Stigma is stigma - a systematic review and meta-analysis of self-stigma in depressive, psychotic and bipolar disorder

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Abstract

Background: Self-stigma in patients with severe mental health disorders is linked to shame, reduced self-esteem and lower quality of life. Though internalization of external attitudes about mental health disorders it affects individuals on cognitive, emotional, and behavioural level. However, little is known about the differential nature and severity of self-stigma in individuals with different mental health disorders.

Methods: This systematic review and meta-analysis summarizes quantitative studies on self-stigma in non-affective psychosis, depressive, and bipolar disorder published between January 1, 2000, and June 26, 2024 (PUBMED, PsycINFO, Web of Science). We included peer-reviewed studies with samples diagnosed according to DSM or ICD that used validated self-stigma measures. The primary outcome was the mean on the internalized stigma of mental illness (ISMI) scale, which comprises five subscales: alienation, stereotype endorsement, discrimination experience, social withdrawal, and stigma resistance. In addition, data about hospitalisation, duration of illness, ethnicity, education, and illness severity were extracted. Subgroup and meta-regression analyses were conducted to explore moderators.

Findings: Among 2628 identified studies, 162 met inclusion criteria yielding a total sample of 24483 patients: 19350 with non-affective psychosis (k = 134), 2339 with depressive (k = 23), and 2618 with bipolar disorder (k = 32). There were no significant differences in mean ISMI between any of the diagnostic groups (all $p > 0{\cdot}62$) or the ISMI subscales (all $p > 0{\cdot}05$). Moderator analyses revealed no significant effects of demographic or clinical variables on overall self-stigma levels.

Interpretation: There were no differences in reported overall internalized stigma levels between diagnostic groups, indicating the shared experience of stigma across the three mental health disorder groups. The findings suggest that differential levels of external stigma associated with these diagnostic groups do not directly map to self-stigma, however, indicating that preventive and therapeutic strategies are equally needed across the diagnostic groups.

Key words: Self-stigma, alienation, cognitive endorsement, social withdrawal negative stereotypes, severe mental health disorders

Introduction

Stigma is a socially devaluing attribute that leads to shame, discrimination, and exclusion by others[1]. Mental health stigma is driven by lacking knowledge and stereotypes, preconceived negative attitudes, and discrimination of individuals with mental health disorders[1,2]. Individuals with mental health disorders frequently experience public stigmatization and discrimination, including exposure to hostile attitudes or exclusion from social and occupational roles in society[3]. Common societal stigmas portray individuals with psychotic and bipolar disorders as dangerous, while those with depression are often seen as weak, inadequate, or flawed[4,5]. Although all mental illnesses are subject to stigma and discrimination[6], such stereotypes may lead to greater exclusion for people with psychosis and bipolar disorder due to fear[7–9], whereas those with depression may be treated with pity instead[10,11]. Recent findings show that mental health literacy is linked to reduced stigma[12], in particular that psychosocial causal models can decrease stigma while biogenetic explanations can increase perceptions of dangerousness and social distance, especially in psychotic disorders. Complementary to this, the cognitive-behavioural model of stigma indicates that people tend to feel stronger negative emotions, fear, and anger, toward mental health conditions that seem less familiar or harder to relate to, such as hallucinatory or delusional behaviours, as compared to more common feelings like sadness[2]. Over time individuals with mental health disorders may internalize and agree with the negative external attitudes and discriminatory behaviours they are encountering[2,13] resulting in self-stigma. The Internalized Stigma of Mental Illness (ISMI) scale, one of the most widely used measures for assessing self-stigma, conceptualizes this phenomenon in five sub-dimensions, that capture different facets of individuals' experiences of stigma: alienation, stereotype endorsement, perceived discrimination, social withdrawal, and stigma resistance[14]. Self-stigma includes the emotional experience of alienation[15], cognitive endorsement of negative stereotypes[16], and can manifest in behavioural consequences, such as social withdrawal[17]. There is evidence on experienced self-stigma in different mental health disorders, including schizophrenia, depression, and bipolar disorder[7,18–21]. However, while self-stigma is likely common to all mental illnesses[22], it has been suggested that the severity and exact expression may differ depending on the specific diagnosis[23]: conditions like schizophrenia face the most stigma, personality disorders somewhat less, and more common diagnoses such as depression and anxiety experience the least[23]. Within the framework of this meta-analysis, we place particular focus on psychosis, depressive disorder, bipolar disorder, and borderline personality disorder (BPD), given their prevalence, patterns of stigmatization, and the severity often associated with their clinical

trajectories. Single studies comparing self-stigma in affective and psychotic disorders have yielded inconsistent findings possibly due to methodological differences and varying conceptualizations of self-stigma[24–30]. In psychosis, self-stigma is worse among those who are unemployed, on high medication doses, or have low functioning[24] . Individuals with BPD experience significant stigma from both the public and healthcare providers, especially those with more dissociative symptoms and low self-esteem[25]. It is found that extraversion, self-esteem, and good social functioning help reduce self-stigma in depression. People with bipolar disorder often report higher self-esteem and less rejection, potentially leading to lower self-stigma[33]. However, comparative meta-analyses on diagnostic variation in self-stigma are still scarce[22] and no previous meta-analyses compared the sub-dimensions of self-stigma. The extent of self-stigma and its sub-dimensions may further be moderated by demographic, clinical, and environmental factors[23,34] is yet to be investigated.

The primary aim of this meta-analysis was therefore to compare the intensity and patterns of expression of self-stigma across four different diagnoses including psychosis, depressive disorder, bipolar disorder, and BPD. We hypothesized that the severity and multi-dimensionality of self-stigma would vary significantly across diagnostic groups, along the lines of received external stigmatisation. We expected the highest levels of self-stigma in psychotic disorders and BPD, followed by bipolar disorder and depression. In addition, we investigated whether these potential differences were moderated by key demographic and clinical variables.

