PSYCHOLOGY AND EDUCATION (2022) 59(2): 1487-1501
ISSN: 1553-6939

Clinical neuropsychological assessments of schizophrenia stereotype: in-depth study of methodological and practical issues

Alyaa Abdulreda Abbas
University of Technology- Iraq
Email: 10104@uotechnology.edu.iq

Abstract
The international scientific context and mental health policies have made stigmatization a major target for interventions in psychiatry. More specifically, stigmatization can understood as a contextual factor of mental handicap. Consequently, we ask ourselves the question of the impact of stigma, and more precisely of stereotypes, on the practices in clinical neuropsychology, which are in full development, and in particular on the neuropsychological assessment. The study carried out aimed to: explore the content of the stereotype of schizophrenia in families and in the general population in Iraq. For six months, a questionnaire of 15 items evaluating the measurement of schizophrenia stereotype content distributed online. 182 responses received for the general population group and 124 for the family group following the application of the exclusion criteria. In order to determine the structure and relative significance of its dimensions in ev group, factor analyzes and response ratings comparisons conducted. The study shows that the stereotype of schizophrenia healingly rejected by families, and in particular in its "Dangerousness" dimension. The results further propose that the "Incompetence" dimension of the schizophrenia stereotype occupies a central place, both in families and in the general population. Exploring the content of the stereotype based on pre-existing tools from the psychiatric literature has enabled us to highlight the central place of incompetence in beliefs about schizophrenia. This is by integrate social psychology models into a reflection on neuropsychological evaluation practices in psychiatry.
Keywords: schizophrenia, stereotype, stereotype threat, clinical neuropsychology

1. Introduction

Stigma is a significant issue in psychological well-being. A large number of individuals overall are influenced by psychological sickness (WHO, 2013). Most they confront bias and segregation because of their condition (Heim et al., 2020). The consequences of mental illness stigma (CMIS) are various and exceptionally harming to people, their families, the medical care framework and society (Ahmed et al, 2015; Shalan, 2018). Notwithstanding, CMIS is not unitary. Exploration proposes that CMIS relies upon the focused on mental issue (Teeba & Qahtan, 2021) and social setting (Koschorke et al., 2017). Attributes of CMIS likewise contrast contingent upon the embraced viewpoint or perspective–for example overall public, families. (Thornicroft et al., 2016). Along these lines distinctive stigma levels are for the most part thought of a full scale level (for example society), a moderate level (for example medical services experts) and a personal miniature level (for example companions, family and the people themselves) (Loch and Rössler, 2017).

The model greatest commonly applied in psychiatry is descriptive and affirms four stereotypes of mental disease: hazard, responsibility, poor prognosis and unpredictability/incompetence (Hayward & Bright, 1997). Angermeyer and Matschinger (2004) have identified a creative factor. Thonon and Larøi (2016) described the two factors that separate. Each study found that, the unpredictability / incompetence and risk dimensions were the widest accepted by the general population and therefore seem to be the main component of the stereotyped schizophrenia. In the Iraqis population, schizophrenia was also recognized as mental disease most linked to danger and unpredictability when compared to other severe mental illnesses, like depression (Ahmed et al, 2015; Teeba & Qahtan, 2021), autism and bipolar disorders (Shalan, 2018; Siham, 2020). This is the most likely cause of discrimination for people suffering from schizophrenia (Angermeyer et al., 2013; Siham, 2020).

The conflict against stigma can't adopt a solitary objective strategy yet rather needs to incorporate a few levels (from the large scale level - for example all-inclusive community - to the miniature level - for example family) (Loch and Rössler, 2017). In fact, family rejection or avoidance described as family stigma for an ill relative (Loch and Rössler, 2017). A new methodical review has shown that only 3.5% of the schizophrenia stigma research involved relatives between 1994 and 2016. (Lampropoulos et al., 2018). A ccording to (Shalan, 2018), The Iraqi people investigate the dilemma of stress in all of its forms as a key cause of schizophrenia (44%). Life events, trauma, social difficulties, war, incarceration, and poverty accounted for the majority of stressors. However, near half (46%) of youth with psychological maladjustment announced vilifying encounters in the family (for example through ridiculous suppositions, doubt, evasion) (Moses, 2010). In addition, study of (Bouhlel et al., 2013) indicated that Tunisian families communicated that people who suffering from schizophrenia should ensure and assisted by society (96%), are capricious (84%) and dangerous (60%). Taking into account how society plays a major part in stigma resistance (Sibitz et al., 2011), the well-working and steady organization around an individual with extreme psychological maladjustment is influenced by familial shame, which has major negative consequences. (Sanden et al., 2013). Families and (general population) have to some degree varying perspectives in regards to schizophrenia generalizations (Razali & Ismail, 2014) and in regards to the components that impact the distance toward individuals experiencing schizophrenia (Grausgruber et al., 2007). Without a doubt, family members of people with schizophrenia express a huge dismissal of risk with the general population (Razali & Ismail, 2014). Family members concur with the explanation that schizophrenia can be treated as regularly as with the general population (Shalan, 2018), and are more persuaded of the viability of medication therapies (Magliano et al., 2004) and recuperation of the ailment (Teeba & Qahtan, 2021). At last, families often attribute commence of schizophrenia to psychosocial causes, while the general population refers to both psychosocial and natural (Shalan, 2018). In any case, results remain conflicting in regards to the ineptitude measurement of the generalization. In addition, Magliano et al, (2004) study, indicated that family members were fundamentally more negative than the general population towards limits of people with schizophrenia to take on friendly jobs (44% "can't work"; 49% "ought not have youngsters", 40% "can't function as a sitter"). Despite what is generally expected, in

