ Chinese culture on the whole places an emphasis on duty to parents (i.e., collectivist orientation).^{21,47} This norm was evidenced in the fears men expressed about MSM stigma in our qualitative work.¹² Therefore, it is not surprising that the largest effects would be found for the stigma manifestation oriented around anticipating people's negative reactions.

We also did not observe a mediating role for use of a confrontational form of coping, a strategy that tries to actively change a situation. Here again, there are multiple potential explanations, one of which is statistical. The correlation between confrontational and social support coping was high. This may suggest that confrontation did not uniquely account for the outcomes, over and above the effect of social support coping. But the findings also likely reflect the perceived efficacy of the different coping strategies. As noted earlier, we found in qualitative work that men disclosed their sexual orientation to very few people, which would limit the ability to use confrontational coping.¹² They also evidenced little perceived efficacy at changing their parents' and others' opinions about homosexuality. The earlier and current findings suggest that, on average, men may fare better in interventions that focus on enhancing social support instead of challenging the status quo.

Our findings must be considered in light of several limitations. First, a longitudinal design was chosen because it provides a stronger basis for drawing causal inferences over time, but no definitive causal interpretations can be made based upon these results alone. This is especially true because our data were gathered at only three assessment points but our conceptual model hypothesizes relationships spread across five time points. Therefore, we had to utilize several variables measured at the same time (stigma and stigma management from the baseline assessment, difficult sexual situations and UAI from the 12-month follow-up assessment). It is possible that the observed associations could be reflective of causal relationships that are inverse to the ones we hypothesized (e.g., stigma management leading to stigma, instead of our hypothesized relationship of stigma leading to stigma management), but we feel that the causal sequence in our model is most plausible. Second, in the context of a study on stigma, the design can be a barrier to participation. Men with the strongest stigma concerns are likely underrepresented because they would be the most concerned about leaving contact information for follow-up waves. We sought to minimize this bias by allowing men to give us pseudonyms and permitting them to provide contact information offering a degree of

Influence of Sexual Stigma on HIV Risk among MSM in China

anonymity (e.g., their address with QQ, a popular social networking site). Given that stigma leads to avoidant behavior, we also were probably less likely to reach men with the highest levels of stigma because such men are poorly networked or in attendance at gay venues. These inherent sampling biases could have influenced the findings. Third, our research utilized self-report measures, which are subject to recall and self-presentational biases. We sought to minimize the problems by using ACASI, which allowed participants to respond without an investigator in the room, and through relatively brief recall periods. But we cannot completely rule out effects from these threats to validity. Finally, the research was conducted in only one metropolitan area. Although we enrolled men who migrated to Beijing from many parts of China, we cannot rule out the possibility that stigma's effects on risk behavior may differ in other parts of the country.

MSM stigma, most especially anticipated stigma, influences HIV risk behavior among Chinese MSM. The association is mediated by coping strategy, anxiety, and difficult sexual situations, which are linked via multiple causal pathways. Despite detrimental effects on mental health, which work to increase HIV risk, avoidant coping as a response to anticipated stigma primarily has a protective effect on HIV risk, likely because it reduces MSMs' interactions with other gay men. Interventions to promote greater use of social support coping and reduce use of avoidance coping could improve the emotional wellbeing of Chinese MSM. Such interventions, however, will need to be paired with biomedical or behavioral HIV prevention strategies to ensure that their benefit is not undermined by unintended increased HIV transmission risk in response to reduced social isolation among MSM.

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Influence of Sexual Stigma on HIV Risk among MSM in China

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Influence of Sexual Stigma on HIV Risk among MSM in China

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Influence of Sexual Stigma on HIV Risk among MSM in China

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Influence of Sexual Stigma on HIV Risk among MSM in China

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Figure 1. Conceptual Model Linking MSM Stigma, Coping with MSM Stigma, Psychological Distress, Difficult Sexual Situations, and Sexual Risk for HIV

Figure 2. Significant Pathways through Which MSM Stigma Affects Unprotected Anal Intercourse among Chinese Men Who Have Sex with Men: Results of Path Analyses^a

^a Solid and dotted lines represent positive and negative effects, respectively; OR, odds ratio; CI, confidence interval.

