Schizophrenia in Print, Digital, and Audiovisual Media: Trends, Topics, and Results From an Anti-Stigma Intervention Targeting Media Professionals

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Background: Negative portrayals of schizophrenia in media can prompt the condition's stigmatization. However, because research on language stigmatizing schizophrenia has focused on paper-based media, its results have limited generalizability to contemporary media. Also, research on interventions to guide media professionals in accurately depicting schizophrenia has been scarce. The present study had two aims: (1) to assess how print, web, and radio/TV news media in Sweden portray schizophrenia and (2) to evaluate a campaign targeting media professionals' responses to information about schizophrenia and the consequences of stigmatizing language. *Study Design*: Using data from Retriever's database, considering media types and topics, the terms "schizophrenia" and "schizophrenic" were examined in the past 20 years, whereas analyses of stigmatizing reporting of these terms used media from the past 10 years. Media professionals' responses and actions in the anti-stigma information campaign StigmaWatch were also evaluated. *Study Results*: Between 2002 and 2022, "schizophrenia" was mentioned 34 141 times in the dataset and "schizophrenic" 10 058 times. However, no trends were statistically significant. All media topics and most types of media contained stigmatizing reporting. Of the 230 media professionals who received informative emails from StigmaWatch, 77 (33%) responded. Most responses were supportive, and 14% of the professionals reported taking corrective measures (eg, revising erroneous descriptions of schizophrenia) following the email. *Conclusions*: No media topic was free of language stigmatizing schizophrenia. The anti-stigma information campaign seemed to have been effective, for most media professionals who responded were supportive, and a sizable proportion reported taking corrective measures.

Key words: intervention/media/schizophrenia/severe mental illness/stereotyping/stigma

Introduction

The often negative portrayal of mental illnesses can prompt their stigmatization.[1] Stigmatizing language reinforces negative stereotypes or beliefs about mental illnesses,[2] whether such language involves the metaphorical use of certain disease-specific terms,[3] or whether the language is used in association with negative events or behaviors, including violent ones.[4]

Referring to an illness in a stigmatizing manner, even if metaphorically, can evoke negative connotations of the illness.[5] If such references become widely accepted, then they can lead to social exclusion and discrimination, increased symptom severity, and the diminished overall well-being of individuals with the illness.[2,6] The use of stigmatizing language related to schizophrenia in particular discourages individuals from seeking treatment and have shown to reduce the efficacy of treatment by negatively influencing their adherence to antipsychotic treatments.[7] It can also influence the help-seeking behavior of the individuals' family members, who are often central to identifying early signs of worsening symptoms in their loved ones.[8]

Mass Media, Schizophrenia, and Stigma

News media and other mass communication sources serve as the primary means through which people in middle- and high-income countries perceive and comprehend the world around them.[9] Research has shown that mass media tends to contribute to the stigmatization of

individuals with severe mental illness by framing them as violent and dangerous.[10] Ross et al.[10] found that more than 60% of media reports portrayed individuals with severe mental illness as dangerous, whereas only 18%–27% of reports focused on positive aspects of recovering from such illness. Research has also indicated that when news media reports on violent incidents involving individuals with schizophrenia, it can increase the perception of those individuals as being dangerous, especially if they have psychosis.[11,12] These trends are problematic given research showing that schizophrenia is the mental illness most stigmatized by mental health professionals.[13] Also, longitudinal research indicate that there has been a worsening tone of media coverage for schizophrenia over time.[12]