Grausgruber et al, (2007) study, the two gatherings were less able to depend their kid to somebody with schizophrenia and were less able to acknowledge someone with schizophrenia as an unrivaled at work. Finally, disparities in the schizophrenia stereotype between the general group and families are described in the few international studies that exist. These preliminary studies, however, are descriptive in nature, and more study on theoretical models of stigmatization of mental illness is required to complete them. (Angermeyer & Dietrich, 2006).

1.2. Mental illness stigma

1.2.1. Stigma and stereotypes

Lippmann (1922) was the first to conceive of stereotypes as general cognitive structures that help explain errors and biases in the perception of the world. In this conceptualization, stereotypes present a rationalization function considered necessary for the maintenance of social order (Lippmann, 1922). Since then, the definitions of the stereotype are numerous and subject of a vast field of study in social psychology, which Schneider (2004) proposes to synthesize through a general definition: "stereotypes are qualities perceived as associated to particular groups or categories of people" (Schneider, 2004). Moreover, knowledge of the stereotype has long been equated with prejudice against a social group (Kunda & Spencer, 2003). Nevertheless, a distinction between stereotypes and prejudices is necessary, since it refers to the distinction between the automatic (i.e. stereotypes) or controlled (prejudices) nature of the cognitive processes involved (Devine, 1989). Thus, stereotypes defined as automatic knowledge acquired through learning in a specific cultural context (Devine, 1989; Kunda & Spencer, 2003). In social cognitive theories, stereotypes defined as cognitive patterns resulting from social categorization, favoring the rapid interpretation of the environment (Whitley & Kite, 2013). In other words, stereotypes considered ubiquitous in the environment, and represent cultural artefacts or habits of thought that influence the perception of others (Cuddy et al., 2011). Finally, prejudices have been associated with personal beliefs about stereotypes (Devine, 1989). These are evaluations that the individual performs on the relevance of the stereotype, and which induces his positioning (i.e. degree of agreement or rejection) with the stereotype (i.e. attitude).Therefore, these early definitions identify the crucial role of stereotypes in worldviews, the effects of which are in the dynamic interaction of different components underlying interpersonal relationships (i.e. social order).

1.2.2. Structural stigma and public stigma: stereotype and culture

Culture is a component that links structural stigma (i.e. relating to social policies and mental health care policies) and the stigmatization of the general population. This link can be seen, for example, through the impact of public health policy directives on the content of the stereotype of the general population (Magliano et al., 2004). Furthermore, societies differ in their cultural norms and values. The study of the impact of culture on the content of the stereotype is developing within cross-cultural studies (Ayse et al., 2013; Koschorke et al., 2017). Thus, a variability in the content of the stereotype of mental illness has been highlighted according to ethnic origins and cultural values shared by the different social groups that make up societies. These data obtained in comparative studies between countries

(Ahmed et al, 2015; Angermeyer et al., 2016) but also within the social groups that make up American society. (Cheon & Chiao, 2012). Thus, observe that the participants from industrialized countries are more likely to report a more agreement with the dangerousness of the stereotype of the mental illness (Siham, 2020).

1.2.3. Intermediate stigma: stereotype and care settings

Stigmatization in healthcare settings is not recent and is part of the evolution of the practices of professionals (Struening & Cohen, 1963) or even in the context of debates on the negative consequences of labeling by medical diagnoses on people (Corrigan, 2007). Furthermore, communicate with healthcare professionals classified as one of the principal sources of experience of stigmatization reported by patients and their families (Schulze, 2007). This data appears in contradiction with the care missions of professionals but also with their high level of knowledge of mental illness (Nemec et al., 2015; Schulze, 2007).

1.2.4. Family stigma: stereotype and family exhaustion

The situation of families in the context of the stigmatization of mental illness appears delicate, since it involves both a role of generator of stigma and victim of this last (Loch & Rössler, 2017). The literature on the stigmatization of mental illness has particularly deepened the field of knowledge on the stigmatization of families (Corrigan et al., 2014), also called stigma by association (Bos et al., 2013) or even courtesy stigma (Angermeyer et al., 2003).

