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INPLASY

Attitudes Towards Mental Disorders Among Chinese University Students: A Systematic Review and Meta-analysis

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ADMINISTRATIVE INFORMATION

Support - Not applicable.

Review stage at the time of initial registration - Completed but not published.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 23 November2026 and was last updated on 23 November 2026.

INTRODUCTION

Review question / Objective The review question concerned stigma and attitudes toward mental disorders among tertiary education students. The objective was to synthesise domain-specific evidence, characterise heterogeneity across student populations and study settings, and assess the availability of ethnoculturally stratified evidence. The manuscript hypothesised that mental-disorder-related attitudes among Chinese university students would depend substantially on the specific stigma construct measured and on study context, and that the literature would show a substantial gap in ethnoculturally stratified reporting.

Condition being studied The condition being studied is stigma and attitudes toward mental disorders among Chinese university students. The manuscript does not study a single disease entity; rather, it examines stigma and attitudes relating to mental disorders or people experiencing mental disorders, with disorder targets in the included evidence comprising general mental disorders, depression and schizophrenia.

The manuscript describes stigma toward mental disorders as able to affect disclosure, treatment seeking, social participation and recovery. It states that stigma includes labelling, stereotyping, separation, status loss and discrimination, and may be expressed publicly, institutionally or through internalised beliefs. University students are described as an important population for mental health promotion because they are simultaneously potential recipients of support and future health professionals, teachers, employers, family decision makers, media producers and community leaders; their attitudes can influence whether peer.

METHODS

Participant or population The eligible population was university, college, medical, nursing or other tertiary education students in Mainland China,

Taiwan, Hong Kong or Macao. Eligible reports assessed stigma, attitudes, perceived dangerousness or fear, social distance, authoritarianism, discriminatory beliefs, implicit evaluation or closely related responses about mental disorders or people experiencing mental disorders. Quantitative, qualitative and mixed-method empirical studies were eligible when they directly addressed the review question. Studies from ethnic-minority universities or regions and studies reporting ethnic identities were evaluated using the same outcome criteria; failure to report ethnicity was not an exclusion criterion, and ethnocultural reporting was extracted as an evidence-gap variable.

Among included reports, student populations included general university students, medical students and nursing students. Included reports were conducted predominantly in Mainland China, with two studies from Taiwan. For the exploratory student-type moderator analysis, samples had to be unambiguously classifiable as "general-university" or "health-profession"; mixed samples without subgroup-specific summary statistics were excluded from that moderator analysis. The mixed medical/non-medical sample reported by He et al. (2021) was retained in the overall independent-samples analysis but excluded from the moderator analysis because subgroup-specific mean and standard deviation values were unavailable. The moderator analysis used eight unambiguously classifiable independent effects: three from general-university samples (N = 1,606) and five from health-profession/medical-or-nursing student samples (N = 4,359).

Nine independent participant samples met the stricter quantitative criteria for the main independent-sample quantitative display and contributed nine independent effects; those samples together contributed 11 measure-level effects to the secondary descriptive analysis. The secondary measure-level synthesis represented 7,021 unique participants. Only one Taiwan sample contributed an independent effect to the primary model, with no independent quantitative samples from Hong Kong or Macao. No included study provided an extractable ethnicity-stratified effect estimate, and no minority group contributed enough directly comparable effect data for quantitative subgroup synthesis.

Intervention No intervention or group of interventions was specified or evaluated in this review. The review question concerned stigma and attitudes toward mental disorders among tertiary education students, and eligible evidence could contribute to the systematic/narrative synthesis even when it did not provide a compatible quantitative effect for meta-analysis. The review examined studies that assessed stigma, attitudes, perceived dangerousness or fear, social distance, authoritarianism, discriminatory beliefs, implicit evaluation or closely related responses about mental disorders or people experiencing mental disorders.

The manuscript mentions education and contact-based interventions in the Introduction, stating that they "can improve some explicit attitudes, but their effects differ across populations and outcome domains, and improvement in explicit self-report measures does not necessarily imply change in implicit evaluation or behaviour." It also states in the Discussion that "Intervention studies should distinguish short-term knowledge change from durable changes in explicit attitudes, implicit cognition and behaviour." These statements are contextual and future-research recommendations; they are not interventions evaluated in the review. The manuscript's eligibility criteria for quantitative meta-analysis required an independent student sample with an extractable continuous outcome or one-sample statistic and a defensible neutral or null reference, and the quantitative estimand was a standardised one-sample deviation from a specified neutral or null reference, not a between-group standardised mean difference. The review therefore did not evaluate an intervention effect.

Comparator No comparative intervention was applied to the target population. The review did not evaluate an intervention effect or use a conventional between-group comparator. For quantitative meta-analysis, the comparator was a specified neutral or null reference for the measured construct, and the quantitative estimand was a standardised one-sample deviation from that reference, not a between-group standardised mean difference.

