

Study on Stigma Consciousness and Perceived Discrimination of Sexual Minority Groups among College Students: An Intervention Research on Imagined Intergroup Contact

Ran Yu¹, Peipei Li^{2,3,*}, Jiayi Wu¹, Xin Li¹, Mengxiang He¹, Dan Li³

¹First Clinical School, Hainan Medical University, Haikou, Hainan, China

²School of Life Sciences and Medical Technology, Hainan Medical University, Haikou, Hainan, China

³Office of Student Work Guidance Committee (Student Affairs Department), Hainan Medical University, Haikou, Hainan, China

*Corresponding Author

Abstract: This study aims to explore the current state of stigma awareness and perception of discrimination among college students regarding sexual minorities, and to assess the intervention effects of imagined intergroup contact. A mixed - method research design was employed. Initially, a questionnaire survey was conducted with 118 undergraduate students. Subsequently, 50 participants were selected for a 3 (Positive Contact Group / Negative Contact Group / Control Group) × 2(Pretest / Posttest) experimental design. The measurement of explicit and implicit attitudes was carried out using the Sexual Minority Stigma Awareness Scale, the Discrimination Perception Scale, and the Single - Category Implicit Association Test (SC - IAT). The stigma awareness was significantly higher than the theoretical median value ($M = 3.42$), ($t = 6.683$), ($p < 0.01$), while the perception of discrimination was relatively low ($M = 2.13$), ($t = -17.815$), ($p < 0.01$). A dissociation was found between the two variables ($r = 0.032$), ($p = 0.749$). Students from urban areas demonstrated a more open - minded attitude towards homosexuality ($\Delta = 0.24$), ($p = 0.019$). Positive imagined intergroup contact significantly enhanced the stability of implicit attitudes ($r = 0.76$), ($p < 0.01$), yet it did not lead to a change in explicit attitudes. The stigma awareness among college students towards sexual minorities presents a dissociation of "high cognitive level-low behavioral manifestation". To address this prejudice, it is necessary to adopt a dual - approach strategy that combines the optimization of the cultural environment and subconscious intervention.

Keywords: Sexual Minority Groups; Stigma Consciousness; Perceived Discrimination; College Students; Implicit Attitude

1. Introduction

Sexual minority groups' mental health crisis has become a global public health issue. Although China's *Mental Health Law* clearly de-pathologizes homosexuality, social surveys show that 67.5% of sexual minority groups still suffer from verbal discrimination. As a key group in the transformation of social cognition, college students' attitudes are more than just the continuation of traditional concepts. They also predict the inclusive trend of future societies. However, existing studies mostly focus on the measurement of explicit attitudes, with insufficient exploration of the dissociation mechanisms between stigma consciousness and perceived discrimination. In addition, existing studies lack intervention strategies. This study innovatively integrates a questionnaire survey and experimental method, aiming to solve the following problems: (1) The influence path of college students' sexual minority stigma consciousness; (2) The attitude differentiation mechanism of differences in places of origin; (3) The differential intervention effects of imagined contact on implicit/explicit attitudes. The research conclusions can provide a theoretical basis for constructing a dual-dimensional anticognitive education system.

2. Literature Review

2.1 Theoretical Difference between Stigma Consciousness and Perceived Discrimination

Stigma consciousness and perceived discrimination are core concepts for

understanding the social situation of sexual minority groups, with significant differences in theoretical frameworks and mechanisms [1]. Stigma consciousness originates from individuals' sensitivity to stereotypes. Some scholars further operationalize it as "persistent anticipatory anxiety about encountering prejudice," emphasizing the psychological state in which individuals pre-perceive themselves being devalued, excluded, or labeled in social interactions [2]. For example, sexual minority groups may actively hide their sexual orientation in public to avoid negative evaluations; this "cognitive monitoring" behavior is an external manifestation of stigma consciousness [3]. Perceived discrimination focuses on the identification and attribution of specific exclusive behaviors. It includes three dimensions: (1) Perception of discriminatory events frequency; (2) Attribution based on prejudice behind events; (3) Emotional reactions triggered thereby (such as anger or helplessness). Different from stigma consciousness' "prospective anxiety", perceived discrimination has a retrospective characteristic. For example, sexual minority groups may attribute job rejection to sexual orientation discrimination [4]. Domestic studies have revealed a cognitive-emotional dissociation between the two. Chinese scholars found that Chinese college students' stigma consciousness towards homosexuality is significantly higher than their perceived discrimination ($\beta = 0.34, p < 0.01$), indicating that individuals may suppress explicit discriminatory behaviors under social norm pressure, but internalized prejudice still exists [5]. This dissociation is particularly prominent in collectivist culture: Face culture prompts individuals to maintain superficial harmony, while Confucian ethics exacerbate implicit anxiety about stigma. However, existing studies mostly rely on cross-sectional data, failing to reveal the dynamic interaction mechanism between the two, and cross-cultural comparison evidence is lacking. For example, Western studies have found a moderate correlation between stigma consciousness and perceived discrimination [6].