Methods

Search strategy and selection criteria

We performed a systematic literature search in accordance with PRISMA guidelines by searching the PubMed, Web of Science and PsycINFO databases for studies published between January 1, 2000, and June 26, 2024. The following search terms were used to identify records in PubMed, Web of Science and PsychINFO: ("major depression" OR "depressive disorder" OR "mood disorder" OR "affective disorder" OR "bipolar disorder" OR "schizophrenia" OR "schizophrenic" OR "schizoaffective" OR "psychosis" OR "psychotic" OR "borderline personality disorder" OR "non-affective") AND ("self-stigma*" OR "internalized stigma*" OR "internalised stigma*") AND (2000/01/01:2024/06/26[dp]) NOT(Review[Publication Type]). Each record was initially screened based on title and abstract by one of three reviewers (ÖB, LH, and BH). Records that were not excluded at this stage proceeded to full-text screening. To ensure consistency, 30% of records at both the

title/abstract and full-text screening stages were independently assessed by a second reviewer from the team. The inter-rater agreement for inclusion decisions at the full-text screening stage was 93.1%. Discrepancies were resolved through discussion with additional researchers from the team (LKI, JK and AF). The study protocol was pre-registered in PROSPERO (CRD42024567328).

Studies were included in the meta-analysis if they matched the following inclusion criteria: publication in English; reporting of quantitative data; inclusion of participants diagnosed with a psychotic disorder (schizophrenia, schizophreniform disorder, schizoaffective disorder, delusional disorder, brief psychotic disorder, psychotic disorder not otherwise specified), affective disorder (depressive disorder, bipolar disorder), or BPD according to the Diagnostic and Statistical Manual (DSM), version IV or 5, or the International Classification of Diseases (ICD), version 10 or 11; inclusion of a minimum of 10 patients; reporting of self-stigma, defined as patients' agreement with stigma related to their mental health condition and application of stigma to their own identity; use of the ISMI scale to quantify self-stigma. In studies that included multiple diagnostic groups, the inclusion criteria were applied separately to each diagnostic group. Data were extracted only for groups relevant to the present meta-analysis that met all inclusion criteria. Groups outside the scope of the study were not considered for data extraction. We included data from quantitative studies, both observational and interventional studies. Only three of the retrieved studies reported self-stigma in patients with BPD, so this group could not be considered in the subsequent analysis [35–37].

Data extraction

Data extraction for each study was performed independently by three researchers so that data extraction from each article was performed twice (ÖB, LH and BH), and any disagreements were settled through discussion with LKI. If a study included more than one of the four diagnoses considered for inclusion, data was extracted separately for each diagnostic group. For interventional and longitudinal studies, data recorded at baseline was extracted. The primary outcome assessed was the mean and standard deviation of the total ISMI score. In addition, we extracted averages for subscales alienation, stereotype endorsement, perceived discrimination, social withdrawal, and stigma resistance, where available. Extracted study characteristics included sample size, year of publication, geographical region, as well as sample characteristics, namely diagnosis, age, sex, proportion of inpatients, duration of illness, and symptom severity. For all continuous variables, we extracted means and standard

deviations. If a study reported that the ISMI scale or any of its subscales were acquired but the scores were not provided, or the scores were not provided separately for each diagnostic group, we contacted the authors to obtain the missing data.

Risk of bias assessment

Risk of bias assessment was performed independently by ÖB and LH using the Joanna Briggs Institute tool for analytical cross-sectional studies[38]. We determined the presence of risk of bias based on six criteria: whether inclusion criteria were well defined; whether study subjects and the setting were described in detail; whether objective, standard criteria were used for measurement of the condition; whether confounding factors were identified; whether strategies to deal with confounding factors were stated; whether the outcomes were measured in a valid and reliable way; and whether appropriate statistical analysis was used. Disagreements were resolved through discussion with LKI. Records referring to studies conducted at the same institutions were additionally reviewed to identify duplicates. In cases where multiple publications reported on the same participant sample which applied to nine studies, only the study encompassing the larger sample size was included in the data extraction[39–47]. If studies did not report the period of data collection and included samples of the same size and demographic makeup (n = 5), only the newest study was included in the data extraction[48–55].

Data analysis

We used random-effects models to pool mean ISMI total and subscale scores across studies, estimating separate pooled means with 95% confidence intervals for each diagnostic group. Heterogeneity was assessed using I^2 statistics, with I^2 values of 25%, 50% and 75% representing low, moderate, and high heterogeneity, respectively. We then conducted a subgroup analysis to compare total ISMI and self-stigma within each subscale between the diagnosis groups. In addition, we conducted univariate random-effects meta-regression analyses to assess moderation of a number of key moderators of interest including age, sex, symptom severity, proportion of inpatients in the sample, and year of publication. We performed these analyses both for the full sample, i.e. across all diagnoses, and for each diagnosis group individually, if a minimum of three studies assessing the moderator of interest were available. We were unable to analyse the relationship between disorder severity and any of the ISMI subscales in depression and bipolar disorder due to a lack of studies. To

analyse the effect of study location on stigma scores, we performed a subgroup analysis comparing mean ISMI across geographical regions according to the definition provided by the United Nations Statistics Division[56].

Publication bias

We assessed publication bias by visual inspection of funnel plots and calculation of Egger's test. In the case that Egger's test was significant, trim-and-fill analysis was conducted to correct for publication bias. All analyses were conducted using R (version 4.2.2) with the metafor package[57].

Results

	Bipolar (BP)			Major Depressive Disorder (MDD)			Psychosis (SZ)			Group Comparison
	Number of studies (k)	Sum/ Mean/ %	SD	Number of studies (k)	Sum/ Mean/ %	SD	Number of studies (k)	Sum/ Mean/ %	SD	
Sample size	32	2618	-	23	2339	-	134	19350	-	
Age	18	39·33	5·86	16	47·34	7·75	107	38·77	6·63	MDD > SZ = BP
Sex ratio (% male)	24	47·6	12·8	18	35·2	13·9	118	61·5	13·4	SZ > BP > MDD
Inpatient ratio (% inpatient)	13	7·7	0·28	9	11·1	0·33	70	12·9	0·36	SZ > MDD > BP
Disorder severity	7	7·28	6·05	3	18·23	13·19	38	48·35	20·86	SZ > MDD > BP
Illness duration (years)	9	13·81	5·15	5	9·20	1·21	54	13·56	6·09	BP = SZ > MDD

Table 1

Summary of studies included in the meta-analysis

Of the 2628 studies identified, we included a total of 162 (Figure 1) that comprised 24483 patients (Table 1). Most studies studied self-stigma in patients with psychosis, while 32 studies included patients with bipolar disorder and 23 studies of patients with depression. Due to the limited number of studies on BPD (n=3) we could not conduct any analysis on this

diagnostic group. The group with MDD had a higher mean age and a lower mean illness duration than the bipolar and psychosis groups. Male and female patients were approximately equally represented in the studies on bipolar disorder, whereas studies on depressive disorder included more female patients and studies on psychosis included more male patients. Across the studies, most individuals received outpatient treatment, with the hospitalization rate highest in patients with psychotic disorder and lowest in patients with bipolar disorder (Table 1).