This type of stigma refers to the experiences of stigma and discrimination experienced by relatives, but also to their psychological and behavioral consequences (Bos et al., 2013). Research in this area highlights the co-occurrence of family stigma with the expression of a feeling of exhaustion or family burden marked by psychological distress and poor quality of life (Sanden et al., 2016; Shalan, 2018). A majority of studies have explored the effect of this stigma on the quality of life of loved ones, thus orienting the research focus on the theme of families as victims of stigma. However, people with mental illness also identify families as sources of stigma (Moses, 2010). Families' coping strategies in the face of stigma can lead to emotional (i.e. Shame) and behavioral (i.e. Concealment) reactions that are deleterious to individuals and impact access or commitment to care (Corrigan et al., 2014). In addition, strategies for resisting stigma may be linked to an alteration in the quality of family ties (Sanden et al., 2013) and to rejection of the patient relative (Loch, 2012; Loch & Rössler, 2017). In addition, studies on “Expressed Emotions” have shown the potential presence within the family of hostile behavior and critical comments towards the loved one, negatively affecting emotional and / or social support behaviors (Corrigan, 2000; Kavanagh, 1992; Teeba & Qahtan, 2021). Thus, the stigmatization of mental illness by the family group is part of a complex dynamic, the consequences of which would have a deleterious effect on the social network of individuals and consequently their resistance to stigmatization (Sibitz et al., 2011; Siham, 2020).

1.2.5. Internalized stigma: stereotype and redefinition of identity

Internalized stigma, also called self-stigma, corresponds to the negative consequences of stigma on the psychological well-being of stigmatized individuals (Bos et al., 2013). In recent years, the study of internalized stigma has formed a large field of investigation in psychiatry (Livingston & Boyd, 2010; Siham, 2020). A high level of internalized stigma found in over 40% of people with mental illness (Brohan, et al., 2010; Ahmed et al.,2015). Early work on the stigma of mental illness hypothesized an impact of the internalization of stigma on individuals' self-esteem and their vulnerability to clinical relapses (Link et al., 1989; Teeba & Qahtan, 2021). Currently, links have been established between internalized stigma and various psychosocial variables such as self-esteem, hope, empowerment (Livingston & Boyd, 2010) or even quality of life (Mashiach-Eizenberg et al., 2013; Ahmed et al., 2015), social functioning (Yanos et al., 2012; Teeba & Qahtan, 2021) and recovery of people (Hofer et al., 2016). Theoretical modeling of internalized stigma (Watson, et al., 2007) and its effects - notably the “Why try effect” (Corrigan, et al., 2009) - currently constitute the conceptual framework of studies in psychiatry. On this basis, internalized stigma defined as the tendency of individuals to attribute to themselves the negative characteristics of the stereotypes associated with them (Corrigan et al., 2005; Siham, 2020). Internalized stigma has been described as a systematic attribution process, comprising knowing the stereotypes of the disease, accepting these stereotypes and finally their application as constitutive characteristics of the identity of persons (Watson et al., 2007).

1.2.6. Methodology of stereotype content studies

The research on the stereotypes of mental illness has grown considerably over the past two decades, to which the development of programs to combat the stigma of mental illness has greatly contributed (Stuart, 2008). Nevertheless, the majority of scientific production on the theme has developed in the absence of an empirically validated model (Angermeyer & Dietrich, 2006). Thus, the literature on the content of the stereotype of mental illness presents various terminologies and differs in the exploration methods used (Siham, 2020; Teeba & Qahtan, 2021). These discrepancies complicate the field of study and limit the possibility of rigorously synthesizing the data. Moreover, the contribution of the theories of social psychology makes it possible to distinguish the constructs measured in studies of psychiatry from those in studies in social psychology (Ahmed et al., 2015; Shalan, 2018). Indeed, the term "attitude" is preferred in exploratory studies of stereotype that use a system of rating responses by degree of agreement. The majority of studies measure attitudes from which stereotype dimensions inferred.

2. Method

2.1. Participants

The study at first involved 279 persons from general group, and 167 family members of individuals with schizophrenia. Participants enlisted in Baghdad, between March and September 2019 for general group. In addition, between May and November 2020 for families group, through announcement on a few informal communities, mailing records, and family affiliations. Individuals of the two gatherings were then involved in case they were grown-up

(over 18 years of age), their native language is Arabic, they don't know anything about mental health institutions from their previous work experience or academic training in it. The individuals rejected in the event that they announce any present conclusion of schizophrenia. Furthermore, the family group involved individuals whose companion, family members, sibling or child has diagnosed with schizophrenia. On the other hand, general population group individuals ought not to have any familial connection with an individual with schizophrenia. At last, the general group involved 182 persons and the family group involved 124 persons (see Table 1).

