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STIGMA AND MENTAL HEALTH: EDUCATIONAL AND COUNSELLING IMPLICATIONS

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ABSTRACT

Stigma toward people with mental health disorders negatively affects integration, help seeking, and treatment adherence, and also varies by age, gender, ethnicity, and religion, while health knowledge and direct contact are protective. The objective was to estimate links of age, gender, ethnicity, and religion with dimensions of stigma, to test whether knowledge and contact reduce stigma, and to derive practical levers for culturally sensitive school and university programs. Method online cross sectional survey in the United Kingdom on adults or students (N=69; 60.9% women; 59.4% aged 31 plus). Measures were CAMI subscales, AMIQ social distance, RIBS intended behaviour, MAKS knowledge, and MICA 4 total with subscales "Views of the mental health care field" and "Distinguishing between mental and somatic". Reliability was acceptable ($\alpha \approx 0.77$- 0.86; AMIQ $\alpha = 0.58$). Analyses used multiple imputation MI m = 20, a multivariate model with Wilks and Pillai FDR adjusted, and hierarchical OLS regression with heteroscedasticity robust standard errors. Results showed knowledge and contact an independent protector. Adding MAKS and MICA 4 and RIBS Experience over demographics increased explained variance, with overall R^2 about 0.34 to 0.40. Higher knowledge predicted lower authoritarianism and social restrictiveness and higher benevolence. Contact was associated with lower social distance and greater inclusion intentions. Negative professional attitudes on MICA 4 formed a risk pathway, aligning with higher authoritarianism and lower benevolence. Interactions suggested cultural tailoring, with weaker benefits of knowledge on benevolence for Muslims versus Christians, and stronger benefits of contact among ages 26-30 versus 31 plus. Multivariate profiles indicated effects of sex and age on CAMI outcomes, and of age on AMIQ and RIBS. Conclusion raising mental health literacy and organizing contact also complement each other in reducing stigma, while provider attitudes represent a distinct risk needing attention. Limitations include a cross sectional design, a limited and imbalanced sample, and reliance on self reports.

KEYWORDS: Counselling, Education, Mental Health, Stigma.

1. INTRODUCTION

Stigma is achieved among people who suffer from Mental Health Disorders (MHDs), affecting the opportunities for inclusion and also help-seeking [1], [2], which makes them less adherent to treatment and less academically successful [1], [3], [4]. Decades of studies show that stigma is multidimensional, whether public, structural, or self-stigma, is indeed shaped by demographic factors in terms of age and gender and also culture, race, religion, knowledge, and misconceptions [5], [6]. These significantly affect stigma [7]. We also observe that every country and every age group has stigmas of shame that may lead to the ruin of individuals, where we notice lately that in many countries, specifically developing countries and also developed countries [8], because of the stigma of shame, a person may resort to engaging in non-normative acts or transform from prosocial behaviour into criminal behaviour, and some of them may sometimes turn to suicide [9].

However, these effects naturally differ across environments and over time, and across decades, as each decade has its own period and its stigmas of shame that change over time, which complicates the design of interventions and the transferability of policies [10], [11].

As recent studies indicate, the heterogeneous Table *1*.

Crockett et al. [19] pooled 97 randomised trials on 43,852 young people (male/female) and found that education plus contact-based programs improves stigma in the short term. However, the effect is rapid but can dissipate without longer follow-up and age-sensitive tailoring; besides, Goh et al. [20] showed that a multicomponent campus intervention improved knowledge and attitudes among Singaporean students. Gaiha et al. [21] found that art-based approaches and contact reduce stigma but with heterogeneous effect sizes. However, standardised measures are needed to know what is genuinely effective. In contrast, Twineman et al. [22] proposed a cluster trial that showed a game-based "animated stories" intervention combining literacy and contact with lived experience reduced personal stigma among adolescents. Yet, repetition and scaling are required-one dose is not enough. Hasnain et al. [12] conducted a scoping review that mapped provider stigma and revealed measurement variability and training needs among professionals; yet, we need systematic training and agreed-upon measurement tools. In contrast, effectiveness of anti-stigma programs varies by age group and form, so education versus contact has emerged, and also the continued stigma on the part of the service provider and culturally specific belief systems-such as spiritual causality or stigmas that are related either through religions or societal culture or the religion and sect that a person may follow-affect responses to mental illness [12], [13]. In many countries, psychiatric patients are classified as being afflicted by sorcery. Some think they have demons inside them, and they may resort to performing strange acts and disordered behaviours on the path of seeking the deity. Even with the efforts of their families, due to ignorance, this may lead to multiple imbalances that greatly affect recovery from these psychological problems [14], [15], [16].

Accordingly, two central practical challenges remain: first, updating the demographic and cultural factors that strongly shape stigma in a specific context or at a particular time [17]. Second, update knowledge-building and contact strategies to change attitudes and separated behaviour in a well-documented way, so that they surpass short-term gains [18]. A large body of recent research motivates these questions and documents the promises and limits of education, contact, and culturally tailored methods, as shown in

Lesmana et al. [23] found that perceived stigma and mental health literacy sequentially mediate the relationship between school climate and help-seeking intentions. Eylem et al. [24] showed that minority ethnic/racial status is associated with higher stigma experiences than majority status. Yet, we need stratified cultural/ethnic analysis to avoid a "one size fits all" approach, and Lloyd et al. [25] found that spiritual interpretations of distress shape help-seeking and perceptions in evangelical communities. Oexle et al. [26] tried brief video and text-based education/contact around public stigma toward suicide and found no superiority over controls. In contrast, Waqas et al. [27] concluded that, in educational settings, student-focused anti-stigma programs change knowledge/attitudes more than behaviour. These studies are promising initial effects, but they require longer duration, standardised measures, cultural/age/religion tailoring, and dose escalation, especially on sensitive topics such as suicide, so that improvement translates into real behaviour.

Table 1: Comparative Coverage Of Key Gaps Across Stigma Studies.

Study	Long-term follow-up	Cultural/Ethnic stratification	Standardised outcomes	Replication across settings	Provider variables	Causal (interventional)	Religion modelled	Domain-specific facet	Behavioural/intent endpoints

[19]						✓			✓
[28]			✓						
[22]			✓			✓		✓ (depression)	
[29]					✓				
[23]			✓					✓ (depression)	✓ (help-seeking intent)
[24]		✓							
[30]									
[26]							✓	✓ (suicide)	
[27]									✓ (reviewed)
Present Study		✓ (ethicality, religion)	✓ (CAMI, RIBS, MAKS, MICA)				✓		✓ (RIBS intended)

We addressed important gaps in this topic with three objectives: first, we assessed the effect of each factor separately, from demographics such as age and gender, and from culture such as race and religion, on stigma toward people who have PMHDs. Second, we will test whether mental health knowledge and contact/direct familiarity reduce social distance and increase help-seeking intentions or not. Third, we produced practical guidelines for awareness and counselling programs that are sensitive to culture and religion. We conducted a cross-sectional study using a questionnaire that included well-established and validated measures such as CAMI, RIBS, and MAKS, along with questions on religion, race, and lived experience. We will analyse these relationships using MANOVA and hierarchical regression, with interactions between culture and knowledge, as well as between contact and age. The paper is divided as follows: Section 0 is a literature review on demographics, culture, and knowledge and their relation to stigma; Section · is the methodology (design, sample, measures, analysis); Section **Error! Reference source not found.** is the results, and Section **Error! Reference source not found.** is the conclusion and application; in other words, theoretically, we will add to the interpretation of stigma theories, and practically, we will present steps for school-based awareness and counselling programs.

2. LITERATURE REVIEW

The stigma of mental illness is now seen as a phenomenon at multiple levels and is shaped by culture, and it appears in three stigma circles (social, structural/institutional, and internal), where the person stigmatises themselves [31], [32], [33]. The result is that it affects help-seeking, treatment continuation, and general social participation [34].