The pooled mean ISMI value across all diagnosis groups was 2·25 (95% CI 2·21-2·3, I^2 = 98·2%), indicating a mild experience of stigma (Figure 2). The bipolar group exhibited a mean ISMI score of 2·18 (95% CI 2·08-2·28, I^2 = 97%), the depression groups a mean ISMI score of 2·24 (95% CI 2·15-2·33, I^2 = 96·4%), and the psychosis group a mean ISMI score of 2·27 (95% CI 2·22-2·33, I^2 = 98·5%). I^2 values for the transdiagnostic and all three diagnosis-specific analyses indicate high heterogeneity. There were no significant differences in mean total ISMI score between any of the groups (bipolar vs. depression: p = 0·86; bipolar vs. psychosis: p = 0·62; depression vs. psychosis: p = 0·99). None of the ISMI subscale scores differed significantly between the diagnostic groups (all p > 0·05). See Appendix 1 for subscale averages across diagnosis groups and by diagnosis.

		ISMI			
Moderator	N	β	CI lower bound	CI upper bound	p-value
sex ratio	133	0·287	0·019	0·556	0·254
psychosis	96	0·221	-0·145	0·587	0·495
depression	16	0·520	-0·339	1·379	0·495
bipolar	21	0·384	-0·600	1·368	0·727
publication year	155	0·015	0·002	0·027	0·254
psychosis	108	0·012	-0·004	0·027	0·495
depression	21	0·002	-0·043	0·046	0·943
bipolar	26	0·029	0·001	0·057	0·254
age	117	-0·001	-0·007	0·004	0·784
psychosis	88	-0·002	-0·009	0·006	0·784
depression	14	-0·009	-0·024	0·006	0·495

	ISMI				
Moderator	N	β	CI lower bound	CI upper bound	p-value
bipolar	15	0·010	-0·008	0·029	0·495
disorder severity	45	0·001	-0·001	0·004	0·495
psychosis	35	0·001	-0·002	0·003	0·784
depression	3	0·016	0·014	0·018	0·140
bipolar	7	-0·013	-0·051	0·026	0·727
inpatient ratio	78	0·066	-0·108	0·239	0·727
psychosis	57	-0·043	-0·234	0·148	0·784
depression	9	0·456	-0·010	0·921	0·258
bipolar	12	0·435	-0·278	1·148	0·495
impact factor	148	-0·004	-0·025	0·017	0·784
psychosis	102	-0·005	-0·029	0·019	0·784
depression	20	-0·021	-0·138	0·096	0·784
bipolar	26	-0·012	-0·094	0·070	0·800

Table 2

Meta regression analysis of covariate effects.

Moderator analyses. The alienation (all groups: b = 0·035, p = 0·003; psychosis: b = 0·035, p= 0·017) and stereotype endorsement (all groups: b = 0·032, p = 0·025; psychosis: b = 0·037, p= 0·025) subscales were significantly correlated with publication year in the full sample and the psychosis group (Appendix 2). No other significant associations were identified between any ISMI (Table 2) or subscale scores and any covariates.

The subgroup analysis of effects of geographic region across diagnoses showed significant regional differences on the total ISMI and all subscales with the exception of stigma resistance (Appendix 3). The geographical distribution of mean scores differed between subscales, with individuals in East Asia exhibiting the highest stereotype endorsement (2·15, 95% CI 1·98-2·32) but the lowest alienation (2·47, 95% CI 2·29-2·66), and individuals in North America exhibiting the lowest stereotype endorsement (1·81, 95% CI 1·60-2·02) but

the highest social withdrawal (2·20, 95% CI 2·00-2·40). There was not enough data available from Australia and Oceania or Central Asia to include in the subgroup analysis, and data from Southeast Asia and Southern Africa was only sufficient for the total ISMI score analysis.

Publication bias. The funnel plot for the ISMI total score showed some asymmetry and the corresponding Egger's test was significant, indicating the presence of publication bias (Appendix 4). Trim-and-fill analysis resulted in a adjusted mean ISMI score of 2·24 (95% CI 2·15-2·33, I^2 = 96·4%) for the depression group, 2·18 (95% CI 2·08-2·28, I^2 = 97·1%) for the bipolar group, and 2·36 (95% CI 2·31-2·41, I^2 = 99·0%) for the psychosis group. Group comparisons were not significant after applying trim-and-fill analysis (p(bipolar-depression) = 0·845, p(bipolar-psychosis) = 0·535, p(depression-psychosis) = 0·674). There were no signs of publication bias regarding results for the ISMI subscales, but the outcomes of individual studies were highly heterogeneous. Other types of potential bias were highly prevalent in the studies we examined. Seventy-five percent of studies exhibited some risk of bias in at least one domain, with 48% of studies failing to sufficiently control for confounding factors and 33% failing to provide sufficient detail on the administration of the ISMI scale (Appendix 5, 6). Studies from all years and all geographical regions exhibited risk of bias (Appendix 7).

Discussion

To our knowledge, this is the first meta-analysis that attempted to compare self-stigma across cognitive, emotional, and behavioural ISMI domains in individuals diagnosed with psychosis, depression, bipolar disorder, and BPD. The meta-analyses included 162 studies from 49 countries, with a total of 26062 participants across these four disorders. We hypothesized that the severity of self-stigma would vary significantly across diagnostic groups, along the lines of perceived external stigmatisation. We expected the highest levels of self-stigma in psychotic disorders and BPD, followed by bipolar disorder and depression. We set out to further investigate whether these potential differences were moderated by key demographic and clinical variables.