Demographic Variables	***General Group (N= 182)*** Mean (*SD*)	***Family Group (N=124)*** Mean (*SD*)
Age	32.11 (*13.75*)	59. 37 *(8.63*)
Educational level	17.36 (*2.42*)	13.48 (*3.71*)
Gender		
Female	61%	73%
Male	39%	27%
Occupation		
Students	33%	12%
Workers	54%	43%
Retirees	13%	45%

Table 1: Sociodemographic characteristics of the participants in the two groups

2.2. Materials

We utilized a survey that derived from a larger international study on the schizophrenia stereotype to determine the changeability of the schizophrenia stereotype among family and general groups. Items were chosen based on preceding studies. (Angermeyer & Matschinger, 2004; Teeba & Qahtan, 2021) to evaluate the dimensions of schizophrenia stereotypes using Dangerousness, Incompetency/Unpredictability, Poor Prognosis, Responsibility (Hayward & Bright, 1997) and Creativity (Angermeyer & Matschinger, 2004).

The questionnaire only had 15 questions to minimize the time required to complete it. Items selected based on the following criteria: (I) Developing strategies for social rehabilitation, and media mentions of patients with schizophrenia); (II) sentence clarity (as assessed by the researcher); and (III) an equal distribution of evidently negative items (e.g. Dangerousness 1. «If all patients with schizophrenia were admitted to locked wards, the number of violent crimes could be markedly reduced ») (e.g. Dangerousness 3: « Only a few dangerous criminals have schizophrenia »).

2. 3. Procedure

Our online study prepared with free software from Limesurvey®. The information on the study goal given to the participants. In order to participate, the participants a must-agree to the terms clarified in the survey's first page. Several parameters blocked and not recorded by Limesurvey® to protect the anonymity of participants. In order to prevent ordering effects, a random one-by-one presentation of items was selected. Responses from the participants without time pressure collected and could not be able to record their answers in order to finishing the questionnaire later.

3. Results

Tables 2 and 3 summarize the findings of the factor analyses. A two-factor solution was found in the general group (average KMO = 0. 69) and a three-factor solution was found in the family group (average KM0 = 0.57; as shown in the table (2) and table (3). Some "Incompetency" elements were a controlling factor in both groups: In the general population, there are two "incompetency" items out of five (explained variance: 21%), or all “Incompetency” items out of four items in the family group (explained variance: 15%). The controlling factor considered “Incompetency Factor” based on the items shared content. In each group, a minor described also mentioned. Involving two “Creativity” items (general population: items 2 and 3, explained variance: 13%; family group: items 1 and 3, explained variance: 7%). This indicated the minor factor “Creativity Factor”. Furthermore, A third element in the family group identified (explained variance: 12%). according to item factorial loadings indicating pessimism in the cause of disease (Responsibility items 2 and 3), the potential of a healing (Poor prognosis 1), and the requirement to isolate the patients in order to therapy (Dangerousness 1), the factor was labeled “Recovery Factor”.

Two factors	Items	Factorial loading	Communality	Eigen value	Explained variance
Factor 1 “Incompetency”	Dangerousness 1 *“admitted to locked wards”*	0.53	0.29	0.73	21%
	Responsibility 1 *“ Effective people ”*	0.51	0.33	0.67	
	Incompetency 2 *“definitively need a guardian”*	0.57	0.35	0.65	
	Incompetency 3 *“ can't think logically ”*	0.63	0.33	0.59	
	Poor prognosis 2 *“Rehabilitation programs return to*	0.62	0.39	0.53	

	work doomed to failure"				
Factor 2 "Creativity"	Creativity 2 "*Genius and madness*"	0.66	0.41	0.59	15%
	Creativity 3 "*Very intelligent*"	0.50	0.19	0.68	

Table 2: Factorial analysis of stereotypes schizophrenia in the general population group

Three factors	Items	Factorial Loading	Communality	Eigenvalue	Variance explained
Factor 1 "Incompetency"	Incompetency 1 " *making important decisions about their lives* "	0.51	0.29	0.61	13%
	Incompetency 2 "*definitively need a guardian*"	0.53	0.34	0.57	
	Incompetency 3 "*can't think logically*"	0.63	0.46	0.48	
	Poor Prognosis 2 "*Rehabilitation schemes […] back to work doomed to failure*"	0.39	0.21	0.78	
Factor 2 "Recovery"	Dangerousness 1 "*admitted to locked wards*"	0.56	0.41	0.52	7%
	Responsibility 2 *"if you lead an immoral life"*	0.54	0.38	0.43	

	Responsibility 3 "*to avoid the difficult problems of everyday life*"	0.38	0.23	0.77	
	Poor Prognosis 1 "*With modern treatment methods […]can be cured*"	0.41	0.14	0.87	
Factor 3 "Creativity"	Creativity 1 *"more creative than other people"*	0.64	0.45	0.44	12%
	Creativity 3 "*highly intelligent*"	0.61	0.29	0.71	

Table 3: Factorial analysis of schizophrenia stereotypes within the Family group

4. Discussion

The objective of this research was to study the content of the schizophrenia stereotype in the Iraqi context, and to measure its potential effect in neuropsychological assessments. We were able to observe the complexity of the international literature developed on the theme of the stigmatization of mental illnesses, from which a lack of consensus arises as to the content of the stereotype of schizophrenia. Currently, the psychiatric literature does not have an empirically validated consensus model of the schizophrenia stereotype, allowing defining their dimensions and characterizing its effects on behavior.