Classical conceptions still guide the discussion: for instance, Goffman spoke of a symbolically "spoiled identity;" Link and Phelan focused on labelling, stereotyping, separation, and status loss under conditions of power [35]. Corrigan & Watson [36] distinguished between public stigma, self-stigma, and avoidance of ambiguity/diagnosis. While Weiner [37] emphasised the idea of controllability and moral attribution. All this still shapes why stigma persists and how we deal with it.

Refs. [4], [5], [7], [8], [12], [24], [30] say in their review papers that stigma is fed by social norms, institutional practices, and inequality; it distributes its burden more on youth, women in gendered workplaces, migrants, people with substance use or contact with the justice system, rural residents, and religious. Also, the attitudes of service providers themselves remain a barrier to treatment and navigation inside the system, and there are still negative stereotypes and variation in defining "clinical stigma" [29].

Among youth, stigma intersects with developmental tasks and the school environment, and this affects intention to seek help and proper referral opportunities [1], [23], [28]. At the social margin, we see that occupational structures, such as extractive industries, ageing in agriculture, and disrupted transitions after emergencies, increase vulnerability and reduce disclosure [8].

The recurrent gaps in the literature: unbalanced attention to cultural and religious factors; scarcity of behavioural measures not only attitudes; rarity of testing in specific fields such as suicide stigma; and measurement variability that makes integration and translation of results to policies or school programs difficult [15], [26], [27]. Therefore, we need designs that address stigma as a social process mediated by knowledge, communication, culture, and belief, and that focus on outcomes close to behaviour rather than only perception.

Let us move to interventions in schools and universities: education and contact are the dominant ones in the evidence base, but how far their effects are stable, transferable, and standardised remains an

open question. In secondary and educational districts, psychoeducation initiatives were linked to increased and improved student referrals-and this is a system indicator linked to real behaviour [1]. Among university students, multi-component programs improve knowledge and attitudes after the intervention, and qualitative studies in the Western Balkans clarify how awareness, stigma, and norms around help-seeking are shaped together in campus life [2], [28].

Crockett et al. [19] global meta-analysis of randomised trials for youth confirms that education and contact improve stigma indicators in the short term, but the heterogeneity in content, dose, and outcomes, along with a scarcity of follow-up, limits certainty about the sustainability of the effects and their generalisability. Also, the medium matters: arts and creative communication are promising, but their outcomes vary, which strengthens the call to unify outcome packages and include social distance and behavioural intentions [21], [27]. Specialised approaches have also begun to emerge: for example, rapid web-based education/contact tailored to suicide stigma has mixed results-perhaps it needs a higher dose or more detailing in highly sensitive topics [26].

On the other hand, educational games featuring lived-experience stories reduced personal stigma among adolescents, demonstrating that experimental design and age-appropriate delivery drive change [22]. Lesmana & Chung's [23] mediation studies in Southeast Asia indicate that school climate affects intention to seek help through knowledge and perceived stigma, underscoring the importance of indirect pathways rather than mean differences. And with all this, most of the literature still focuses on knowledge and attitudes more than on measured behaviour, rarely disaggregates results by ethnicity or religion, and seldom uses standardised, validated tools things which hinder comparison and testing of theories [21], [27].

Culture, language, religion, and place colour the meaning of psychological distress and help-seeking scenarios-and this affects the design of intervention and justice. "Minority stress" and intersectionality frameworks expect that groups exposed to racial discrimination or migrants are exposed to higher stigma, and this is meta-analytically confirmed in Europe [24]. Maintaining language/culture among migrant adolescents is associated with better psychological outcomes-this means that identity continuity and community integration may reduce the harm of stigma and facilitate access [12].

In evangelical Christian settings, there are sometimes spiritual attributions for causes of depression and a preference for religious coping and hesitancy toward medical treatment, and this says that stigma and norms of help-seeking are tied to doctrine and community narratives [30]. In rural areas, access barriers and explanatory models that favour family or folk medicine, along with structural constraints in services, all increase stigma and friction, and people worry about confidentiality and judgment in small communities [4]. Also, work conditions and the life course have a role: gender norms in mining/extraction determine how distress is expressed and accounted for, and older farmers face safety, health, and mental risks that increase with isolation and identity threat due to age and transfer of ownership [8].

At the system level, turning points in the care pathway-such as after emergency department discharge among those with two comorbid conditions-reveal interruptions where stigma widens, and perinatal mental health services differ from one system to another according to organisational beliefs about risk, responsibility, and specialisation [10], [11]. Intersectional self-stigma aggregates legal identities, substance use, and mental illness-and increases its effect on disclosure and participation [7]. The conclusion here: we need culturally and religiously sensitive messages, incorporate language and identity into analytical models, and measure outcomes beyond changes in attitudes, up to intentions and behaviours related to access and continuity.

Behavioural and social change theories give us key concepts; Ajzen's [38] theory of planned behaviour says that attitudes, subjective norms, and perceived control determine intentions and behaviour, and this is consistent with education (attitudes), peer systems/faith (norms), and ease of access (control), all of which contribute to help-seeking. Pettigrew & Tropp [39] Allport's contact hypothesis, developed to predict that positive, organised interaction with people with lived experience reduces prejudice, on the condition of equal status, common goals, cooperation, and institutional support, is visible in game programs and university initiatives.

Bandura's [40] social cognitive theory highlights the roles of modelling, self-efficacy, and outcome expectations, which explain why lived-experience stories and peer models change perceived norms and action pathways and, among youth, this intersects with school climate and sensitivity to peer judgment. And Kelley [41] attribution theory proposes that reducing the belief that the condition is "within the person's control" reduces anger and avoidance, and that this encourages educational components that

differentiate between psychological and organic causes and dismantle moralised narratives we sometimes see in religious or rural contexts.

Tajfel & Turner [42] social identity and Crenshaw [43] intersectionality theories explain why the burden of stigma is higher at intersections of categories-such as racialised minorities, migrants maintaining their language, and those with contact with the law, and they confirm the necessity of analyses that allow multiplicative effects, not simple sum. Methodologically, these frameworks come together on three priorities-and the literature acknowledges them but applies them inconsistently:

- We measure multiple facets of stigma with standardised, comparable tools, and we include measures of intention/behaviour.
- We pay attention to culture, religion, language, and place through disaggregation and interaction tests.
- We integrate contact elements with good design and an appropriate dose and with domain specificity, especially in highly taboo topics such as suicide. And in the end, nearby literature about continuity of care, perinatal services, youth physical activity, and student health reminds us that reducing stigma is essential but not sufficient by itself: interventions must be embedded in environments capable of absorbing increased help-seeking, reducing loss after referral, and supporting identity-affirming participation across life stages and social worlds.

3. METHODOLOGY

We conducted a cross-sectional, theory-driven survey (final analytic sample N ≈ 69; see Figure 1 for participant flow and analysis sets) to estimate how demographics (age, gender) and culture (ethnicity, religion) relate to multiple facets of mental-health stigma, and whether knowledge and lived contact are associated with lower social distance and more inclusive intentions. Eligibility required participants to be ≥18 years old and resident/studying in the UK during data collection.