Contrary to our hypotheses, our results suggest that the overall experience of self-stigma is similar across the three diagnostic groups, as BPD studies were excluded. We found that overall self-stigma was relatively mild and reported to a similar degree across all diagnostic groups. However, there was substantial variation and heterogeneity in the included studies, suggesting inconsistency in the literature. Our findings extend previous meta-analyses on self-

stigma in individual disorders, such as schizophrenia, that have identified moderate to high levels of self-stigma and its components, including perceived stigma, experienced stigma, and alienation[24]. In our meta-analysis, we also identified mild levels of self-stigma in psychosis, that support these earlier findings with a larger dataset. In studies investigating depression, self-stigma has been found to be widely globally prevalent [34]. Our results are consistent with this, showing moderate levels of self-stigma among individuals with depressive disorders. In contrast, research on bipolar disorder has been highly inconsistent due to the heterogeneity of the included studies[33]. Our results contribute to clarifying this inconsistency revealing that self-stigma experienced by individuals with bipolar disorder does not differ from self-stigma in depression or psychosis. These results emphasize the need for mental health services to prioritize self-stigma reduction across diagnoses to support recovery and social inclusion. In addition, the findings raise the potential value of transdiagnostic approaches to self-stigma, as the underlying self-stigma experience appears consistent across disorders.

The moderator analyses revealed that demographic and clinical factors, including age, sex distribution, treatment setting inpatient or outpatient, and illness duration, had no significant effect on self-stigma levels. However, previous meta-analyses that considered only psychosis revealed distinct patterns in moderators of self-stigma. For instance, in psychosis, being single, living in rural areas, being unemployed, and having a low income are associated with increased self-stigma[28] while the association of higher education levels with self-stigma is contradictory[49]. In depression it was found that individuals who are married or have a partner report lower self-stigma, suggesting a potentially protective role of partnership[34]. In bipolar disorder, unemployment is similarly linked to higher levels of self-stigma[48] although this could not be evaluated in our analyses due to insufficient data availability. Employment emerges as an important determinant of mental well-being[50]. Being employed is associated with greater self-esteem and quality of life[51], suggesting that regular occupational activity may have both protective and therapeutic effects in mental illness. There is evidence showing that most individuals with psychosis and affective disorders are willing to work[52]. Nonetheless, employment rates for individuals with mental disorders are significantly lower than those of the general population, and most countries lack disaggregated employment data based on health status[53]. Stigma and discrimination associated with mental illness have been shown to have a negative impact on employment, income, public perceptions of resource distribution, and healthcare expenses[54]. These societal attitudes toward mental health issues result in harmful economic consequences for individuals affected by these conditions. Beyond personal experiences, stigma can also discourage public policymakers from prioritizing

investments in mental health, reinforcing existing systemic barriers. Another aspect to consider is, in the U.S., racial and ethnic minority groups report higher levels of self-stigma than White Americans[64]. Additionally, a study across 14 European countries found that individuals in societies with less public stigma, better access to treatment, and greater openness about mental illness experience lower self-stigma and feel more empowered[65]. These patterns call for greater attention to the influence of cultural and structural factors on self-stigma.

Regarding clinical factors, the relationship between illness severity and self-stigma appears important yet inconsistent. In schizophrenia, the significance of illness severity varies across studies, indicating a need for more detailed analyses[24]. In contrast, clearer patterns have been reported in depression and bipolar disorder. Particularly in depression, individuals in the active phase of illness report higher levels of self-stigma compared to those in remission[34]. In bipolar disorder, the presence of residual symptoms and frequent hospitalizations are associated with higher levels of internalized stigma[48].

The analysis suggested that findings on self-stigma may be influenced by publication bias, as smaller or less significant studies on overall ISMI scores may be underrepresented. However, this was not the case for ISMI subscales, for which results varied considerably across studies. Additionally, a large proportion of studies suffer from the risk of bias, mainly not adequately addressing confounding factors or providing insufficient clarity in the reporting process of ISMI scale administration. These methodological inconsistencies may have contributed to the heterogeneity in findings, limiting the ability to draw firm conclusions.

Our meta-analysis shows that the diagnosis does not have a crucial role in expression of self-stigma severity, emphasizing the need for effective prevention of self-stigma across all three included diagnostic groups. Most psychosocial and therapeutic interventions are effective in reducing internalized stigma, with small to moderate effect sizes[55]. Psychoeducational and multicomponent interventions have been found to be particularly effective in addressing mental illness-related internalized stigma by targeting stigma awareness, coping strategies, and reducing negative self-beliefs[55,56]. Similarly, social contact interventions have demonstrated short-term effectiveness in reducing stigma[57]. Additionally, cognitive-behavioral interventions have shown effectiveness in addressing self-stigmatizing beliefs, particularly in challenging negative stereotypes and feelings of alienation[55].

Limitations. The current findings need to be interpreted in the light of several limitations. First, majority of included studies examined self-stigma in non-affective psychotic disorders,

particularly in schizophrenia. The available findings in depression and bipolar disorder are comparably scarce. We could only identify three studies in BPD, highlighting the need for research on self-stigma in personality disorders. Second, we conducted a smaller scope moderator analysis, since data on key sociodemographic factors such as employment, racial background or educational level were frequently missing or inconsistently reported in selected studies. Third, although self-stigma is typically measured using a 1–4 item-wise scoring scale, a small subset of studies employed alternative intervals (e.g., 0–3); in such cases, we consulted the original sources and adjusted the computations accordingly. Nevertheless, a substantial proportion of studies did not specify the scoring intervals used, and we therefore assumed a 1–4 scale for the purposes of standardization. Finally, while cultural factors may play a role in shaping self-stigma, cross-cultural comparisons were beyond the scope of the present study and were therefore not examined.

Conclusion

The current meta-analysis indicates that self-stigma is equally present across psychosis, depressive, and bipolar disorders irrespective of moderating demographic and clinical factors. Individuals across multiple mental health conditions are similarly vulnerable to self-stigma and therefore equally in need of targeted support and intervention. While our findings provide insight into self-stigma across three groups of mental health disorders the moderating effects are still partly unknown. Future studies could address this limitation by prioritizing severe mental illnesses, including BPD, and collecting a broader range of data on relevant socio-demographic, cultural, and illness characteristics. Enhancing awareness of self-stigma in mental health disorders may foster a more supportive environment, recommend suitable preventive programs and therapies, and promote well-being and resilience in individuals navigating through these challenges.