Two underlying mechanisms of the stigmatization of schizophrenia in media is the spread of misinformation and the misuse of distinct psychiatric terms.[14] Bleuler's conceptualization of schizophrenia in the early 20th century as a disparity between mood and thought, based on its Greek roots *schizo* ("split," "separated") and *phrenos* ("mind"), has since led to the use of schizophrenia as a metaphor for split personality.[15] However, the term *schizophrenia* was adopted to highlight the disorder's striking symptom of inappropriate affect, not to imply a splitting of personality as in multiple personality disorder, more recently termed *dissociative identity disorder*.[16] Nevertheless, confusion between the splitting of the mind in schizophrenia and the splitting of personality remains prevalent,[5] and media references to schizophrenia often associate it with metaphors suggesting split personality, violent, and generally strange behavior.[17] These mechanisms align with the labeling theory, which has greatly influenced the theoretical and empirical research on mental illness stigma. The theory posits that once an individual is labeled as "mentally ill," they experience social pressures that perpetuate deviant behavior consistent with cultural stereotypes of mental illness.[18]

Although news media significantly contributes to the stigmatization of individuals with schizophrenia, numerous studies on language stigmatizing schizophrenia have focused on paper-based media sources (eg, newspapers),[5,12,14,19] while others have used a cross-sectional design to analyze data from only one point in time instead of comparing the development over time.[2,19] However, considering the widespread use and impact of digital and audiovisual media (eg, radio, TV), it is imperative to conduct analyses that include online and audiovisual sources in order to obtain a more accurate depiction of the current media landscape.

Research on anti-stigma interventions has also been limited. In 2017, a review of literature on the topic identified 27 studies on anti-stigma interventions focused on media and media professionals.[20] However, nearly all focused on media-monitoring projects (*n* = 23), while only two focused on informing or educating media professionals and another two on educating journalism students.[20]

Against that background, the study presented here had two aims: (1) to assess how print, web, and radio/TV news media in Sweden portray schizophrenia and (2) to evaluate a campaign targeting media professionals' responses to information about schizophrenia and the consequences of stigmatizing language.

Methods

Study Design

To fulfill the study's first aim, a document analysis was conducted.[21] In such analyses, media reports generally serve as empirical sources of data believed to reveal something genuine about the external world.[22] In today's media landscape, although written documents continue to serve as primary sources, various audiovisual news sources are equally relevant, including radio and television (TV) segments.[21] Meanwhile, to fulfill the second aim, an intervention was conducted. Standardized information about schizophrenia and common misunderstandings about the disorder were emailed to media professionals identified within an anti-stigma project to have contributed to stigmatizing reporting.

Sample

For the first aim, Retriever's database, the Nordic region's largest news media archive,[23] was selected for the collection of media reports for analysis. Containing news from web, print, social media, radio, and TV sources, the database is the most-used media-monitoring database in the Nordic region. It operates across all Nordic countries, namely Denmark, Finland, Norway, and Sweden, with the exception of Iceland.[23] For the study, only media in the Swedish language were selected. All types of news media were included: print, web-based (ie, regardless of publication channel), and radio and TV. Considering media types and topics, the prevalence of the terms "schizophrenia" and "schizophrenic" were examined in the past 20 years (ie, January 1, 2002–December 31, 2022). Analyses of stigmatizing reporting used only media from the past 10 years (ie, January 1, 2012–December 31, 2022) to capture the most recent coverage. To avoid duplicate news reports (ie, the same news published in several media sources or outlets), the database's similarity filter—an automated tool that merges records with at least 80% similarity in text—was used to identify unique records only.[24]

For the second aim, data from the user-driven project StigmaWatch were used.[25] A 3-year project initiated in 2019 and run by the Association for Schizophrenia in Gothenburg, Sweden, StigmaWatch aimed at reducing the stigma surrounding mental illness, particularly schizophrenia, by highlighting the use of stigmatizing language in all types of media. To that end, the project's staff created

a website where the public could report stigmatizing expressions. The incoming reporting was evaluated by staff members who have personally experienced mental illness; if they agreed that a report was stigmatizing, then they archived it, and submitted anti-stigma material to the media professional responsible for the report. The material consisted of a standardized email describing schizophrenia, information about stigma, and what in their reporting was experienced as being stigmatizing. The media professionals consisted of journalists, magazine editors, radio and/or TV producers, social media influencers, and communications professionals in diverse fields such as public relations and marketing.[25]