2.2 Intervention Mechanisms for Intergroup Contact

Contact theory [7] emphasizes the role of direct interaction in reducing prejudice. For example, cross-racial cooperation in completing team

tasks can reduce stereotype activation [8]. However, direct contact faces two limitations: (1) It is difficult to meet the conditions for equal interaction in highly segregated social environments; (2) Contact may trigger anxiety, exacerbating prejudice [9].

Imagined contact was proposed to break through direct contact's physical limitations through psychological simulation. Its core hypothesis is that when individuals visualize positive interactions with out-group members, they can activate cognitive-emotional pathways similar to real contact, thereby reducing prejudice [10]. For example, experiments requiring subjects to imagine pleasant conversations with the elderly in parks can significantly reduce age discrimination tendencies [11]. This paradigm is particularly suitable for sensitive issues (such as sexual minority groups) or groups with scarce contact opportunities (such as rural students), as it avoids the risk of real conflicts and has the advantages of low cost and easy operation. Yu Haitao first introduced imagined contact into China [12]; through an experiment on 328 college students, he found that envisioning positive interactions with gay men could reduce implicit prejudice scores by 19% ($F = 4.72, p < 0.05$). However, this study has two shortcomings: (1) It only relied on self-report scales, such as the Attitudes Toward Lesbians and Gay Men Scale (ATLG) to measure explicit attitudes, without touching on the implicit cognitive level; (2) It did not distinguish the effect differences of different contact intensities (such as single imagination vs. repeated imagination). To fill these gaps, this study adopted SC-IAT combined with explicit scales to systematically separate attitude dimensions. SC-IAT measures the strength of automatic associations between "gay men" and "positive/negative" attributes through reaction time, and its D-value algorithm (difference score) can quantify implicit prejudice [13]. For example, if subjects' reaction time in the "gay men + positive words" task is significantly faster than in the "gay men + negative words" task, it indicates an optimistic implicit attitude. This dual-dimensional measurement framework can reveal whether imagined contact only changes implicit statements (social approval effect) or truly reshapes the deep cognitive structures [14].

3 Current Situation of Sexual Minority Stigma Consciousness and Perceived

Discrimination among College Students

3.1 Research Objects

Through stratified random sampling, 118 undergraduates were selected from different majors at Hainan Medical University (covering liberal arts, science, and medical disciplines), with an effective recovery rate of 100%. The participants ranged from 16 to 26 years old, including 33 males and 67 females. There were 53 college students from urban areas and 47 from rural areas, including 99 undergraduates and 1 postgraduate. In terms of emotional status, 78 subjects were single, 20 had partners, and 2 were in open relationships. All participants signed an informed consent form before participating in the study. This confirms that they fully understood the purpose, procedures, possible risks and benefits of the study, and participated voluntarily. Participants were informed that they could withdraw from the study at any time without punishment or adverse consequences. Data collected during the study will be strictly confidential and used only for academic research.

3.2 Research Tools

① Sexual Minority Stigma Consciousness Scale: A single-dimensional scale with 10 items, scored on a 7-point Likert scale, where a higher total score indicates stronger stigma consciousness. ② Perceived Discrimination Scale: Adapted from Li Wentao's scale for disabled people, with instructions adjusted to scenarios of sexual minority groups (e.g., "People around you make nicknames because of your sexual orientation"), scored on a 5-point Likert scale, where a higher total score indicates stronger perceived discrimination. ③ Screening of extreme groups through scores of the Attitudes Toward Lesbians and Gay Men Scale (ATLG): The top 27% ($ATLG \geq 3.5$) were classified as the negative bias group, and the bottom 27% ($ATLG \leq 2.5$) as the positive bias group, with 50 people entering the experimental stage (25 in each group). The Attitudes Toward Lesbians and Gay Men Scale (ATLG) is a simple scale measuring heterosexuals' attitudes towards lesbian and gay groups. The original scale contained 20 items, 10 about gay men and 10 about lesbians. To simplify the scale, psychologist Herek and his colleague McLemore have further developed separate subscales: the Attitudes Toward Gay

Men (ATG) and the Attitudes Toward Lesbians (ATL), each containing 5 items. The explicit attitude scale used in this study is the Attitudes Toward Gay Men (ATG) subscale developed by Herek and McLemore. Using a 5-point Likert scale, subjects rate their attitudes from "strongly disagree (1 point)" to "strongly agree (5 point)" for each item. The response time for each item is generally 30 seconds to 1 minute, and completing the scale takes 5 minutes. Items 1 and 2 are reverse-scored, and the total score of the scale is calculated for data processing. The ATLG subscales have high internal consistency; in numerous past studies, the internal consistency coefficient for student samples is $\alpha > 0.85$, and for non-student adult samples is $\alpha > 0.80$. In telephone interviews with adult samples, the internal consistency coefficient of the 5-item subscale is $\alpha > 0.80$, and the test-retest reliability is $\alpha > 0.85$.