References

1. Thornicroft G, Rose D, Kassam A, Sartorius N. Stigma: ignorance, prejudice or discrimination? *Br J Psychiatry J Ment Sci*. 2007;190:192-193. doi:10.1192/bjp.bp.106.025791

2. Corrigan PW, Kerr A, Knudsen L. The stigma of mental illness: Explanatory models and methods for change. *Appl Prev Psychol*. 2005;11(3):179-190. doi:10.1016/j.appsy.2005.07.001

3. Rössler W. The stigma of mental disorders: A millennia-long history of social exclusion and prejudices. *EMBO Rep*. 2016;17(9):1250-1253. doi:10.15252/embr.201643041

4. Angermeyer MC, Holzinger A, Carta MG, Schomerus G. Biogenetic explanations and public acceptance of mental illness: Systematic review of population studies. *Br J Psychiatry*. 2011;199(5):367-372. doi:10.1192/bjp.bp.110.085563

5. Woon LSC, Khoo SI, Baharudin A, Midin M. Association between insight and internalized stigma and other clinical factors among patients with depression: A cross-sectional study. *Indian J Psychiatry*. 2020;62(2):186. doi:10.4103/psychiatry.IndianJPsychiatry_612_19

6. Farrelly S, Clement S, Gabbidon J, et al. Anticipated and experienced discrimination amongst people with schizophrenia, bipolar disorder and major depressive disorder: a cross sectional study. *BMC Psychiatry*. 2014;14(1):157. doi:10.1186/1471-244X-14-157

7. Ellison N, Mason O, Scior K. Bipolar disorder and stigma: A systematic review of the literature. *J Affect Disord*. 2013;151(3):805-820. doi:10.1016/j.jad.2013.08.014

8. Determinants of the Public's Preference for Social Distance from People with Schizophrenia. doi:10.1177/070674370304801004

9. Read J, Haslam N, Sayce L, Davies E. Prejudice and schizophrenia: a review of the 'mental illness is an illness like any other' approach. *Acta Psychiatr Scand*. 2006;114(5):303-318. doi:10.1111/j.1600-0447.2006.00824.x

10. Yokoya S, Maeno T, Sakamoto N, Goto R, Maeno T. A Brief Survey of Public Knowledge and Stigma Towards Depression. *J Clin Med Res*. 2018;10(3):202-209. doi:10.14740/jocmr3282w

11. Li A, Jiao D, Zhu T. Detecting depression stigma on social media: A linguistic analysis. *J Affect Disord*. 2018;232:358-362. doi:10.1016/j.jad.2018.02.087

12. Doll CM, Michel C, Betz LT, Schimmelmann BG, Schultze-Lutter F. The Important Role of Stereotypes in the relation between Mental Health Literacy and Stigmatization of Depression and Psychosis in the Community. *Community Ment Health J*. 2022;58(3):474-486. doi:10.1007/s10597-021-00842-5

13. The paradox of self-stigma and mental illness - ProQuest. Accessed May 4, 2025. https://www.proquest.com/openview/16d9540d4e11b8d1a491f2f73b02df94/1?cbl=4943461&pq-origsite=gscholar

14. Ritsher JB, Otilingam PG, Grajales M. Internalized stigma of mental illness: psychometric properties of a new measure. *Psychiatry Res*. 2003;121(1):31-49. doi:10.1016/j.psychres.2003.08.008

15. Watson AC, Corrigan P, Larson JE, Sells M. Self-Stigma in People With Mental Illness. *Schizophr Bull*. 2007;33(6):1312-1318. doi:10.1093/schbul/sbl076

16. Corrigan PW. The impact of stigma on severe mental illness. *Cogn Behav Pract*. 1998;5(2):201-222. doi:10.1016/S1077-7229(98)80006-0

17. Link BG, Struening EL, Neese-Todd S, Asmussen S, Phelan JC. Stigma as a Barrier to Recovery: The Consequences of Stigma for the Self-Esteem of People With Mental Illnesses. *Psychiatr Serv*. 2001;52(12):1621-1626. doi:10.1176/appi.ps.52.12.1621

18. Livingston JD, Boyd JE. Correlates and consequences of internalized stigma for people living with mental illness: a systematic review and meta-analysis. *Soc Sci Med 1982*. 2010;71(12):2150-2161. doi:10.1016/j.socscimed.2010.09.030

19. Gerlinger G, Hauser M, De Hert M, Lacluyse K, Wampers M, Correll CU. Personal stigma in schizophrenia spectrum disorders: a systematic review of prevalence rates, correlates, impact and interventions. *World Psychiatry Off J World Psychiatr Assoc WPA*. 2013;12(2):155-164. doi:10.1002/wps.20040

20. Brohan E, Slade M, Clement S, Thornicroft G. Experiences of mental illness stigma, prejudice and discrimination: a review of measures. *BMC Health Serv Res*. 2010;10:80. doi:10.1186/1472-6963-10-80

21. Hawke LD, Parikh SV, Michalak EE. Stigma and bipolar disorder: a review of the literature. *J Affect Disord*. 2013;150(2):181-191. doi:10.1016/j.jad.2013.05.030

22. Dubreucq J, Plasse J, Franck N. Self-stigma in Serious Mental Illness: A Systematic Review of Frequency, Correlates, and Consequences. *Schizophr Bull*. 2021;47(5):1261-1287. doi:10.1093/schbul/sbaa181

23. Hazell CM, Berry C, Bogen-Johnston L, Banerjee M. Creating a hierarchy of mental health stigma: testing the effect of psychiatric diagnosis on stigma. *BJPsych Open*. 2022;8(5):e174. doi:10.1192/bjo.2022.578

24. Karidi MV, Vassilopoulou D, Savvidou E, et al. Bipolar disorder and self-stigma: A comparison with schizophrenia. *J Affect Disord*. 2015;184:209-215. doi:10.1016/j.jad.2015.05.038

25. Chang CC, Wu TH, Chen CY, Lin CY. Comparing Self-stigma Between People With Different Mental Disorders in Taiwan. *J Nerv Ment Dis*. 2016;204(7):547. doi:10.1097/NMD.0000000000000537

26. Full article: Internalized stigma and its correlates among patients with severe mental illness. Accessed May 12, 2025. https://www.tandfonline.com/doi/full/10.2147/NDT.S169051

27. Stigma of mental illness and cultural factors in Pacific Rim region: a systematic review | BMC Psychiatry. Accessed May 12, 2025. https://link.springer.com/article/10.1186/s12888-020-02991-5

28. Grambal A, Prasko ,Jan, Kamaradova ,Dana, et al. Self-stigma in borderline personality disorder – cross-sectional comparison with schizophrenia spectrum disorder, major depressive disorder, and anxiety disorders. *Neuropsychiatr Dis Treat*. 2016;12:2439-2448. doi:10.2147/NDT.S114671