Data Analysis

To analyze the media content reported in various types of media and sources and to categorize the data based on trends and patterns, content analysis according to Krippendorff (2018) was performed. The approach generally involves interpreting communications as representations within the social contexts in which the communications appear.[26] Thus, the analysis encompassed an examination of both the explicit content, such as the frequency of terms related to schizophrenia, as well as the contextual framework within which these terms were presented. This comprehensive approach aimed to assess whether the terminology was portrayed in a stigmatizing manner, such as by their use in metaphors or their association with violent behaviors.

Although news media articles served as the units of analysis, the process of coding content involved examining each sentence containing the terms "schizophrenia" or "schizophrenic." By contrast, for segments of audiovisual media, the unit of analysis was the textual representation describing the segment, typically based on the database's or publishers' own descriptions. To ensure accurate code assignment, uncertainties were resolved by reviewing the entirety of the article's or segment's text.[21,26]

A major part of the categorizing the content was using predefined media topics in the database, which generally follow the international industry standard for news agencies and other media organizations developed by the International Press and Telecommunications Council. The 17 top categories, described in Table 1, were used.

Descriptive statistics (ie, frequencies and proportions) and analytical statistics (ie, chi-square test for trends: the linear-by-linear association tests) were used. Linear-by-linear association tests can handle variability in the data distribution and is not dependent on equal variances or homoscedasticity within the studied groups.[27] Thus, due to anticipated variability in data distribution and unequal variances in the annual prevalence of the two terms, this test was deemed appropriate.

Achieving the second aim involved analyzing responses from the media professionals to anti-stigma material received from the StigmaWatch anti-stigma campaign. A categorization of responses already initiated by a member of the campaign was revised to better align with the aim of the present study (eg, by merging some categories and renaming others). Descriptive statistics were used to provide an overview of the frequency and proportion of responses, which represented the effects or outcomes of the anti-stigma campaign.

Results

Between 2002 and 2022, the term "schizophrenia" appeared 34 141 times in Swedish media sources, 21 910 of which consisted of unique records. Of them, 20 105 (59%) appeared in web-based sources, 13 700 (40%) in print, and 259 (1%) on radio or TV. Somewhat similarly, "schizophrenic" appeared 10 058 times, 6644 of which consisted of unique records. Of them, 5060 (50%) were in web-based sources, 4895 (49%) in print, and 82 (1%) on radio or TV.

As shown in the linear-by-linear associations in Figure 1, the studied period contained no statistically significant decreases or increases in the number of publications containing "schizophrenia" (.017, $p = .897$) or "schizophrenic" (.002, $p = .964$).

The term "schizophrenia" appeared in the five media topics Health ($n = 4506$, 13%), Arts, Culture, Entertainment, and Mass Media ($n = 2484$; 7%), Society ($n = 1719$; 5%), Crime, Law, and Justice ($n = 1623$; 5%), and Science and Technology ($n = 1611$; 5%).

The term "schizophrenic," by contrast, appeared in the five media topics Arts, Culture, Entertainment, and Mass Media ($n = 1762$; 18%), Society ($n = 403$; 4%), Politics ($n = 309$; 3%), Crime, Law, and Justice ($n = 302$; 3%), and Health ($n = 274$, 3%) (Table 2).

Stigmatizing reporting was found in all media topics and across most types of media, as shown in the examples in Supplementary Material. Three kinds of stigmatizing language were identified.

The first was the metaphorical use of terms "schizophrenia" and "schizophrenic," including using "schizophrenic" to mean "split" or "volatile." In one example in Supplementary Material for the media topic Weather on the radio or TV, a report stated that the "weather forecast is schizophrenic."

The second kind of stigmatizing language was misusing the terms "schizophrenia" and "schizophrenic" to, for instance, characterize schizophrenia as a personality syndrome. Supplementary Material presents such an example for the topic Health on web media, wherein the report stated, "developing personality syndromes such as narcissism and schizophrenia."