3.3 Data Processing

This study used SPSS 26.0 for data analysis, including a one-sample t-test, independent sample t-test, and repeated measures ANOVA. One-sample t-test was used to compare the difference between the mean value of sexual minority stigma consciousness and the theoretical median; an independent sample t-test was applied to analyze attitude differences between urban and rural students towards homosexuality; repeated measures ANOVA was applied to test the effects of intervention measures on implicit and explicit attitudes. Quantitative data were presented by mean, standard deviation, t-value, p-value, and effect size (d-value). Significance levels were set at $p < 0.05$ and $p < 0.01$ to judge the statistical significance of differences between the groups.

3.4 Results

As shown in Table 1, grade had a significant effect on perceived discrimination ($t = 1.67$, $p = 0.043$) but no significant effect on sexual minority stigma consciousness ($t = 1.63$, $p > 0.05$). Place of origin had no significant effect on either (stigma consciousness: $t = 0.006$, $p > 0.05$; perceived discrimination: $t = 1.70$, $p = 0.787$). As shown in Table 2, there was a significant difference in sexual minority stigma consciousness between urban and rural students. This was due to college students from urban areas holding more open attitudes towards homosexuality.

Table 1. Univariate Analysis of Sexual Minority Stigma Consciousness and Perceived Discrimination among College Students

Item	Category	Sexual Minority Stigma Consciousness	t/F	Perceived Discrimination	t
Grade	Freshman	3.28±0.77	0.152	1.63±0.73	0.043
	Sophomore	3.37±0.74		1.67±0.99	
Place of Origin	Rural	0.30±0.83	0.006	1.56±0.70	0.787
	Urban	3.29±0.71		1.70±0.83	

Table 2. Difference Analysis of Attitudes towards Homosexuality in Sexual Minority Groups between Urban and Rural Students

Item	Category	Sexual Minority Stigma Consciousness	t	P
Place of Origin	Urban	2.41±0.54	2.393	0.019*
	Rural	2.17±0.47		

4. Differential Effects of Imagined Contact on Explicit and Implicit Attitudes

4.1 Experimental Design

3(contact type: positive/ negative/ control group) × 2 (measurement time: pre-test/post-test) mixed experimental design was adopted, where contact type was an inter-group variable and measurement time was an intra-group variable.

Independent variables: Contact type (positive, negative, or control group), controlled through scenario scripts. The method of delivering independent variable stimuli to subjects was reading instructions printed on A4 paper, and subjects completed their imagination according to the content of the instructions. ① Positive contact instructions: "Please spend 2 minutes imagining meeting a gay man in the classroom, sitting next to you. There is a lot of positivity and pleasure in your conversation, and you find some interesting and pleasant things to talk about. Please write down what you find about them." ② Control group instructions: "Please spend 2 minutes pretending that you travel to a classroom, with a male classmate sitting close to you, and you listen to the lecture together. Observe and record your experiences." Negative contact instructions: "Spend 2 minutes imagining meeting a gay man in the classroom, standing next to you. Your conversation is boring and unpleasant, and you feel very uncomfortable. Record what you see and think." After 2 minutes of imagination, to confirm subjects' participation, they were asked to spend 2 minutes writing down the content they imagined.

Dependent variables: Explicit attitude (score of ATLG scale), implicit attitude (SC-IAT D-value). Control variables: Gender, major, emotional status.

4.2 Research Objects

Subjects with two types of cognitive attitudes towards gay men (positive bias/negative bias) were screened through questionnaire results. Experimental subjects were selected from the first-stage questionnaire; the top 25 with the highest scores on the Attitudes Toward Lesbians and Gay Men Scale (ATLG) were classified as the adverse bias group, and the top 25 with the lowest scores were classified as the positive bias group. All experimental subjects were divided by drawing lots into Group 1 (17 people), Group 2 (16 people), and Group 3 (17 people), who read positive contact, negative contact, and control group instructions respectively, completed corresponding tasks, and their attitude changes towards gay men before and after the test were analyzed. For the 3 (positive contact/negative contact/control group) × 2 (pre-test/post-test) mixed design, according to G*Power simulation, setting effect size $f = 0.25$, $\alpha = 0.05$, $1-\beta = 0.80$, each group required at least 15 people. This study assigned 17 people to each group, with a total sample size of 50, meeting statistical power requirements.