Our results highlighted incompetence as a major component of the schizophrenia stereotype on several levels. First, factor analyses highlighted incompetence as the main factor in both groups, with most of the variance explained. Second, the element-by-element analysis has shown that the elements of incompetence not clearly rejected, as are dangerousness and responsibility. On the contrary, the elements of incompetence specifically produced mixed opinions (i.e., opinions of rejection and agree are both expressed with similar rates), with a low degree of indecision. Additionally, the need for a legal guardian ("Incompetence 2" item) was the most accepted item among general group participants. As highlighted in a previous study, the idea of a need for legal coercion for people with schizophrenia remains in social representations. This result is consistent with previous studies in which incompetence reported as one of the best predictors of social distancing (Angermeyer & Matschinger, 2004; Thonon & Larøi, 2016).

Our findings cast doubt on the applicability of the model developed by Hayward and Bright (1997), on which the vast majority of psychiatric investigations are still based. (Angermeyer & Dietrich, 2006; Angermeyer & Matschinger, 2004).

The responses of our participants did not fit this theoretical structure, but rather revealed incompetence as a major component of the content of the schizophrenia stereotype. This result may first reflect the diversity of the authors' statistical decisions regarding factor analyzes (Tabachnick & Fidell, 2013). In preceding researches, the authors modified the default value of the oblique rotation parameter (Angermeyer & Matschinger, 2004) or performed a principal component analysis (Thonon & Larøi, 2016). We favored exploratory strategy since the model of Hayward & Bright (1997) based on an expert consensus and remains essentially descriptive. On a conceptual level, Our findings are more reliable with the Stereotype Content Model (SCM), a global model widely used in social psychology (Ahmed et al., 2015; Shalan, 2018). The SCM argues that stereotypes result from interpersonal and intergroup interactions and can described in two dimensions: degree of warmth (i.e. the ability of people to infer the intentions of others; e.g., trustworthy, deceptive, etc.) and skill level (i.e. playing with other people, e.g. skillful, incompetent, etc.).

In the present study, familial responses characterized by clearly unambiguous and homogeneous responses. These responses reflect a strong explicit rejection of the stereotype, with the exception of the incompetence dimension, where more mixed opinions observed. Regarding dangerousness, our results are consistent with previous comparative data reporting family rejection of this dimension in schizophrenia (Grausgruber et al., 2007; Magliano et al., 2004). However, when it comes to incompetence, families in our sample expressed more mixed opinions than those reported in previous studies, where they mostly agreed with a stereotype of incompetence (e.g. working as a baby -sitter, have children, be married) (Grausgruber et al., 2007; Magliano et al., 2004). In addition, factor analysis highlighted a specific factor in families - which not observed in the general population group - which we called the “recovery factor”. Recovery thus appears to be a specific concern of families. These elements relate to optimism about the possibility of being rehabilitated or cured, the positive consideration of people with schizophrenia as not responsible for the onset and maintenance of the disease, and the uselessness of locked rooms. This result is consistent with some previous results reporting more positive opinions in families regarding the treatability of schizophrenia (Siham, 2020; Shalan, 2018), the possibilities of cure (Teeba & Qahtan, 2021) and the usefulness of treatments (psychosocial and pharmacological interventions) (Ayse et al., 2013; Shalan, 2018; Magliano et al., 2004). Finally, the current results indices that Ineptitude is a vital part of the schizophrenia generalization content in everybody and the families. In particular, families all the more hugely reject generalize and show up explicitly worried about recuperation in examination with everyone. In any case, a few reactions likewise mirror their vulnerability in regards to the capacity of people who experience the ill effects of schizophrenia to support social jobs. Exploration is expected to additionally investigate specificities of schizophrenia generalization content in these diverse gatherings of people with certain strategies.

5. Conclusion

The results obtained in the experimental part of this research are in line with the difficulties already reported to detect a threat effect of the stereotype of schizophrenia on cognitive performance. These significant results in our study lead us to a reflection on the necessary adaptations of the experimental paradigms of social psychology to the specificities of schizophrenia.

Thus, development different methodological perspectives, such as, importance of the contextualization of the experimental protocols in the practices and perspectives of psychosocial rehabilitation (i.e. domain of identification and relevance of the stereotype); the importance of the choice of measures adapted to the specificities of neuropsychological profiles in schizophrenia (i.e. level of difficulty of a traditional Stroop stain and performance analysis strategies); the importance of taking into account the various potential sources of threat of the schizophrenia stereotype in experimental and clinical biases (i.e. hospital context and internalized stigma).