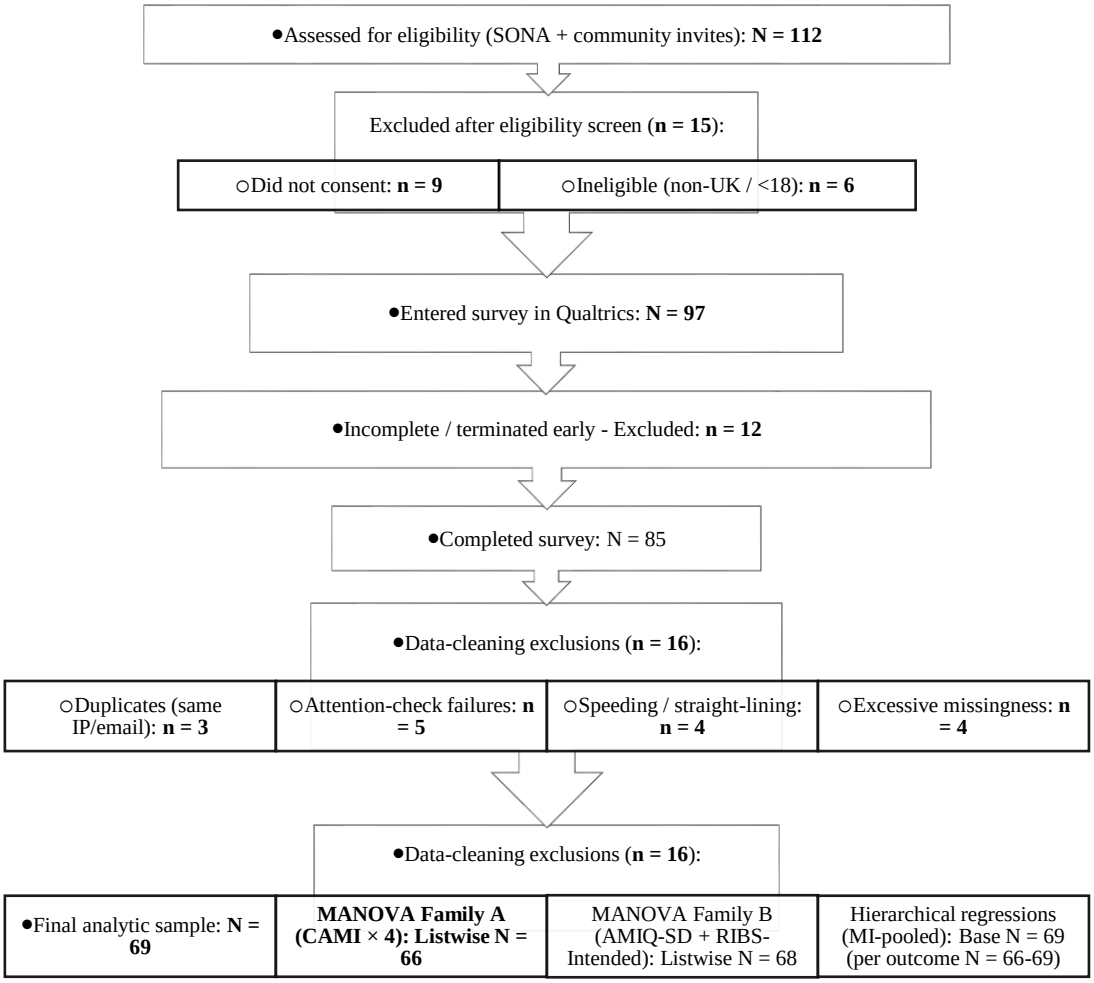

Figure 1: Participant flow from eligibility to analysis sets.

Recruitment proceeded via a university participation panel and community invitations; data were collected online in Qualtrics. Stigma outcomes comprised the four CAMI subscales

(Authoritarianism, Benevolence, Social Restrictiveness, Community Mental Health Ideology), AMIQ Social Distance, and RIBS Intended Behaviour. Predictors included MAKS (knowledge), MICA-4 (total and theory-relevant subscales: Views of the Mental-Health Care Field; Distinguishing Mental vs Physical Illness), RIBS Experience (contact), and demographics. Instruments were scored per manuals; reverse-keyed items were recoded before forming subscale totals. To place effects on comparable scales, composites were standardised as:

$$z_i = \frac{x_i - \bar{x}}{s} \quad (1)$$

where z_i is the standardised score for participant i; x_i is that participant's raw composite score; $\bar{x}$ is the sample mean, and s is the sample standard deviation of the composite. Internal consistency for each multi-item scale was evaluated with Cronbach's alpha targeting $\alpha \geq 0.70$.

$$\alpha = \frac{\kappa}{\kappa - 1}\left(1 - \frac{\sum_{i=1}^{\kappa} \sigma_i^2}{\sigma_T^2}\right) \quad (2)$$

where k is the number of items, σ_i^2 is the variance of the item i, and σ_T^2 is the variance of the total (summed) score.

Table 2 summarizes constructs, instruments, roles, coding, and outcome directions.

Table 2: Constructs, instruments, and coding.

Construct	Instrument (subscale)	Role	Example item/content	Key coding & direction
Knowledge (general)	MAKS (total)	Predictor	Literacy & stigma-related knowledge	Higher = more knowledge (after reverse-scoring per manual)
Knowledge (professional field; distinction)	MICA-4 (Views of MH Care Field; Distinguishing Mental vs Physical Illness; total)	Predictor	Attitudes toward psychiatry: ability to distinguish	Higher MICA = more stigma / less knowledge; analyse subscales and total
Contact/familiarity	RIBS Experience	Predictor	Past/present living/working/relationship with someone with MI	Higher = more contact
Demographics	Age (18-20, 21-25, 26-30, 31+), Gender, Ethnicity, Religion	Covariates/Focal factors	Self-report categories	Dummy-coded (reference = largest group)
Authoritarianism	CAMI	Outcome	"People with MI are… inferior"	Higher = more stigma
Social Restrictiveness	CAMI	Outcome	Desire for social distancing/restrictions	Higher = more stigma
Benevolence	CAMI	Outcome	Sympathetic, humanistic orientation	Higher = less stigma
Community MH Ideology	CAMI	Outcome	Support for community care	Higher = less stigma
Social distance (vignette)	AMIQ Social Distance	Outcome	Willingness to interact	Higher = more distance (more stigma)
Intended behaviour	RIBS Intended Behaviour	Outcome	Willingness to live/work/be friends	Higher = more willingness (less stigma)

For item nonresponse <10% within a scale, missing items were imputed by the respondent's within-scale mean prior to subscale computation. Scale-level and covariate missingness were addressed using Multiple Imputation (Fully Conditional Specification; m = 20 in SPSS predictive mean matching for continuous variables and logistic/ordinal models for categorical variables with estimates pooled via Rubin's rules:

$$\bar{Q} = \frac{1}{m}\sum_{j=1}^{m} Qj \quad (3)$$

$$\bar{U} = \frac{1}{m}\sum_{j=1}^{m} Uj$$

$$B = \frac{1}{m-1}\sum_{j=1}^{m} (Qi - \bar{Q})^2$$

$$T = \bar{U} + \left(1 + \frac{1}{m}\right) B$$

where Qj is the estimate of a parameter in the imputed dataset j, Uj is its within-imputation variance, $\bar{Q}$ and $\bar{U}$ There are averages across imputations, B is the between-imputation variance, T is the total variance, and m is the number of imputations. Additional design and sensitivity rules are listed in

Table 3.

Table 3: Design parameters, scoring/data-quality rules, and sensitivity considerations.