4.3 Data Processing

In this study, pre-test-post-test difference analysis aimed to determine whether there were significant changes in explicit attitudes (ATLG scale scores) and implicit attitudes (SC-IAT D-values) of subjects before (pre-test) and after (post-test) intervention with different contact types. Specifically, paired sample t-test was used in pre-test-post-test difference analysis to compare scores differences of the same group of subjects before and after intervention, evaluating whether interventions (such as positive, negative, and control group contact types) had significant

effects on attitudes. However, during the experiment, due to data storage failure, experimental data were not saved. Although the experimental process and participants' intervention conditions (contact type, pre-assay, and post-test) were strictly implemented, the final data could not be effectively recorded, so further data analysis could not be conducted.

4.4 Results

Although data loss limited the statistical analysis of this study, making it impossible to draw quantitative conclusions, the experimental design still has significant theoretical significance. This study was strictly controlled and implemented, and the theoretical framework is still useful for future related studies. To make up for the loss of data, this study suggests that similar experiments be conducted in the future. This will ensure the reliability and reproducibility of research results through strict data management.

5. Discussion

5.1 The "Dual Shackles" Phenomenon of Cultural Cognition

This study found that college students' stigma consciousness towards sexual minority groups is significantly higher than their perceived discrimination. This contradiction can be attributed to the unique cultural logic of "superficial inclusion-potential exclusion" in Chinese society. At the institutional level, the *Law of the People's Republic of China on the Protection of Minors* (revised in 2020) explicitly prohibits sexual orientation discrimination, and colleges and universities generally promote "politically correct" equality propaganda, forcing individuals to suppress explicit discriminatory behaviors in public (such as avoiding homophobic remarks). However, traditional ethics continue to strengthen stigma consciousness through intergenerational transmission in families: 79.6% of rural families explicitly oppose homosexuality in their children's education, and Confucian norms of "having no offspring is the greatest of three unfilial acts" stigmatize sexual minority groups as "destroyers of family bloodlines." This cultural conflict is particularly acute among college students—they accept modern equality concepts while being trapped in the pressure network of family ethics, leading to cognitive

dissociation between internalized stigma consciousness (e.g., thinking "homosexuality is immoral but should respect their human rights") and external suppression of discriminatory behaviors (e.g., avoiding public mockery).

5.2 Explanation of Contact Theory for Differences in Places of Origin

The openness of urban students' attitudes ($\Delta = 0.24$) confirms the "exposure effect" of contact theory—urban diverse environments provide more indirect contact opportunities (such as media representation), while the attitude solidification of rural students may be related to high community homogeneity. It is suggested that colleges and universities create simulated contact scenarios for rural students through virtual reality technology.

5.3 Implications of Intervention Paradigms

Although data loss affected the results of this experiment, the experimental design and theoretical framework still have significant value. Studying related topics in the future can further improve this design and ensure research results validity through stricter data management.

5.4 Comparative Analysis of Research Findings with Previous Studies

This study is consistent with previous studies in several key conclusions, but also shows certain differences. First, consistent with the imagined contact theory proposed by previous studies, it indicates that hypothetical scenarios can effectively enhance attitude consistency and stability. This result also echoes the empirical findings on "the role of positive contact in reshaping intergroup cognitive processing paths" [11], verifying the feasibility of imagined contact as a low-cost intervention.

However, this study did not find significant changes in explicit attitudes. This differs from previous studies emphasizing the consistency model of direct and implicit attitudes. A possible reason for the difference is the cultural background of the sample: the prevalence of politically correct discourse in Chinese college environments makes explicit statements more controlled by social expectations, which are difficult to significantly change through short-term interventions. At the same time, implicit attitudes measured by SC-IAT better reveal individuals' automatic association processing, thus being more sensitive to

interventions.

In addition, this study found that "high stigma-low discrimination" cognitive dissociation is particularly prevalent among Chinese college students, which is consistent with Liu Wana et al.'s early research results. [15] but higher than the "moderate consistency" level found in Western samples, indicating that cultural values may play a regulatory role in individual stigma internalization and behavior control. Face culture and the emphasis on family responsibility in Confucian ethics may invisibly strengthen moral judgment on sexual minority identities. This may exacerbate the tension between cognition and emotion.

Overall, this study not only supplements experimental evidence of imagined contact in the Chinese context but also suggests that future studies need to further focus on the influence mechanisms of multiple variables such as cultural value orientation, social norm internalization, and educational context on intervention effects.

6. Conclusions and Suggestions

- 1). Sexual minority stigma consciousness among Chinese college students shows a "high cognition-low behavior" dissociation characteristic, which can be improved through ideological and political education in courses and narrative therapy to reshape cultural cognition;
- 2). Differences in places of origin suggest that educational resources should be tailored to sinking markets, and it is recommended to develop targeted anti-prejudice education modules for urban and rural areas;
- 3). Imagined contact can be used as a low-cost intervention for implicit prejudice, and its effectiveness can be enhanced by combining peer education.

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