29. Grover S, Avasthi A, Singh A, et al. Stigma experienced by patients with severe mental disorders: A nationwide multicentric study from India. *Psychiatry Res*. 2017;257:550-558. doi:10.1016/j.psychres.2017.08.027

30. Tanriverdi D, Kaplan ,Veysel, Bilgin ,Sonay, and Demir H. The comparison of internalized stigmatization levels of patients with different mental disorders. *J Subst Use*. 2020;25(3):251-257. doi:10.1080/14659891.2019.1675790

31. Self-stigma in schizophrenia: a systematic review and meta-analysis of 37 studies from 25 high- and low-to-middle income countries | Molecular Psychiatry. Accessed May 12, 2025. https://www.nature.com/articles/s41380-023-02003-4

32. Stiles C, Batchelor R, Gumley A, Gajwani R. Experiences of Stigma and Discrimination in Borderline Personality Disorder: A Systematic Review and Qualitative Meta-Synthesis. *J Personal Disord*. 2023;37(2):177-194. doi:10.1521/pedi.2023.37.2.177

33. Du N, Chong ESK, Wei D, et al. Prevalence, risk, and protective factors of self-stigma for people living with depression: A systematic review and meta-analysis. *J Affect Disord*. 2023;332:327-340. doi:10.1016/j.jad.2023.04.013

34. Favre S, Richard-Lepouriel H. Self-stigma and bipolar disorder: A systematic review and best-evidence synthesis. *J Affect Disord*. 2023;335:273-288. doi:10.1016/j.jad.2023.05.041

35. Pyszkowska A, Celban J, Nowacki A, Dubiel I. Maladaptive daydreaming, emotional dysregulation, affect and internalized stigma in persons with borderline personality disorder and depression disorder: A network analysis. *Clin Psychol Psychother*. 2023;30(6):1246-1255. doi:10.1002/cpp.2923

36. Quenneville AF, Badoud D, Nicastro R, et al. Internalized stigmatization in borderline personality disorder and attention deficit hyperactivity disorder in comparison to bipolar disorder. *J Affect Disord*. 2020;262:317-322. doi:10.1016/j.jad.2019.10.053

37. Grambal A, Prasko J, Kamaradova D, et al. Self-stigma in borderline personality disorder - cross-sectional comparison with schizophrenia spectrum disorder, major depressive disorder, and anxiety disorders. *Neuropsychiatr Dis Treat*. 2016;12:2439-2448. doi:10.2147/NDT.S114671

38. 7. Systematic reviews of etiology and risk - JBI Manual for Evidence Synthesis - JBI Global Wiki. Accessed June 25, 2025. https://jbi-global-wiki.refined.site/space/MANUAL/355598596/7.+Systematic+reviews+of+etiology+and+risk

39. Lim M, Li Z, Xie H, Tan BL, Lee J. An Asian study on clinical and psychological factors associated with personal recovery in people with psychosis. *BMC Psychiatry*. 2019;19:256. doi:10.1186/s12888-019-2238-9

40. Yanos PT, Lysaker PH, Silverstein SM, et al. A Randomized Controlled-Trial of Treatment for Self-Stigma among Persons Diagnosed with Schizophrenia-Spectrum Disorders. *Soc Psychiatry Psychiatr Epidemiol*. 2019;54(11):1363-1378. doi:10.1007/s00127-019-01702-0

41. Lysaker PH, Tsai J, Yanos P, Roe D. Associations of multiple domains of self-esteem with four dimensions of stigma in schizophrenia. *Schizophr Res*. 2008;98(1-3):194-200. doi:10.1016/j.schres.2007.09.035

42. Li J, Guo YB, Huang YG, et al. Stigma and discrimination experienced by people with schizophrenia living in the community in Guangzhou, China. *Psychiatry Res*. 2017;255:225-231. doi:10.1016/j.psychres.2017.05.040

43. Ivezić SŠ, Sesar MA, Mužinić L. Effects of a Group Psychoeducation Program on Self-Stigma, Empowerment and Perceived Discrimination of Persons with Schizophrenia. *Psychiatr Danub*. 2017;29(1):66-73.

44. Lien YJ, Chang HA, Kao YC, Tzeng NS, Yeh CB, Loh CH. Self-Stigma Mediates the Impact of Insight on Current Suicide Ideation in Suicide Attempters with Schizophrenia: Results of a Moderated Mediation Approach. *Suicide Life Threat Behav*. 2018;48(6):661-676. doi:10.1111/sltb.12384

45. Martinez A, Baumgartner JN, Kaaya S, et al. Hopefulness among individuals living with schizophrenia and their caregivers in Tanzania: an actor-partner interdependence model. *BMC Psychiatry*. 2023;23(1):508. doi:10.1186/s12888-023-04990-8

46. Amore M, Murri MB, Calcagno P, et al. The association between insight and depressive symptoms in schizophrenia: Undirected and Bayesian network analyses. *Eur Psychiatry*. 2020;63(1):e46. doi:10.1192/j.eurpsy.2020.45

47. Vrbova K, Prasko J, Ociskova M, et al. Quality of life, self-stigma, and hope in schizophrenia spectrum disorders: a cross-sectional study. *Neuropsychiatr Dis Treat*. 2017;13:567-576. doi:10.2147/NDT.S122483

48. Farhang S, Shirzadi M, Alikhani R, et al. ARAS recent onset acute phase psychosis survey, a prospective observational cohort of first episode psychosis in Iran-the cohort profile. *Schizophr Heidelb Ger*. 2022;8(1):101. doi:10.1038/s41537-022-00295-z

49. Komatsu H, Ono T, Maita Y, et al. Association Between Autistic Symptoms and Self-Stigma in Patients with Schizophrenia Spectrum Disorders. *Neuropsychiatr Dis Treat*. 2020;16:2553-2561. doi:10.2147/NDT.S280485

50. Holubova M, Prasko J, Hruby R, et al. Coping strategies and self-stigma in patients with schizophrenia-spectrum disorders. *Patient Prefer Adherence*. 2016;10:1151-1158. doi:10.2147/PPA.S106437

51. Holubova M, Prasko J, Ociskova M, Marackova M, Grambal A, Slepecky M. Self-stigma and quality of life in patients with depressive disorder: a cross-sectional study. *Neuropsychiatr Dis Treat*. 2016;12:2677-2687. doi:10.2147/NDT.S118593