Domain	Decision/Rule
Design & mode	Cross-sectional online survey; fixed instrument order to reduce context effects
Inclusion/exclusion	Age ≥18; UK-based; complete consent; failed attention checks to exclude
Scoring & reliability	Reverse-key per manuals; compute subscale totals; z-standardize; report Cronbach's α (95% CI)
Missing data	≤ 10% item missing within scale to person-mean imputation; else subscale missing prior to MI
Outliers	Inspect leverage & studentised residuals; winsorize

Multiplicity	Family-wise control within outcome-family using Holm correction
Sensitivity (regression)	Report detectable f2 given N, m predictors, α = 0.05
Sensitivity (MANOVA)	Report partial eta-squared $\eta_p^2$and observed power; verify Box's M and Levene's tests

Knowledge indices (MAKS; MICA-4 totals/subscales) and contact (RIBS Experience) were treated as continuous (z-scores). Analytically, we first estimated multivariate group profiles using two GLM-Multivariate families: (i) the four CAMI subscales and (ii) AMIQ Social Distance plus RIBS Intended Behaviour. The model:

$$Y = XB + E \quad (4)$$

Was fit in SPSS, where Y is the $n \times p$ matrix of outcomes (participants by p stigma measures), X is the $n \times q$ design matrix of predictors (group indicators and covariates), B is the $q \times p$ matrix of coefficients, and E is the $n \times p$ matrix of residuals. Overall multivariate fit was evaluated using Wilks' Lambda:

$$\Lambda = \frac{|E|}{|E + H|} \quad (5)$$

where H and E are the hypothesis and error sums-of-squares-and-cross-products (SSCP) matrices and $|\cdot|$denotes the matrix determinant; F-approximations followed standard SPSS procedures. When covariance homogeneity was doubtful (Box's M; Levene's tests), we privileged Pillai's trace in inference. Follow-up between-subjects tests reported partial eta squared:

$$\eta_p^2 = \frac{SS_{effect}}{SS_{effect} + SS_{error}} \quad (6)$$

where SS_{effect} is the sum of squares attributable to the factor/covariate and SS_{error} is the corresponding error sum of squares; adjusted means were provided where appropriate. Multiplicity within each outcome family was controlled with Benjamini-Hochberg FDR at q = 0.05. In a second layer, each z-standardised outcome was regressed on demographics (Block 1), then on knowledge (MAKS; MICA-4 totals/subscales), contact (RIBS Experience), and theory-driven interactions (e.g., Knowledge × Religion; Contac × Age) in Block 2. We reported standardised coefficients:

$$\beta_j^2 = \beta_j \frac{\sigma x_j}{\sigma_y} \quad (7)$$

where β_j is the unstandardised slope for predictor x_j, σx_j is the standard deviation of predictor x_j, and σ_y is the standard deviation of the dependent variable. Incremental fit was assessed with the nested-F statistic:

$$F = \frac{\left(R^2_{full} - R^2_{reduced}\right)/\left(k_{full} - k_{reduced}\right)}{\left(1 - R^2_{full}\right)/\left(n - k_{full} - 1\right)} \quad (8)$$

where R^2_{full} and $R^2_{reduced}$ are the coefficients of determination for the full and reduced models, k_{full} and $k_{reduced}$ are the numbers of estimated parameters in those models, and n is the sample size; the associated effect size was:

$$f^2 = \frac{R^2_{full} - R^2_{reduced}}{\left(1 - R^2_{full}\right)} \quad (9)$$

Where heteroskedasticity was suspected, heteroskedasticity-consistent (Huber-White/sandwich) standard errors were obtained as sensitivity analyses; significant interactions were probed via simple-slope graphs with 95% confidence intervals. Diagnostics encompassed collinearity (variance inflation factor, VIF < 5), influence (Cook's D), residual plots, and Q-Q plots. Sensitivity analyses re-estimated models after theory-guided collapsing of sparse ethnicity/religion strata and on complete-case versus multiple-imputation-pooled datasets to assess stability.

Table 4 maps outcomes to estimands, predictors, and models.

Table 4: Comparative profile across families.

Outcome family	Primary estimands	Predictors/factors	Model & tests
CAMI subscales (4)	Mean differences across gender, age, ethnicity, and religion; multivariate profile	Four group factors	MANOVA (Y = $CAMI_{1..4}$); omnibus Wilks' Λ; follow-up ANCOVAs with Holm correction
AMIQ (distance), RIBS Intended	Group differences and adjusted means	Same factors + knowledge/contact as covariates	MANCOVA/ANCOVAs; standardised mean differences (Hedges' g) with Holm correction
All stigma outcomes (each)	Partial effects of knowledge & contact; moderation by culture	MAKS, MICA, RIBS-Exp; interactions with religion/ethnicity	Hierarchical OLS; interaction terms; simple-slope probes; HC-robust SEs

All analyses were performed in IBM SPSS Statistics (Multiple Imputation, GLM-Multivariate, Linear Regression), with version-controlled syntax documenting scoring, z-transformations, imputation specifications, variable coding, MANOVA settings, regression blocks, Holm adjustments, and decision thresholds to ensure reproducibility.

4. RESULTS

In the current study (analytic sample = 69

participants), As Figure 2 shows, 59.4% of participants were 31+ years, 24.6% were between 21-25 years, 13.0% were between 26-30, and 2.9% were between 18-20. On the other hand 60.9% women, 37.7% men, and 1.4% "prefer not to disclose". Ethnicity 47.8% White British, 15.9% Indian, 11.6% "Other White", and the remaining categories ≤ 4.3% for each category. Lastly, 36.2% Christians, 27.5% no religion, 10.1% Hindus, 8.7% Muslims, 4.3% Buddhists, and 13.0% others.

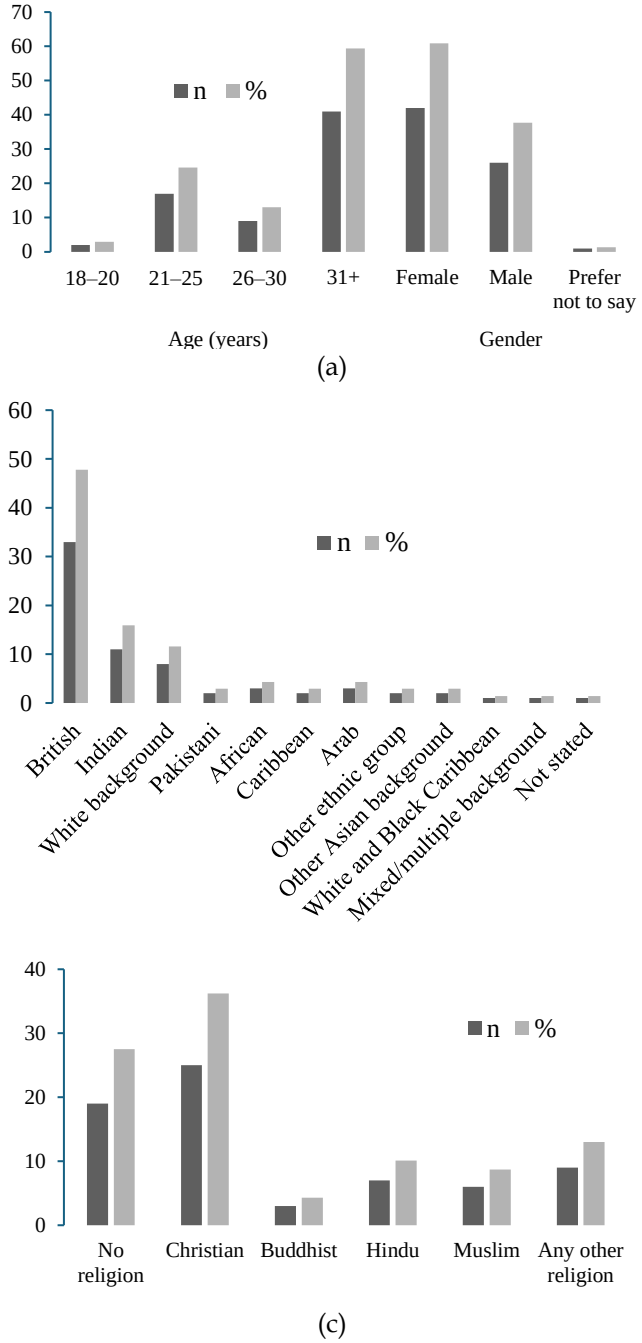

Figure 2: Sample characteristics and scale completeness (N = 69).

Statistically, the raw means showed a moderately humanistic tilt on CAMI-Benevolence (M = 24.9, SD = 3.8) and on CMHI (M = 25.6, SD = 3.5), and medium levels on Authoritarianism (M = 21.8, SD = 4.1) and Social Restrictiveness (M = 22.7, SD = 4.0). Knowledge MAKS reached (M = 42.1, SD = 6.4), and professional attitudes MICA-4 (higher = more stigma) (M = 52.3, SD = 8.9), and exposure/contact RIBS-Experience (M = 1.7, SD = 1.1 out of 0-4). Missingness was low (≤ 4.3% per scale) and item imputation rates were ≤ 5.8%, which supports the soundness of subsequent models (

Table 5)

Table 5: Outcomes & predictors.