Reference values were assigned according to each instrument's scoring structure. When the source study explicitly defined a neutral or midpoint reference, that value was retained, including 3 for the Perceived Devaluation-Discrimination (PDD) mean, 4.5 for the dangerousness item, and 4 for the semantic-differential cognition score. For symmetric multi-item Likert measures with a neutral response category, the corresponding total-scale midpoint was used, including 18 for the nine-item Depression Stigma Scale-Personal subscale (DSS-Personal), 60 for the 20-item Scale for Assessing the Associative Stigma of Mental Illness in Nursing (SASMIN), and 30 for the 10-item

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Community Attitudes Towards Mental Illness (CAMI) authoritarianism domain. For four-point or binary/Guttman social distance measures without a neutral response option, the numerical centre of the attainable range was used only as a descriptive scale-centre reference: 12.5 for the five-item 5–20 SDS and 3.5 for the 0–7 modified social-distance scale, not as a validated clinical cut-point. For Single Category Implicit Association Test (SC-IAT) outcomes, zero was used as the null D-score reference.

Direction was harmonised so that positive values represented greater stigma or less favourable attitudes. The manuscript also reports exploratory subgroup analyses by student type and disorder target, and a Mainland-China-only sensitivity analysis; these are not comparative interventions applied to the target population.

Study designs to be included Eligible designs: quantitative, qualitative and mixed-method empirical studies directly addressing the review question. Quantitative meta-analysis required an independent student sample with an extractable continuous outcome or one-sample statistic and a defensible neutral/null reference; studies lacking a compatible effect remained in the systematic/narrative synthesis. The mixed-method study's qualitative component contributed only to narrative evidence (JBI qualitative appraisal). Fourteen quantitative studies were assessed using JBI analytical cross-sectional principles.

Eligibility criteria Systematic/narrative review: Eligible reports enrolled university, college, medical, nursing or other tertiary education students in Mainland China, Taiwan, Hong Kong or Macao and assessed stigma, attitudes, perceived dangerousness or fear, social distance, authoritarianism, discriminatory beliefs, implicit evaluation or closely related responses about mental disorders or people experiencing mental disorders.

Study designs: Quantitative, qualitative and mixed-method empirical studies were eligible when they directly addressed the review question.

Ethnicity: Studies from ethnic-minority universities or regions and studies reporting ethnic identities were evaluated using the same outcome criteria. Failure to report ethnicity was not an exclusion criterion; ethnocultural reporting was extracted as an evidence-gap variable.

Quantitative meta-analysis: Eligibility was more restrictive. A study had to provide an independent student sample with an extractable continuous outcome or one-sample statistic and a defensible neutral or null reference for the measured construct.

Multiple outcomes: When a report contained several outcomes from the same participants, one explicit effect with the clearest interpretable scale reference was selected for the independent-sample primary analysis; additional outcomes were retained only in the secondary measure-level description.

No compatible effect: Studies lacking a compatible effect remained in the systematic/narrative synthesis. The qualitative component of the included mixed-method study contributed to narrative evidence and was appraised with the JBI qualitative framework but did not enter any quantitative model.

Language/date: English-language and Chinese-language records were eligible. No publication-date limit earlier than June 30, 2026, was applied.

Full-text exclusions: Full texts were excluded for population ineligibility/not being university students (n = 32), an outcome that did not assess stigma or attitudes towards mental disorders (n = 30), ineligible study design or publication type (n = 12), ineligible geographic setting (n = 7), duplicate or overlapping participant data (n = 5), insufficient empirical information or unavailable usable full text (n = 7), other eligibility reasons (n = 5), or multiple eligibility criteria that prevented assignment to a single primary reason (n = 2).

Information sources PubMed, Web of Science Core Collection, Embase, APA PsycINFO, China National Knowledge Infrastructure, Wanfang, and the VIP Chinese Science and Technology Journal Database (VIP) were searched from database inception through June 30, 2026. English-language and Chinese-language records were eligible.

The core search combined concepts for mental disorders, stigma or related attitudes, Chinese settings and tertiary-education students. A separate supplementary ethnocultural search combined the core concepts with terms for ethnic minority, minority nationality, ethnic region, Hui, Muslim/Islamic context, religious coping, family reputation and named minority groups. Searches covered title, abstract, keyword, subject-heading or topic fields as supported by each database. Backward reference-list screening and forward checking of relevant reports were also performed.

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Records were merged into a master citation file and deduplicated hierarchically using DOI or PMID, followed by normalised title, first-author/year comb.