52. Caqueo-Urízar A, Urzúa A, Habib J, et al. Relationships between social stigma, stigma experience and self-stigma and impaired quality of life in schizophrenia across three Latin-American countries. *Eur Arch Psychiatry Clin Neurosci*. 2020;270(5):513-520. doi:10.1007/s00406-019-01035-8

53. Bal NB, Karslıoğlu EH, Ata PE, Çayköylü A. Internalized Stigma and Resistance Against Stigma as Risk Factors for Suicide in Individuals with Schizophrenia: A Cross-Sectional Study. *Noro Psikiyatri Arsivi*. 2023;60(2):151-157. doi:10.29399/npa.28184

54. Bilgin Koçak M, Rıfat Şahin A, Güz H, Böke Ö, Sarısoy G, Karabekiroğlu A. The Relationship Between Suicide Attempts and Ideation with Depression, Insight, and Internalized Stigmatization in Schizophrenia. *Alpha Psychiatry*. 2022;23(1):18-25. doi:10.1530/alphapsychiatry.2021.212167

55. Grambal A, Prasko J, Kamaradova D, et al. Self-stigma in borderline personality disorder – cross-sectional comparison with schizophrenia spectrum disorder, major depressive disorder, and anxiety disorders. *Neuropsychiatr Dis Treat*. 2016;12:2439-2448. doi:10.2147/NDT.S114671

56. UNSD — Methodology. Accessed June 26, 2025. https://unstats.un.org/unsd/methodology/m49/

57. Viechtbauer W. Conducting Meta-Analyses in R with the metafor Package. *J Stat Softw*. 2010;36:1-48. doi:10.18637/jss.v036.i03

58. Sum MY, Wong CTW, Chu ST, et al. Systematic review and meta-analysis of internalised stigma and stigma resistance in patients with psychosis: The impact of individualism-collectivism culture and other individual factors. *Int J Soc Psychiatry*. 2024;70(4):639-652. doi:10.1177/00207640231216924

59. Drake RE, Wallach MA. Employment is a critical mental health intervention. *Epidemiol Psychiatr Sci*. 2020;29:e178. doi:10.1017/S2045796020000906

60. Bouwmans C, de Sonneville C, Mulder CL, Hakkaart-van Roijen L. Employment and the associated impact on quality of life in people diagnosed with schizophrenia. *Neuropsychiatr Dis Treat*. 2015;11:2125-2142. doi:10.2147/NDT.S83546

61. Gühne U, Pabst A, Löbner M, et al. Employment status and desire for work in severe mental illness: results from an observational, cross-sectional study. *Soc Psychiatry Psychiatr Epidemiol*. 2021;56(9):1657-1667. doi:10.1007/s00127-021-02088-8

62. Mental health and related issues statistics. Accessed May 12, 2025. https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Mental_health_and_related_issues_statistics

63. Sharac J, McCrone P, Clement S, Thornicroft G. The economic impact of mental health stigma and discrimination: a systematic review. *Epidemiol Psichiatr Soc*. 2010;19(3):223-232. doi:10.1017/s1121189x00001159

64. Misra S, Jackson VW, Chong J, et al. Systematic Review of Cultural Aspects of Stigma and Mental Illness among Racial and Ethnic Minority Groups in the United States: Implications for Interventions. *Am J Community Psychol*. 2021;68(3-4):486-512. doi:10.1002/ajcp.12516

65. Evans-Lacko S, Rose D, Little K, et al. Development and psychometric properties of the Reported and Intended Behaviour Scale (RIBS): a stigma-related behaviour measure. *Epidemiol Psychiatr Sci*. 2011;20(3):263-271. doi:10.1017/S2045796011000308

66. Interventions to Reduce Internalized Stigma in individuals with Mental Illness: A Systematic Review | The Spanish Journal of Psychology | Cambridge Core. Accessed May 12, 2025. https://www.cambridge.org/core/journals/spanish-journal-of-psychology/article/interventions-to-reduce-internalized-stigma-in-individuals-with-mental-illness-a-systematic-review/A5A5714F5E1DB87B7EC6341EC49619BE

67. Yanos PT, Lucksted A, Drapalski AL, Roe D, Lysaker P. Interventions targeting mental health self-stigma: A review and comparison. *Psychiatr Rehabil J*. 2015;38(2):171-178. doi:10.1037/prj0000100

68. Thornicroft G, Mehta N, Clement S, et al. Evidence for effective interventions to reduce mental-health-related stigma and discrimination. *The Lancet*. 2016;387(10023):1123-1132. doi:10.1016/S0140-6736(15)00298-6

Evidence Before the Study

Self-stigma describes how individuals internalize negative public beliefs about mental illness and has been widely recognized as a major barrier to recovery and social functioning. It can affect how people see themselves, how they feel emotionally, and how they behave in social situations. Although self-stigma has been examined within specific mental health diagnoses such as schizophrenia, major depression, bipolar disorder no study had systematically compared its severity and moderator of is expression across diagnostic groups. Without this comparison, it has remained unclear whether some groups are more affected than others, limiting our ability to tailor interventions or develop broader stigma-reduction strategies. Prior to this work, no comprehensive systematic review and meta-analysis had addressed this gap.

Added Value of the Study

This study is the first to directly compare the severity of self-stigma across people with psychotic, depressive, and bipolar disorders using a meta-analytic approach. It includes data from 162 studies and 24,483 individuals, all assessed using the Internalized Stigma of Mental Illness (ISMI) scale. Although the initial scope included borderline personality disorder, too few studies met inclusion criteria for this group (n = 3), and it could not be analysed further. Despite differences in demographics and clinical presentation between diagnostic groups, self-stigma levels were found to be similar. These findings point to a shared experience of self-stigma across different mental health disorders and support the idea that stigma-reduction efforts can be broadly applied, rather than tailored only to specific conditions.

Implications of All the Available Evidence

The results show that self-stigma is a widespread and comparably severe issue across psychotic, depressive, and bipolar disorders. This highlights the need for diagnosis-independent approaches to stigma reduction in mental health care. Clinicians, researchers, and policymakers should recognize this common burden when designing interventions, shaping clinical practice, and developing inclusive, stigma-sensitive policies. The findings also point to important gaps for future research, such as identifying the key cultural and clinical factors that influence self-stigma and including underrepresented populations.