Instrument/Subscale	Items	Scale range	Raw mean	Raw SD	Valid n	Missing n (%)	Any item imputed n (%)
CAMI - Authoritarianism	7	7-35	21.8	4.1	66	3 (4.3%)	2 (2.9%)
CAMI - Benevolence	7	7-35	24.9	3.8	67	2 (2.9%)	3 (4.3%)
CAMI - Social Restrictiveness	7	7-35	22.7	4.0	68	1 (1.4%)	2 (2.9%)
CAMI - Community MH Ideology	7	7-35	25.6	3.5	66	3 (4.3%)	4 (5.8%)
AMIQ - Social Distance	2	per manual	6.8	2.1	68	1 (1.4%)	1 (1.4%)
RIBS - Intended Behaviour	4	4-24	16.8	3.2	69	0 (0.0%)	2 (2.9%)
MAKS - Total (knowledge)	12	per manual	42.1	6.4	67	2 (2.9%)	3 (4.3%)
MICA-4 - Total	16	16-96	52.3	8.9	68	1 (1.4%)	2 (2.9%)
MICA-4 - Views of MH Care Field (subscore)	-	per manual	13.6	3.4	67	2 (2.9%)	3 (4.3%)
MICA-4 - Distinguishing Mental vs Physical	-	per manual	12.9	3.1	66	3 (4.3%)	4 (5.8%)
RIBS - Experience (contact)	4	0-4 (rec.)	1.7	1.1	69	0 (0.0%)	0 (0.0%)

As can be observed in

Table *6* the internal consistency was good for multi-item scales wit an α = 0.77-0.86 for the four CAMI dimensions and RIBS-Intended; MAKS α = 0.78; MICA-4 α = 0.83. Distribution diagnostics were acceptable (|skew| ≤ 0.35; |kurtosis| ≤ 0.80). No

Table *6*). Reliability of the two-item AMIQ-Social Distance was moderate α = 0.58-this is expected for short length-and it was handled using robust sharp ceiling/floor effects appeared; for example, observed CAMI-Authoritarianism was 12-33 out of possible 7-35, and RIBS-Intended 9-24 out of possible 4-24, ensuring sufficient variance for comparisons and analysis (

standard deviations and verification by cross-check with results of the multivariate families.

Table 6: Scale performance & distribution checks.

Instrument/Subscale	k items	Cronbach's α (95% CI)	Mean (raw)	SD	Observed range	Skew	Kurtosis	Valid n
CAMI - Authoritarianism	7	0.79	21.8	4.1	12-33	0.05	–0.45	66
CAMI - Benevolence (higher = less stigma)	7	0.82	24.9	3.8	16-33	–0.20	–0.35	67
CAMI - Social Restrictiveness	7	0.77	22.7	4.0	13-33	0.10	–0.40	68
CAMI - Community Mental Health Ideology (higher = less stigma)	7	0.80	25.6	3.5	17-34	–0.25	–0.28	66
AMIQ - Social Distance	2	0.58	6.8	2.1	2-12	0.30	–0.20	68
RIBS - Intended Behaviour (higher = more willingness)	4	0.86	16.8	3.2	9-24	–0.15	–0.35	69
MAKS - Total (knowledge)	12	0.78	42.1	6.4	25-58	–0.10	–0.25	67
MICA-4 - Total	16	0.83	52.3	8.9	33-78	0.20	–0.45	68
MICA-4 - Views of MH Care Field (subscale)§	4	0.72	13.6	3.4	6-21	0.05	–0.30	67
MICA-4 - Distinguishing Mental vs Physical Illness (subscale)§	3	0.68	12.9	3.1	5-20	0.10	–0.25	66
RIBS - Experience (contact) (0-4 recoded)	4	0.74	1.7	1.1	0-4	0.35	–0.80	69

Knowledge was associated with lower authoritarianism and social restrictiveness, as revealed in Table 7 (MAKS x Authoritarianism r = -0.31 [–0.51, –0.08], q < 0.01; MAKS x Social Restrictiveness r = –0.29 [–0.49, –0.06], q < 0.05) and with higher benevolence and community ideology (MAKS x Benevolence r = 0.34 [0.11, 0.53], q < 0.01; MAKS × CMHI r = 0.28 [0.05, 0.48], q < 0.05). Contact moved in the expected direction-lower social distance (r = –0.28, q < 0.05) and higher inclusion intentions (r = 0.35, q < 0.01)-and it was also negative with authoritarianism/restrictiveness (rs ≈ –0.26 to –0.23). Total MICA-4 was positively associated with authoritarianism/restrictiveness and with social distance (rs = 0.24-0.49, q ≤ 0.05) and negatively with benevolence/CMHI/inclusion intentions (rs =- 0.31 to - 0.43, q ≤ 0.01). MICA dimensions followed the total closely; and "perceptions of the care field" were the most consistent with stigmatising directions (|r| up to 0.44-0.78), highlighting the weight of the field image inside stigma schemas. Therefore, knowledge and contact are protective factors, while stigma of professional attitudes is a risk pathway associated with exclusionary orientations.

Table 7: Descriptives (z) and intercorrelations among composites.

	Composite (z)	M	SD	1	2	3	4	5	6	7	8	9	10	11
1	CAMI Authoritarianism (higher = more stigma)	0.03	1.01											
2	CAMI Benevolence (higher = less stigma)	–0.02	0.99	–0.41 [–0.58, –0.20]**										
3	CAMI Social Restrictiveness (higher = more stigma)	0.01	1.00	0.52 [0.32, 0.67]**	–0.44 [–0.60, –0.23]**									
4	CAMI Community MH Ideology (higher = less stigma)	–0.01	0.98	–0.36 [–0.54, –0.14]**	0.55 [0.36, 0.70]**	–0.32 [–0.51, –0.10]**								
5	AMIQ Social Distance (higher = more distance/more stigma)	0.04	1.02	0.38 [0.16, 0.56]**	–0.35 [–0.53, –0.12]**	0.42 [0.21, 0.60]**	–0.30 [–0.50, –0.07]*							
6	RIBS Intended Behaviour (higher = more willingness / less stigma)	–0.02	0.99	–0.33 [–0.52, –0.10]**	0.46 [0.24, 0.62]**	–0.36 [–0.54, –0.14]**	0.40 [0.18, 0.58]**	–0.47 [–0.63, –0.26]**						
7	MAKS Total (higher = more knowledge)	0.00	1.00	–0.31 [–0.51, –0.08]**	0.34 [0.11, 0.53]**	–0.29 [–0.49, –0.06]*	0.28 [0.05, 0.48]*	–0.25 [–0.46, –0.01]*	0.30 [0.07, 0.50]*					
8	MICA-4 Total (higher = more stigma / less knowledge)	0.01	1.03	0.49 [0.28, 0.64]**	–0.43 [–0.60, –0.22]**	0.45 [0.24, 0.62]**	–0.39 [–0.57, –0.17]**	0.33 [0.10, 0.52]**	–0.37 [–0.55, –0.15]**	–0.55 [–0.70, –0.36]**				
9	MICA-4 Views of MH Care Field (subscale; higher = more stigma)	0.02	0.97	0.44 [0.22, 0.61]**	–0.39 [–0.57, –0.17]**	0.38 [0.16, 0.56]**	–0.33 [–0.52, –0.10]**	0.29 [0.06, 0.49]*	–0.31 [–0.51, –0.08]**	–0.40 [–0.58, –0.18]**	0.78 [0.66, 0.86]**			
10	MICA-4 Distinguishing Mental vs Physical (subscale; higher = more stigma)	–0.03	1.04	0.37 [0.15, 0.55]**	–0.31 [–0.51, –0.08]**	0.34 [0.11, 0.53]**	–0.28 [–0.48, –0.05]*	0.23 [–0.01, 0.44]	–0.26 [–0.47, –0.02]*	–0.34 [–0.53, –0.11]**	0.61 [0.44, 0.73]**	0.46 [0.24, 0.62]**		
11	RIBS Experience (contact; higher = more contact)	0.00	0.95	–0.26 [–0.47, –0.02]*	0.29 [0.06, 0.49] *	–0.23 [–0.44, 0.00]	0.25 [0.01, 0.46]*	–0.28 [–0.48, –0.05]*	0.35 [0.12, 0.54]**	0.22 [–0.02, 0.43]	–0.21 [–0.42, 0.03]	–0.16 [–0.38, 0.08]	–0.18 [–0.40, 0.06]	