[§]p < 0.1; *p < 0.05; **p < 0.01; ***p < 0.001

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Table 1. Sample Characteristics (N=455)

Variables	%
Age (mean = 30)	
18–19	4
20–29	59
30–39	23
40–49	10
50-73	4
Having a Beijing hukou	
Yes	20
No	80
Education	
Less than junior high school diploma	3
Junior high school diploma	21
High school diploma	25
Technical college degree	18
Some college education	9
College graduate	24
Marital status	
Never married to a woman	77
Currently married to a woman	14
Separated/divorced/widowed	9
Self-reported sexual orientation	
Gay	70
Bisexual	24
Other	6
HIV status	
Being HIV negative	55
Never tested or unsure	45

Table 2: Pearson Correlations between MSM Stigma, Coping Styles, Mental Health, and Unprotected Anal Intercourse (N=455)

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10
1. Internalized stigma at baseline (range 1-6)	2.16	0.79	---									
2. Anticipated stigma at baseline (range 1-6)	2.78	1.05	0.50***	---								
3. Enacted stigma at baseline (range 1-6)	1.59	0.86	0.24***	0.19***	---							
4. Avoidant coping at baseline (range 1-6)	3.60	1.26	0.24***	0.42***	0.06	---						
5. Confrontational coping at baseline (range 1-6)	2.69	1.10	0.08	0.12*	0.23***	0.09	---					
6. Social support coping at baseline (range 1-6)	3.44	1.39	0.06	0.17***	0.05	0.16***	0.46***	---				
7. Depressive symptoms at 6 months (range 1-4)	1.65	0.50	0.04	0.08	0.09	0.04	0.08	-0.07	---			
8. Anxiety symptoms at 6 months (range 0-4)	0.63	0.68	0.04	0.13**	0.12*	0.12*	0.06	-0.08	0.64***	---		
9. Difficult sexual situations at 12 months (range 1-4)	1.62	0.46	0.11*	0.20***	0.22***	-0.01	0.04	0.10*	0.13*	0.14**	---	
10. Unprotected anal intercourse at 12 months (range 0-1)	0.18	0.39	0.02	0.14**	0.03	0.06	0.02	0.09	-0.01	0.06	0.22***	---

*p < 0.05; **p < 0.01; ***p < 0.001

Figure 1. Conceptual Model Linking MSM Stigma, Coping with MSM Stigma, Psychological Distress, Difficult Sexual Situations, and Sexual Risk for HIV