References

Ahmed, M. Annie MM. Ahmed, M. K, Sue, C. Margaret, C. Rebecca, L. Smita, D. Hader, M., & Vishwajit, L. (2015). Suggested avenues to reduce the stigma of mental illness in the Middle East. *International Journal of Social Psychiatry 61*(2) 111 – 120.

Angermeyer, M. C., Buyantugs, L., Kenzine, D. V., & Matschinger, H. (2004). Effects of labelling on public attitudes towards people with schizophrenia: are there cultural differences? *Acta Psychiatrica Scandinavica*, *109*(6), 420–425.

Angermeyer, M. C., Carta, M. G., Matschinger, H., Millier, A., Refaï, T., Schomerus, G., & Toumi, M. (2016). Cultural differences in stigma surrounding schizophrenia: Comparison between Central Europe and North Africa. *British Journal of Psychiatry*, *208*(04), 389‑397. https://doi.org/10.1192/bjp.bp.114.154260.

Angermeyer, M. C., & Corrigan, P. (2005). Mental illness stigma: Concepts, consequences, and initiatives to reduce stigma. *European Psychiatry*, *20*(8), 529‑539. https://doi.org/10.1016/j.eurpsy.2005.04.004.

Angermeyer, M. C., & Dietrich, S. (2006). Public beliefs about and attitudes towards people with mental illness: a review of population studies. Acta Psychiatrica Scandinavica, 113(3), 163‑179. https://doi.org/10.1111/j.1600-0447.2005.00699.

Angermeyer, M. C., & Matschinger, H. (2004). The stereotype of schizophrenia and its impact on discrimination against people with schizophrenia: results from a representative survey in Germany. *Schizophrenia Bulletin*, *30*(4), 1049‑1061.

Angermeyer, M. C., Millier, A., Rémuzat, C., Refaï, T., & Toumi, M. (2013). Attitudes and beliefs of the French public about schizophrenia and major depression: results from a vignette-based population survey. *BMC psychiatry*, *13*, 313‑325.

Angermeyer, M. C., Schulze, B., & Dietrich, S. (2003). Courtesy stigma. *Social Psychiatry and Psychiatric Epidemiology*, *38*(10), 593‑602. https://doi.org/10.1007/s00127-003-0680.

Ayşe. C. Nev. J. & Patrick W. Corrigan. (2013). Mental Health Stigma in the Muslim Community. *Journal of Muslim Mental Health*. 7(1), 17‑32. http://hdl.handle.net/2027/spo.10381607.0007.102..

Bos, A., Pryor, J. B., Reeder, G. B., & Stutterheim, S. E. (2013). Stigma: Advances in Theory and Research. *Basic and Applied Social Psychology*, *35*(1), 1‑9. https://doi.org/10.1080/01973533.2012.746147

Bouhlel, S., Ben Haouala, S., Klibi, A., Ghaouar, M., Chennoufi, L., Melki, W., & El-Hechmi, Z. (2013). Évaluation des croyances et des attitudes d'une population tunisienne de proches de patients atteints de schizophrénie. *L'Encéphale, 39*(3), 165‑173. https://doi.org/10.1016/j.encep.2012.06.012.

Brohan, E., Elgie, R., Sartorius, N., & Thornicroft, G. (2010). Self-stigma, empowerment and perceived discrimination among people with schizophrenia in 14 European countries: The GAMIAN-Europe study. *Schizophrenia Research*, *122*(1–3), 232‑238. https://doi.org/10.1016/j.schres.2010.02.1065.

Cheon, B. K., & Chiao, J. Y. (2012). Cultural Variation in Implicit Mental Illness Stigma. *Journal of Cross-Cultural Psychology*, *43*(7), 1058‑1062. https://doi.org/10.1177/0022022112455457.

Corrigan, P. W. (2000). Mental Health Stigma as Social Attribution: Implications for Research Methods and Attitude Change. *Clinical Psychology : Science and Practice, 7*, 48‑67.

Corrigan, P. W. (2007). How clinical diagnosis might exacerbate the stigma of mental illness. *Social Work*, *52*(1), 31–39.

Corrigan, P. W., Druss, B. G., & Perlick, D. A. (2014). The Impact of Mental Illness Stigma on Seeking and Participating in Mental Health Care. *Psychological Science in the Public Interest, 15*(2), 37‑70. https://doi.org/10.1177/1529100614531398.

Corrigan, P. W., Kerr, A., & Knudsen, L. (2005). The stigma of mental illness: Explanatory models and methods for change. *Applied and Preventive Psychology*, *11*(3), 179‑190. https://doi.org/10.1016/j.appsy.2005.07.001.

Corrigan, P. W., Larson, J. E., & Ruesch, N. (2009). Self-stigma and the "why try" effect: impact on life goals and evidence-based practices. *World Psychiatry*, *8*(2), 75–81..