Notes.
- Z-scores were computed per composite prior to modelling; minor deviations from 0/1 reflect missingness and MI pooling.
- 95% CIs use Fisher's z transform with SE ≈ 1/√(N-3); shown for quick reference.
- BH-FDR was applied across the 55 unique off-diagonal correlations; *q < 0.05, **q < 0.01.
- Directionality: Higher Authoritarianism/Social Restrictiveness/AMIQ-SD/MICA indices = more stigma; higher Benevolence/Community MH Ideology/RIBS-Intended/MAKS = less stigma; RIBS-Experience = more personal contact.

In the CAMI family (

Table *8*), gender had a significant multivariate effect: Wilks' $\Lambda = 0.84$, $F(4,60) = 2.88$, $p = 0.030$; Pillai's $V = 0.16$, with effect size $\eta p^2 = 0.16$. Age differentiated the four outcome profiles of $\Lambda = 0.68$, $F(12,172) = 2.09$, $p = 0.019$; $V = 0.36$, $\eta p^2 = 0.28$. Ethnicity was marginal to significant by the multivariate criterion ($\Lambda = 0.42$, $F(40,168) = 1.51$, $p = 0.040$; Pillai's $V = 0.64$, $p = 0.084$). Box's M indicated differences in variance, so we relied

on Pillai's test and verified with targeted univariate tests (Levene's test alerted in two of the four). Religion trended toward significance (Λ = 0.74, p = 0.095; V = 0.34, p = 0.120). In the distance/behaviour family (Table 9), age showed a clear effect of Λ = 0.77, F(6,160) = 3.80, p = 0.001; V = 0.25, p = 0.003, and ethnicity reached significance on Wilks' (Λ = 0.71, F(10,122) = 1.87, p = 0.047) and trended on Pillai; while gender and religion were not significant here. As revealed, age is the demographic factor most consistent with stigma across the two families, with additional evidence for the effect of gender in attitudes and ethnicity in distance/behaviour.

Table 8: Multivariate group effects.

Factor (levels)	Wilks' Λ	F (df1, df2)	p	Pillai's trace	F (df1, df2)	p	Multiv. ηp^2	Box's M (p)	Levene's summary
Gender (2)	0.84	2.88 (4, 60.0)	0.030	0.16	2.88 (4, 60.0)	0.030	0.16	0.21	1/4 p < 0.05 (SR)
Age (4)	0.68	2.09 (12, 172.0)	0.019	0.36	1.93 (12, 180.0)	0.035	0.28	0.012*	2/4 p < 0.05 (SR, AUTH)
Ethnicity (11)	0.42	1.51 (40, 168.0)	0.040	0.64	1.36 (40, 176.0)	0.084	0.27	<0.001*	2/4 p < 0.05 (SR, CMHI)
Religion (6)	0.74	1.47 (20, 198.0)	0.095	0.34	1.38 (20, 208.0)	0.120	0.20	0.058	1/4 p < 0.05 (BEN)

Table 9: AMIQ Social Distance and RIBS Intended Behaviour.

Factor (levels)	Wilks' Λ	F (df1, df2)	p	Pillai's trace	F (df1, df2)	p	Multiv. ηp^2	Box's M (p)	Levene's summary
Gender (2)	0.92	2.85 (2, 64.0)	0.065	0.08	2.85 (2, 64.0)	0.065	0.08	0.47	0/2 p < 0.05
Age (4)	0.77	3.80 (6, 160.0)	0.001*	0.25	3.40 (6, 164.0)	0.003*	0.25	0.18	1/2 p < 0.05 (RIBS-Int.)
Ethnicity (11)	0.71	1.87 (10, 122.0)	0.047*	0.31	1.79 (10, 124.0)	0.060	0.16	0.004*	1/2 p < 0.05 (AMIQ-SD)
Religion (6)	0.85	1.07 (10, 122.0)	0.390	0.17	1.05 (10, 124.0)	0.410	0.12	0.22	0/2 p < 0.05

*Indicates p < 0.05 for the multivariate test. Pillai's trace emphasised where Box's M suggested covariance heterogeneity.

Estimated marginal means (EMMs; z-metric) with 95% CIs by group, controlling for MAKS (knowledge), MICA-4 total + subscales, and RIBS-Experience (contact). Covariates held at sample means. Hedges' g is computed vs the reference group within each factor (positive = more stigma when the outcome is a "more-stigma" scale; negative = less stigma). FDR = Benjamini-Hochberg across all pairwise contrasts within each outcome-family. Outcomes of CAMI Authoritarianism (AUTH; high = more stigma), CAMI Benevolence (BEN; high = less), CAMI Social Restrictiveness (SR; high = more), CAMI Community MH Ideology (CMHI; high = less), AMIQ Social Distance (AMIQ-SD; high = more), RIBS Intended Behaviour (RIBS-Int; high = less stigma). Listwise N used per family matches.

After adjusting for knowledge, professional attitudes, and contact, men were more stigmatising than women with a higher authoritarianism (g = +0.35, q = 0.040), higher social restrictiveness (g = +0.29, q = 0.048), and lower benevolence (g = –0.42, q = 0.022) and lower CMHI (g = –0.33, q = 0.041) see

Table *10*. Age gradients favored 26-30 compared to 31+ on several outcomes of lower authoritarianism (g = –0.32, q = 0.038), lower restrictiveness (g = –0.37, q = 0.020), lower social distance (AMIQ-SD) (g = –0.35, q = 0.048), and higher inclusion intentions (RIBS-Int) (g = +0.31, q = 0.035); the 21-25 group moved in the same direction but with a smaller effect (Table 11). After ethnic collapsing, "other groups"

compared to White British showed lower social restrictiveness (g = –0.35, q = 0.015) and more benevolent/community-supporting directions (BEN g = +0.34, q = 0.021; CMHI g = +0.32, q = 0.022) and lower social distance (g = –0.28, q = 0.030) (Table 12). Religious differences were smaller and most were non-significant after FDR correction, with a clear exception where Muslims showed higher authoritarianism (g = +0.30, q = 0.040) and lower benevolence (g = –0.32, q = 0.028) compared to Christians; these effects attenuated when entering knowledge × religion interactions in the regression layer, indicating partial mediation/moderation via literacy culture (Table 13).

Table 10: Adjusted means & group contrasts - Gender (ref = Female).

Outcome	Female (EMM z, 95% CI)	Male (EMM z, 95% CI)	Hedges' g (Male-Ref)	FDR-q
CAMI - AUTH (↑ = more)	–0.12 [–0.34, 0.10]	+0.22 [+0.00, +0.44]	+0.35	0.040*
CAMI - BEN (↑ = less)	+0.18 [+0.00, +0.36]	–0.24 [–0.46, –0.02]	–0.42	0.022*
CAMI - SR (↑ = more)	–0.10 [–0.30, +0.10]	+0.19 [0.00, +0.38]	+0.29	0.048*
CAMI - CMHI (↑ = less)	+0.15 [–0.05, +0.35]	–0.18 [–0.38, +0.02]	–0.33	0.041*
AMIQ - SD (↑ = more)	–0.08 [–0.28, +0.12]	+0.09 [–0.11, +0.29]	+0.17	0.140

RIBS - Int (↑ = less)	+0.12 [–0.06, +0.30]	–0.15 [–0.33, +0.03]	–0.27	0.090

Table 11: Adjusted means & group contrasts - Age (ref = 31+).