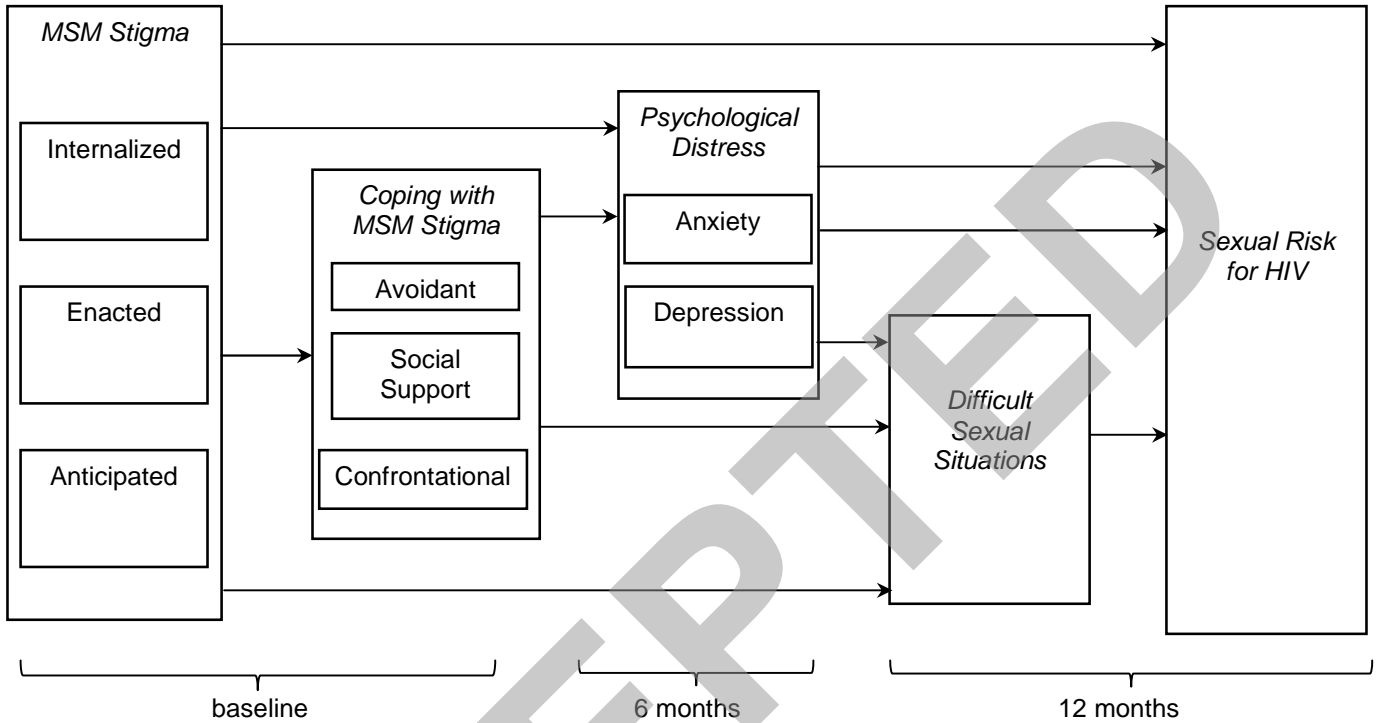
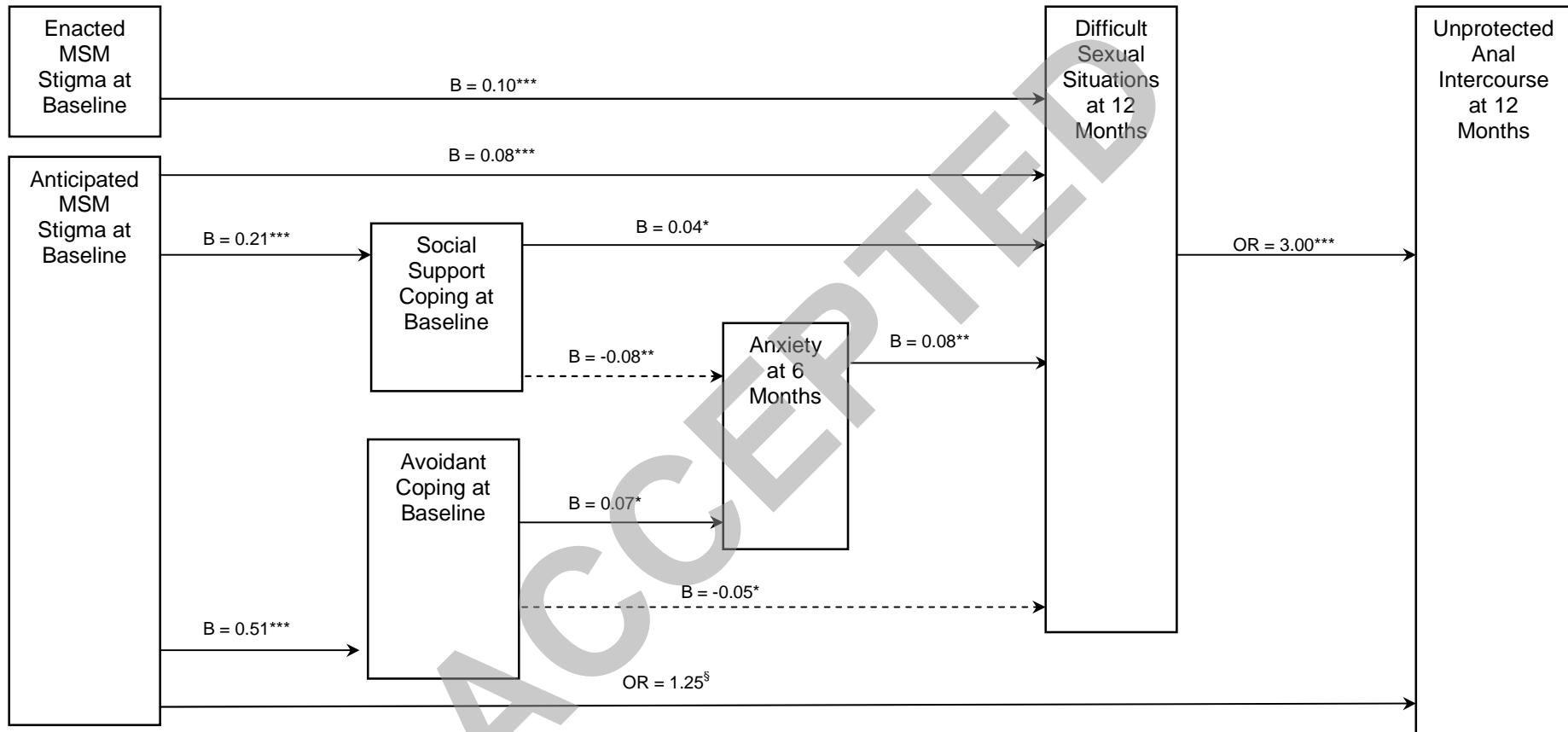


Figure 2. Significant Pathways through Which MSM Stigma Affects Unprotected Anal Intercourse among Chinese Men Who Have Sex with Men: Results of Path Analyses^a



^a Solid and dotted lines represent positive and negative effects, respectively; OR, odds ratio; CI, confidence interval.

[§]p < 0.1; *p < 0.05; **p < 0.01; ***p < 0.001