Cuddy, A., Glick, P., & Beninger, A. (2011). The dynamics of warmth and competence judgments, and their outcomes in organizations. *Research in Organizational Behavior*, *31*, 73‑98. https://doi.org/10.1016/j.riob.2011.10.004.

Devine, P. G. (1989). Stereotypes and prejudice: Their automatic and controlled components. *Journal of personality and social psychology*, *56*(1), 5‑18.

Grausgruber, A., Meise, U., Katschnig, H., Schöny, W., & Fleischhacker, W. W. (2007). Patterns of social distance towards people suffering from schizophrenia in Austria: a comparison between the general public, relatives and mental health staff. *Acta Psychiatrica Scandinavica, 115*(4), 310‐319. https://doi.org/10.1111/j.1600-0447.2006.00882.

Hayward, P., & Bright, J. A. (1997). Stigma and mental illness : A review and critique. *Journal of Mental Health, 6*(4), 345‐354.

Heim E, Kohrt BA, Koschorke M, Milenova M, Thornicroft G (2020). Reducing mental health-related stigma in primary health care settings in low- and middle-income countries: *a systematic review. Epidemiology and Psychiatric Sciences 29*, e3, 1–10. https://doi.org/10.1017/ S2045796018000458.

Hofer, A., Mizuno, Y., Frajo-Apor, B., Kemmler, G., Suzuki, T., Pardeller, S., Uchida, H. (2016). Resilience, internalized stigma, self-esteem, and hopelessness among people with schizophrenia: Cultural comparison in Austria and Japan. *Schizophrenia Research, 171*(1‐3), 86‐91. https://doi.org/10.1016/j.schres.2016.01.027.

Kavanagh, D. J. (1992). Recent developments in expressed emotion and schizophrenia. *British Journal of Psychiatry,* 160, 601‐620.

Koschorke, M., Evans-Lacko, S., Sartorius, N., & Thornicroft, G. (2017). Stigma in Different Cultures. In W. Gaebel, W. Rössler, & N. Sartorius, *The Stigma of Mental Illness - End of the Story?* (p. 67‐ 82). Cham: Springer International Publishing.

Kunda, Z., & Spencer, S. J. (2003). When do stereotypes come to mind and when do they color judgment? A goal-based theoretical framework for stereotype activation and application. *Psychological Bulletin, 129*(4), 522‐544. https://doi.org/10.1037/0033-2909.129.4.522.

Lampropoulos, D., Fonte, D., & Apostolidis, T. (2018). La stigmatisation sociale des personnes vivant avec la schizophrénie : une revue systématique de la littérature. *L'Évolution Psychiatrique.* https://doi.org/10.1016/j.evopsy.2018.09.002.

Link, B.G., Cullen, F. T., Struening, E. L., Shrout, P. E., & Dohrenwend, B. P. (1989). A Modified Labeling Theory Approach to Mental Disorders: An Empirical Assessment. *American Sociological Review, 54*(3), 400‐423.

Link, Bruce G., Yang, L. H., Phelan, J. C., & Collins, P. Y. (2004). Measuring mental illness stigma. *Schizophrenia Bulletin, 30* (3), 511–541.

Lippmann, W. (1922). *Public opinion* (Harcourt, Brace). New York..

Livingston, J. D., & Boyd, J. E. (2010). Correlates and consequences of internalized stigma for people living with mental illness: A systematic review and meta-analysis. *Social Science & Medicine, 71*(12), 2150‐2161. https://doi.org/10.1016/j.socscimed.2010.09.030

Loch, A. A. (2012). Stigma and higher rates of psychiatric re-hospitalization : Sao Paulo public mental health system. *The Revista Brasileira de Psiquiatria, 34*(2), 185‐192.

Loch, A. A., & Rössler, W. (2017). Who Is Contributiong? In W. Gaebel, W. Rössler, & N. Sartorius, *The Stigma of Mental Illness - End of the Story?* (p. 111‑122). Cham: Springer International Publishing.

Magliano, L., Fiorillo, A., De Rosa, C., Malangone, C., & Maj, M. (2004). Beliefs About Schizophrenia in Italy: A Comparative Nationwide Survey of the General Public, Mental Health Professionals, and Patients' Relatives. *The Canadian Journal of Psychiatry / La Revue canadienne de psychiatrie, 49*(5), 323‑331.

Mashiach-Eizenberg, M., Hasson-Ohayon, I., Yanos, P. T., Lysaker, P. H., & Roe, D. (2013). Internalized stigma and quality of life among persons with severe mental illness: The mediating roles of self-esteem and hope. *Psychiatry Research, 208*(1), 15‑20. https://doi.org/10.1016/j.psychres.2013.03.013

Moses, T. (2010). Being treated differently: Stigma experiences with family, peers, and school staff among adolescents with mental health disorders. *Social Science & Medicine, 70*(7), 985‑993. https://doi.org/10.1016/j.socscimed.2009.12.022.