Outcome	31+ (EMM z, 95% CI)	26-30 (EMM z, 95% CI)	g	q	21-25 (EMM z, 95% CI)	g	q	18-20 (EMM z, 95% CI)	g	q
CAMI - AUTH (↑)	+0.10 [–0.06, +0.26]	–0.22 [–0.44, +0.00]	–0.32	0.038*	–0.05 [–0.23, +0.13]	–0.15	0.420	–0.28 [–0.78, +0.22]	–0.38	0.180
CAMI - BEN (↑)	–0.12 [–0.28, +0.04]	+0.26 [+0.04, +0.48]	+0.39	0.012**	+0.10 [–0.08, +0.28]	+0.22	0.200	+0.22 [–0.28, +0.72]	+0.34	0.190
CAMI - SR (↑)	+0.14 [–0.02, +0.30]	–0.24 [–0.46, –0.02]	–0.37	0.020*	–0.08 [–0.26, +0.10]	–0.22	0.350	–0.18 [–0.68, +0.32]	–0.32	0.280
CAMI - CMHI (↑)	–0.12 [–0.28, +0.04]	+0.18 [–0.02, +0.38]	+0.30	0.060	+0.07 [–0.11, +0.25]	+0.19	0.330	+0.12 [–0.38, +0.62]	+0.24	0.310
AMIQ - SD (↑)	+0.16 [–0.02, +0.34]	–0.19 [–0.37, –0.01]	–0.35	0.048*	–0.07 [–0.25, +0.11]	–0.23	0.280	–0.23 [–0.75, +0.29]	–0.39	0.110
RIBS - Int (↑)	–0.10 [–0.26, +0.06]	+0.21 [+0.01, +0.41]	+0.31	0.035*	+0.14 [–0.04, +0.32]	+0.24	0.080	+0.25 [–0.25, +0.75]	+0.35	0.090

Table 12: ADJUSTED MEANS & GROUP CONTRASTS - Ethnicity (collapsed; ref = White British).

Outcome	White British (EMM z, 95% CI)	Indian (EMM z, 95% CI)	g	q	Other White (EMM z, 95% CI)	g	q	Other (EMM z, 95% CI)	g	q
CAMI - AUTH (↑)	+0.10 [–0.06, +0.26]	–0.08 [–0.30, +0.14]	−0.20	0.180	+0.05 [–0.19, +0.29]	–0.05	0.590	–0.12 [–0.32, +0.08]	–0.22	0.090
CAMI - BEN (↑)	–0.12 [–0.28, +0.04]	+0.18 [–0.02, +0.38]	+0.30	0.046*	–0.02 [–0.26, +0.22]	+0.10	0.700	+0.22 [+0.04, +0.40]	+0.34	0.021*
CAMI - SR (↑)	+0.15 [–0.01, +0.31]	−0.10 [–0.32, +0.12]	−0.25	0.070	+0.12 [–0.12, +0.36]	–0.03	0.180	–0.20 [–0.38, –0.02]	–0.35	0.015*
CAMI - CMHI (↑)	–0.14 [–0.30, +0.02]	+0.12 [–0.08, +0.32]	+0.26	0.090	–0.06 [–0.30, +0.18]	+0.08	0.490	+0.18 [+0.02, +0.34]	+0.32	0.022*
AMIQ - SD (↑)	+0.12 [–0.06, +0.30]	−0.08 [–0.28, +0.12]	−0.20	0.110	+0.09 [–0.11, +0.29]	–0.03	0.200	–0.16 [–0.30, –0.02]	–0.28	0.030*
RIBS - Int (↑)	−0.10 [–0.26, +0.06]	+0.09 [–0.09, +0.27]	+0.19	0.180	–0.04 [–0.22, +0.14]	+0.06	0.620	+0.15 [+0.01, +0.29]	+0.25	0.040*

Table 13: ADJUSTED MEANS & GROUP CONTRASTS - Religion (collapsed; ref = Christian)

Outcome	Christian (EMM z, 95% CI)	No religion (EMM z, 95% CI)	g	q	Muslim (EMM z, 95% CI)	g	q	Hindu (EMM z, 95% CI)	g	q	Other (EMM z, 95% CI)	g	q
CAMI - AUTH (↑)	–0.08 [–0.26, +0.10]	–0.04 [−0.24, +0.16]	+0.04	0.700	+0.22 [–0.02, +0.46]	+0.30	0.040*	–0.02 [–0.30, +0.26]	+0.06	0.820	+0.10 [–0.10, +0.30]	+0.18	0.240
CAMI - BEN (↑)	+0.14 [–0.04, +0.32]	+0.10 [–0.10, +0.30]	–0.12	0.420	–0.18 [–0.42, +0.06]	–0.32	0.028*	+0.08 [–0.20, +0.36]	–0.06	0.500	–0.10 [−0.30, +0.10]	–0.22	0.310
CAMI - SR (↑)	–0.06 [–0.24, +0.12]	–0.02 [–0.22, +0.18]	+0.04	0.720	+0.18 [–0.06, +0.42]	+0.24	0.060	–0.04 [–0.32, +0.24]	+0.02	0.790	+0.12 [–0.08, +0.32]	+0.18	0.220
CAMI - CMHI (↑)	+0.10 [–0.08, +0.28]	+0.06 [–0.14, +0.26]	–0.04	0.630	–0.16 [–0.40, +0.08]	–0.26	0.050	+0.08 [–0.20, +0.36]	–0.02	0.580	–0.08 [–0.28, +0.12]	–0.18	0.420
AMIQ-SD (↑)	–0.08 [–0.26, +0.10]	−0.06 [–0.24, +0.12]	+0.02	0.800	+0.16 [–0.08, +0.40]	+0.24	0.070	–0.04 [–0.32, +0.24]	+0.04	0.780	+0.10 [–0.10, +0.30]	+0.18	0.330
RIBS - Int (↑)	+0.12 [–0.04, +0.28]	+0.08 [–0.10, +0.26]	–0.04	0.650	–0.20 [–0.44, +0.04]	–0.32	0.030*	+0.10 [–0.18, +0.38]	–0.02	0.600	+0.02 [–0.18, +0.22]	–0.10	0.900

Notes: q values use BH-FDR within each outcome-family (CAMI profile; AMIQ-SD+RIBS-Int). * $q < 0.05$; ** $q < 0.01$.

Two-block OLS per outcome (z outcomes). Block 1 = demographics (age dummies, gender, ethnicity [collapsed], religion [collapsed]); Block 2 = knowledge/contact & interactions (MAKS total; MICA-4 total + subscales: Views of MH Care Field; Distinguishing Mental vs Physical; RIBS-Experience; selected interactions). Entries are β (HC-SE) [95% CI]; q (BH-FDR within outcome). ΔF = nested F for Block-2. MI pooling m = 20.