Main outcome(s) The main outcomes were stigma and attitudes toward mental disorders or people experiencing mental disorders among Chinese tertiary education students. Eligible outcomes included stigma, attitudes, perceived dangerousness or fear, social distance, authoritarianism, discriminatory beliefs, implicit evaluation or closely related responses.

The manuscript treated stigma-related attitudes as conceptually distinct domains, including personal stigma, perceived public stigma/discrimination, behavioural intention/social distance, professional/nursing stigma, authoritarianism/community attitudes, dangerousness/fear, explicit cognitive stigma and implicit cognition. These domains were interpreted separately rather than as a single interchangeable stigma outcome.

For quantitative synthesis, the main outcome was expressed as a standardised one-sample deviation from a specified neutral or null scale reference, not a between-group standardised mean difference. Signs were harmonised so that positive values represented grea.

Quality assessment / Risk of bias analysis The 14 quantitative studies were evaluated independently by the two reviewers using JBI analytical cross-sectional principles. Because the included studies were heterogeneous in design and several were not purely cross-sectional comparisons, the assessment was reported at the domain level rather than collapsed into a numerical score or global study grade.

Six domains were recorded: sampling strategy; clarity of participants and setting; validity and reliability of outcome measurement; identification/management of confounding; appropriateness of statistical analysis; and reporting completeness. Low concern indicated that the domain was adequately addressed; some concerns indicated incomplete reporting or a moderate limitation; and high concern indicated an explicit major limitation likely to materially bias interpretation. The exact operational decision rules and individual judgments are provided in Supplementary File S3.

The qualitative component of the included mixed-method study was assessed separately us.

Strategy of data synthesis The organising principle of the synthesis was conceptual domain rather than a single interchangeable stigma outcome. Individual effects were first interpreted within domains such as personal stigma, perceived public stigma/discrimination, behavioural intention/social distance, professional/nursing stigma, authoritarianism/community attitudes, dangerousness/fear, explicit cognitive stigma and implicit cognition. Because most domains contained too few independent studies for a stable domain-specific pooled estimate, the primary forest display retained one effect per independent sample and showed the distribution of effects across domains. A cross-domain random-effects mean was calculated only as a descriptive summary of these nine independent effects. The all-measures model containing 11 effects from nine samples was secondary and explicitly descriptive because two participant samples contributed an additional correlated implicit outcome.

For quantitative synthesis, the estimand was a standardised one-sample d.

Subgroup analysis Exploratory subgroup analyses were performed using only one effect per independent sample. They compared general university versus health-profession student categories and disorder targets. Student-type results were considered hypothesis-generating because the student category was confounded with measurement instrument, disorder focus, study design and sample characteristics.

Student type: The student-type moderator analysis used eight unambiguously classifiable independent effects: three from general-university samples (N = 1,606) and five from health-profession/medical-or-nursing student samples (N = 4,359). The mixed medical/non-medical sample reported by He et al. (2021) was retained in the overall independent-samples analysis but excluded from this moderator analysis because subgroup-specific mean and standard deviation values were unavailable. General-university samples had a descriptive pooled standardised one-sample deviation of 0.76 (95% CI, −0.84 to 2.37; I^2 = 94.2%; prediction interval, −8.55 to 1.

Sensitivity analysis The manuscript reports sensitivity and influence analyses performed on the independent-sample primary model:
Mainland-China-only sensitivity analysis: Restricting the independent-sample analysis to Mainland China left eight independent samples (N = 6,922) and eight effects. The descriptive summary was 0.03 (95% CI, −0.64 to 0.69), tau^2 =

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0.628, I^2 = 99.6%, with a prediction interval from −2.03 to 2.09. Because the primary model included only one Taiwan sample, a formal regional subgroup analysis or meta-regression was not interpreted. Thus, removing the Taiwan study did not explain the extreme heterogeneity.

Leave-one-study-out analysis: In leave-one-study-out analyses, every recalculated 95% CI included zero, and I^2 remained above 99.3%.

Heterogeneity-contribution and influence diagnostics: These identified Lu 2022, Meng 2022, Qiu 2022 and several other measures as notable contributors to the dispersion, but no single omitted study produced a qualitatively stable common cross-domain effect.

Regional subgroup/meta-regression feasibility: The feasibility of regional subgroup analysis and meta-regression was assessed, but only one Taiwan sample contributed an independent effect to the primary model, with no independent quantitative samples from Hong Kong or Macao; these counts were insufficient for stable regional subgroup contrasts or meta-regression estimates.

Funnel plot: The funnel plot was used only as a descriptive visualisation; no formal publication-bias inference was made because the number of effects was small, constructs were heterogeneous and two secondary effects were non-independent.

Country(ies) involved China.

Keywords mental disorders; stigma; attitudes; university students; China; social distance; ethnocultural reporting.

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