Nemec, P. B., Swarbrick, M., & Legere, L. (2015). Prejudice and discrimination from mental health service providers. *Psychiatric Rehabilitation Journal, 38*(2), 203‑206. https://doi.org/10.1037/prj0000148.

Razali, S. M., & Ismail, Z. (2014). Public stigma towards patients with schizophrenia of ethnic Malay: a comparison between the general public and patients' relatives. *Journal of Mental Health, 23*(4), 176‑180. https://doi.org/10.3109/09638237.2014.910644.

Sanden, R. L. M., Bos, A. E. R., Stutterheim, S. E., Pryor, J. B., & Kok, G. (2013). Experiences of stigma by association among family members of people with mental illness. *Rehabilitation Psychology, 58*(1), 73‑80. https://doi.org/10.1037/a0031752.

Sanden, R. L. M., Pryor, J. B., Stutterheim, S. E., Kok, G., & Bos, A. E. R. (2016). Stigma by association and family burden among family members of people with mental illness: the mediating role of coping. Social Psychiatry and Psychiatric Epidemiology, 51(9), 1233‑1245. https://doi.org/10.1007/s00127-016-1256-x

Schneider, D. J. (2004). *The psychology of stereotyping*. New York : Guilford Press.

Schulze, B. (2007). Stigma and mental health professionals: A review of the evidence on an intricate relationship. *International Review of Psychiatry, 19*(2), 137‑155. https://doi.org/10.1080/09540260701278929

Shalan, J.R. (2018). Causal Beliefs of Schizophrenia among sample of Iraqi Schizophrenic Inpatients' Families in Iraq. *Iraqi Journal of Medical Sciences.*237-242. http://www.iraqijms.net.

Sibitz, I., Unger, A., Woppmann, A., Zidek, T., & Amering, M. (2011). Stigma Resistance in Patients with Schizophrenia. *Schizophrenia Bulletin, 37*(2), 316‑323. https://doi.org/10.1093/schbul/sbp048.

Siham, A. H. (2020). Stigma of Mental Illness among Psychiatric Patients and their Relatives in Baghdad Society/Iraq. *International journal of psychsocial Rehabilitation, 24*(1), 7200‑7207.

Struening, E. L., & Cohen, J. (1963). Factorial invariance and other psychometric characteristics of five opinions about mental illness factors. *Educational and psychological measurement, 23*(2), 289-298.

Stuart, H. (2008). Building an evidence base for anti-stigma programming. In J. Arboleda-Flórez & N. Sartorius (Éd.), *Understanding the stigma of mental illness: theory and interventions.* 135‑ 145. Chichester, England : John Wiley & Sons.

Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6. ed., internat. ed). Boston, Mass.: Pearson.

Teeba, M.S., & Qahtan, Q. M. (2021). Self-stigma and its Relation with Social Functioning among Patients with Schizophrenia at Psychiatric Teaching Hospital in Baghdad, Iraq. *Annals of R.S.C.B.*, 25(4), 11244 -11254 .http://annalsofrscb.ro.

Thonon, B., & Larøi, F. (2016). What predicts stigmatisation about schizophrenia? Results from a general population survey examining its underlying cognitive, affective and behavioural factors. *Psychosis, 9*(2), 99‑109. https://doi.org/10.1080/17522439.2016.1229361.

Thornicroft, G., Mehta, N., Clement, S., Evans-Lacko, S., Doherty, M., Rose, D., Henderson, C. (2016). Evidence for effective interventions to reduce mental-health-related stigma and discrimination. *The Lancet, 387*(10023), 1123‑1132. https://doi.org/10.1016/ S01406736 (15)00298-6.

Watson, A. C., Corrigan, P., Larson, J. E., & Sells, M. (2007). Self-Stigma in People With Mental Illness. *Schizophrenia Bulletin, 33*(6), 1312‑1318. https://doi.org/10.1093/schbul/sbl076.

Whitley, B., & Kite, M. (2013). Psychologie des préjugés et de la discrimination. Bruxelles: De Boeck Université.

WHO. (2013). *Comprehensive mental health action plan 2013-2020*. Genève: WHO

Wittchen, H. U., Jacobi, F., Rehm, J., Gustavsson, A., Svensson, M., Jönsson, B., Steinhausen, H.-C .(2011) .The size and burden of mental disorders and other disorders of the brain in Europe .2010European Neuropsychopharmacology, 21(9), 655‑679. https://doi.org/10.1016/j.euroneuro.2011.07.018.

Yanos, P. T., West, M. L., Gonzales, L., Smith, S. M., Roe, D., & Lysaker, P. H. (2012). Change in internalized stigma and social functioning among persons diagnosed with severe mental illness. *Psychiatry Research, 200*(2‑3), 1032‑1034. https://doi.org/10.1016/j.psychres.2012.06.017