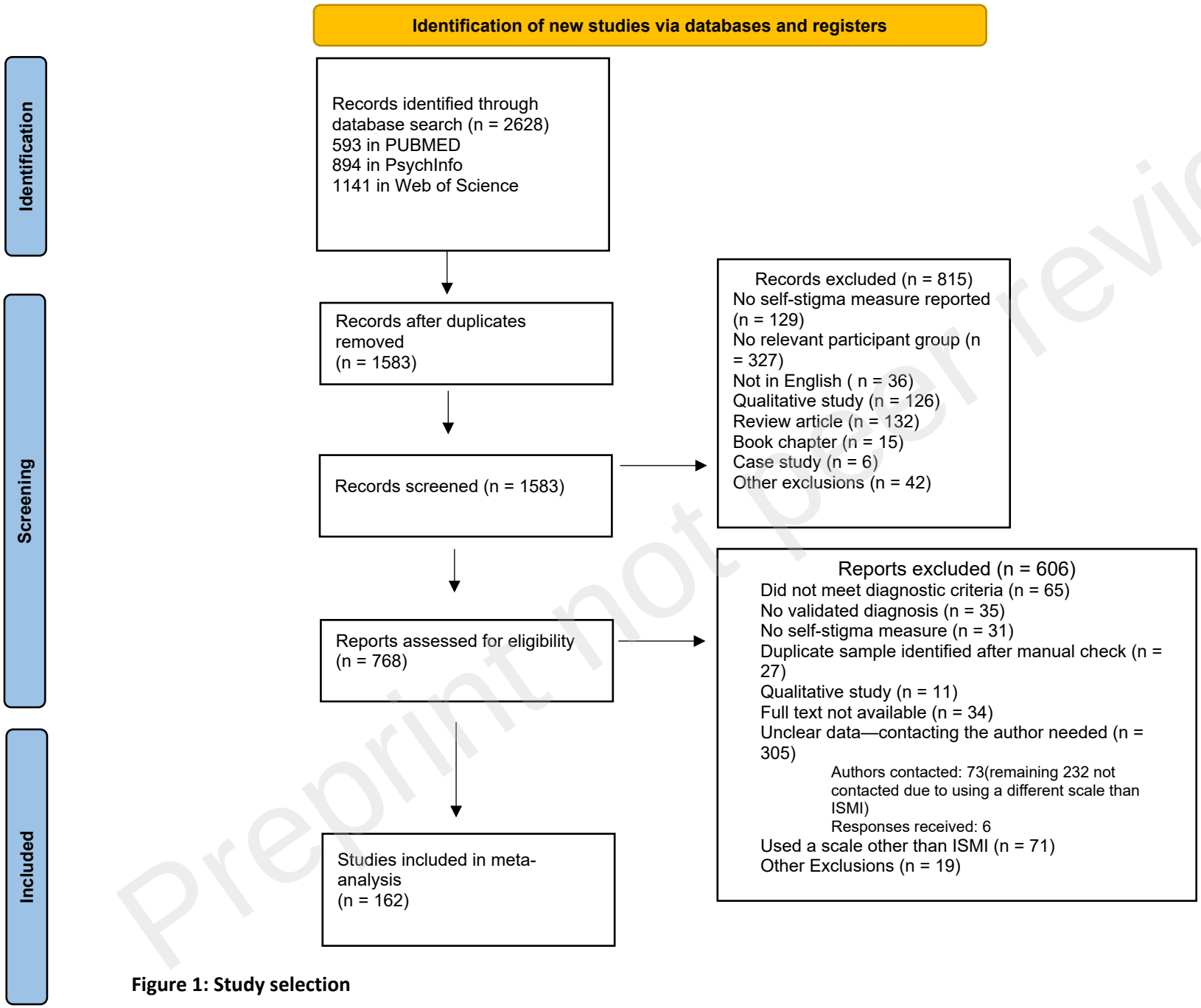

Figure 1: Study selection

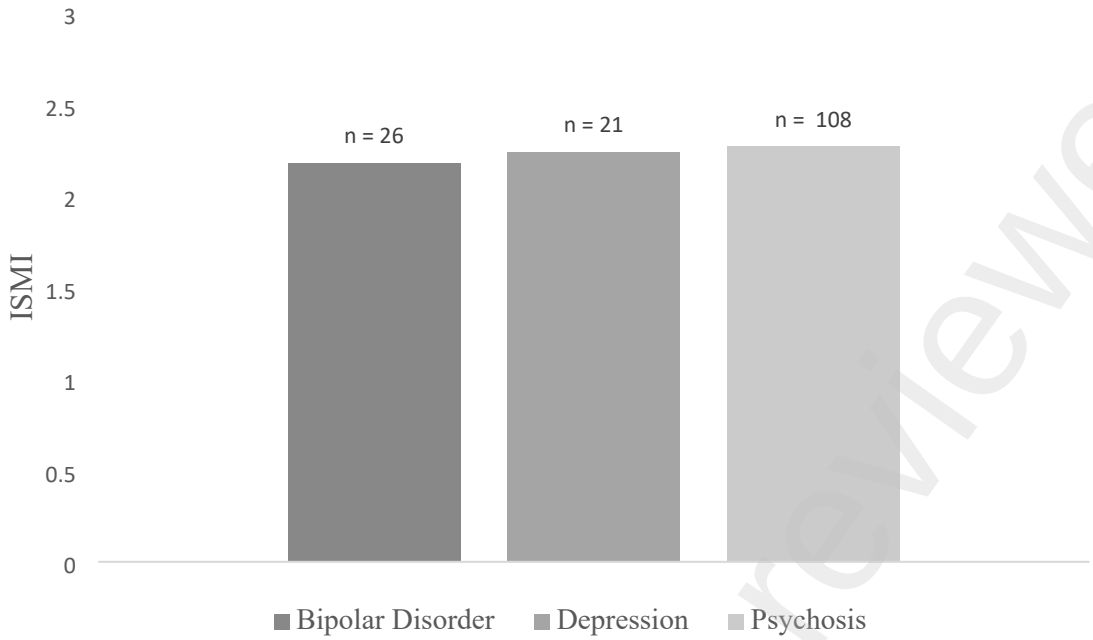

Figure 2: Comparison of ISMI total scores across patient groups