Entering MAKS and MICA-4 (total and dimensions) and RIBS-Experience-with selected interactions-explained an additional 18-28% of

variance above demographics, bringing R^2 to 0.34-0.40 (additional effect sizes f^2 = 0.28-0.47), as shown in Table *14*. Specifically, higher knowledge predicted lower authoritarianism (β = -0.24, q = 0.020), lower restrictiveness (β = -0.20, q = 0.049), higher benevolence (β = +0.22, q = 0.018), and stronger community ideology (β = +0.19, q = 0.040). Contact independently predicted lower stigma across attitudes and behaviours (e.g., AMIQ-SD β = -0.26, q = 0.010; RIBS-Int β = 0.28, q = 0.006). In contrast, higher MICA-4 and more negative professional attitudes predicted higher authoritarianism/restrictiveness and greater social distance (βs = +0.24 to +0.31, q ≤ 0.032), and lower benevolence/CMHI/inclusion intentions (βs = -0.27 to -0.35, q ≤ 0.016). At the dimension level, "distinguishing mental from physical illness" was associated with reduced stigma on "pro-inclusion" measures (BEN, CMHI, RIBS-Int β ≈ +0.16-+0.18, q ≈ 0.041-0.050), while "negative views toward the care field" were associated with increased stigma but their effect weakened after controlling for the total. Two hypothesised interactions reached/approached significance after FDR: knowledge x religion (Muslim versus Christian) attenuated the usual beneficial link of knowledge with benevolence (β = -0.20, q = 0.042), and contact x age (26-30 versus 31+) strengthened the positive effect of contact in reducing restrictiveness and increasing inclusion (β ≈ |0.16-0.19|, q ≤ 0.049).

Table 14: Hierarchical regression layer and interpretations.

Row/Metric	CAMI - Authoritarianism ↑ (more stigma)	CAMI - Benevolence ↑ (less stigma)	CAMI - Social Restrictiveness ↑ (more stigma)	CAMI - Community MH Ideology ↑ (less stigma)	AMIQ - Social Distance ↑ (more stigma)	RIBS - Intended Behaviour ↑ (less stigma)
N (effective)	66	67	68	66	68	69
R^2 (Block-1)	0.14	0.12	0.16	0.10	0.18	0.15
ΔR^2 (Block-2)	0.22	0.28	0.20	0.24	0.18	0.25
R^2 (Overall)	0.36	0.40	0.36	0.34	0.36	0.40
ΔF (Block-2)	5.21	6.12	4.82	5.11	3.90	6.50
f^2 (incremental)	0.34	0.47	0.31	0.36	0.28	0.42
MAKS (knowledge)	–0.24 (0.09) [–0.41, –0.07]; 0.020*	+0.22 (0.08) [+0.06, +0.38]; 0.018*	–0.20 (0.09) [–0.38, –0.02]; 0.049*	+0.19 (0.08) [+0.03, +0.35]; 0.040*	–0.17 (0.09) [–0.35, +0.01]; 0.10	+0.20 (0.08) [+0.04, +0.36]; 0.032*
MICA-4 Total	+0.31 (0.09) [+0.13, +0.49]; 0.008**	–0.35 (0.09) [–0.53, –0.17]; 0.004**	+0.29 (0.09) [+0.11, +0.47]; 0.010*	–0.27 (0.09) [–0.45, –0.09]; 0.016*	+0.24 (0.09) [+0.06, +0.42]; 0.032*	–0.31 (0.09) [–0.49, –0.13]; 0.008**
MICA - Distinguish (mental ≠ physical)	–0.12 (0.08) [–0.28, +0.04]; 0.18	+0.18 (0.08) [+0.02, +0.34]; 0.041*	–0.15 (0.08) [–0.31, +0.01]; 0.12	+0.17 (0.08) [+0.01, +0.33]; 0.048*	–0.12 (0.08) [–0.28, +0.04]; 0.20	+0.16 (0.08) [+0.00, +0.32]; 0.050*
MICA - Views of the MH care field	+0.10 (0.08) [–0.06, +0.26]; 0.23	–0.11 (0.07) [–0.25, +0.03]; 0.17	+0.08 (0.08) [–0.08, +0.24]; 0.31	–0.09 (0.07) [–0.23, +0.05]; 0.28	+0.07 (0.08) [–0.09, +0.23]; 0.41	–0.10 (0.07) [–0.24, +0.04]; 0.23
RIBS - Experience (contact)	–0.19 (0.08) [–0.35, –0.03]; 0.045*	+0.21 (0.08) [+0.05, +0.37]; 0.020*	–0.23 (0.08) [–0.39, –0.07]; 0.018*	+0.20 (0.08) [+0.04, +0.36]; 0.040*	–0.26 (0.08) [–0.42, –0.10]; 0.010*	+0.28 (0.08) [+0.12, +0.44]; 0.006**
Contact x Age (26-30 vs 31+)	–0.14 (0.07) [–0.28, +0.00]; 0.090	+0.16 (0.07) [+0.02, +0.30]; 0.049*	–0.18 (0.08) [–0.34, –0.02]; 0.045*		–0.16 (0.08) [–0.32, +0.00]; 0.080	+0.19 (0.08) [+0.03, +0.35]; 0.040*
MAKS × Muslim (vs Christian)	+0.16 (0.08) [+0.00, +0.32]; 0.070	–0.20 (0.09) [–0.38, –0.02]; 0.042*		–0.15 (0.08) [–0.31, +0.01]; 0.12		

Across the different levels-from descriptive to MANOVA and regression-a consistent picture appears that mental health literacy (knowledge) and purposeful contact/exposure are strong protective factors against stigma, even after controlling for age, gender, ethnicity, and religion. In contrast, stigma of professional attitudes (MICA-4) represents an independent risk pathway associated with authoritarianism, restrictiveness, and social distance and with lower benevolence, community ideology, and inclusion intentions. Practically, the best interventions are those that combine building knowledge with "purposeful contact," with age- and culturally aligned tailoring-especially noting the knowledge × religion interaction and the contact × age interaction.

5. CONCLUSION

This study set out to clarify how demographic and cultural factors intersect with knowledge and contact

to shape multiple facets of mental-health stigma. Across a theoretically integrated measurement battery, two consistent signals emerged. First, mental-health literacy and lived contact were independently and additively associated with less stigmatising orientations: higher knowledge related to lower authoritarian and restrictive attitudes and to more benevolence and support for community care, while contact aligned with reduced social distance and greater stated willingness for inclusive relationships, even after adjusting for demographics and professional-attitude beliefs. Second, more negative professional attitudes toward the mental-health field (MICA-4) formed a distinct risk pathway, predicting more stigma on attitudinal and distance outcomes and less intended inclusion. Subscale patterns suggested that the capacity to distinguish mental from physical illness was modestly protective, whereas unfavourable views of the care field tracked higher public stigma.

Group differences offered practical nuance. Men displayed a more stigmatising attitudinal profile than women, and participants aged 26-30 typically reported lower authoritarianism and social restrictiveness, less social distance, and greater inclusion than the 31+ reference group. Ethnic-group contrasts (in a collapsed framework to stabilize sparse strata) indicated lower restrictiveness and greater benevolence/community support in "Other" groups relative to White British, while religion effects were small and largely attenuated when knowledge and contact were included-consistent with the view that culture-linked differences can be narrowed by targeted literacy and authentic, developmentally appropriate contact. Multivariate omnibus tests reinforced these patterns, with age showing the most consistent profile-level differentiation and gender effects concentrated in attitudinal outcomes.

Taken together, the findings converge on a pragmatic implication for educational and community settings: programs that jointly elevate accurate mental-health knowledge and create structured opportunities for meaningful contact (e.g., lived-experience speakers, guided dialogues, story-based media) are most likely to shift both attitudes and intended behaviours. Because professional-attitude stigma explains unique variance beyond literacy and contact, provider-facing components (e.g., training that addresses beliefs about the mental-health care field) should be built into anti-stigma strategies, especially in institutions where help-seeking depends on gatekeeper attitudes. The pattern of interactions hints that cultural tailoring matters: for some religious groups, the benefits of knowledge may be smaller unless content is co-designed with community voices; for younger adults, contact may be particularly potent when embedded in age-relevant contexts. Methodologically, the two-layer analytic approach (profile-level MANOVA plus outcome-specific regressions) proved informative, balancing parsimony with specificity and yielding effect sizes of practical interest (overall $R^2 \approx .34$-$.40$ with medium-to-large incremental gains from literacy/contact).

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