The third kind of stigmatizing language was associating the terms "schizophrenia" and "schizophrenic" with violence, crime, and, more generally, individuals who pose a threat to society. For example, for the media topic Crime,

Table 1. The 17 top media topics according to the International Press and Telecommunications Council.

Media topic	Definition
Arts, Culture, Entertainment, and Mass Media	All forms of arts, entertainment, cultural heritage, and media
Crime, Law, and Justice	The establishment and/or statement of the rules of behavior in society, the enforcement of those rules, breaches of the rules, the punishment of offenders, and the organizations and bodies involved in those activities
Conflict, War, and Peace	Acts of socially or politically motivated protest or violence, military activities, and geopolitical conflicts, as well as resolution efforts
Disaster, Accident, and Emergency Incident	Human-made or natural events resulting in the loss of life or injury to living creatures and/or damage to inanimate objects or property
Economy, Business, and Finance	All matters concerning the planning, production, and exchange of wealth
Education	All aspects of furthering knowledge, formally or informally
Environment	All aspects of the protection, damage, and condition of the ecosystem of Earth and its surroundings
Health	All aspects of physical and mental well-being
Human Interest	Reporting covering individuals, groups, animals, plants, or other objects in an emotional way
Labor	Social aspects, organizations, rules, and conditions affecting the employment of human effort for the generation of wealth or provision of services and the economic support of the unemployed
Lifestyle and Leisure	Activities undertaken for pleasure, relaxation, or recreation outside paid employment, including eating and travel
Politics	Local, regional, national, and international exercise of power, or struggle for power, and the relationships between governing bodies and states
Religion	Belief systems, institutions, and people who provide moral guidance to followers
Science and Technology	All aspects pertaining to human understanding of, as well as methodical study and research of, natural, formal, and social sciences, including astronomy, linguistics, and economics
Society	The concerns, issues, affairs, and institutions relevant to human social interactions, problems, and welfare, including poverty, human rights, and family planning
Sport	Competitive activity or skill that involves physical and/or mental effort and organizations and bodies involved in those activities
Weather	The study, prediction, and reporting of meteorological phenomena

Law, and Justice in print media, Supplementary Material contains a news report on a municipal psychiatric home for people with schizophrenia characterized as being prone to "threats and violence" and "police raids."

Only for a few types of media in which the terms "schizophrenia" and "schizophrenic" appeared less frequent, including for the two topics Religion and Weather, there was no evident stigmatizing reporting. However, such was the case only for "schizophrenia," not "schizophrenic."

Last, for the second aim—that is, the evaluation of the anti-stigma campaign StigmaWatch—results showed that between 2019 and 2022, the project issued 230 emails to media professionals who were considered to have published reports with language stigmatizing schizophrenia. Email addresses belonging to the specific journalists were prioritized, but if unidentifiable, then the materials were sent to a more general email address often belonging to the editorial staff. Overall, 77 (33%) responses were received. No reminder emails were sent if no response was received. Table 3 shows the most frequent categories of responses that StigmaWatch received from the professionals, along with descriptions and examples of the categories.

Discussion

The study presented here involved assessing how schizophrenia was portrayed in Swedish news media and if an anti-stigma campaign-targeting media professionals influenced the professionals' reporting in relation to the use of the terms "schizophrenia" and "schizophrenic."

The findings regarding schizophrenia's portrayal indicate that "schizophrenia" was used nearly three times as often as "schizophrenic." However, no statistically significant increases or decreases in the reporting of the terms was identified in the 20-year period from 2002 to 2022. Nevertheless, analyses of the use of the terms by media topic showed some differences that indicate the different meanings and connotations of the terms. For example, "schizophrenia" appeared in the topic Health (eg, health care and medical advances), which showcased a clear medical association of the term that was pertinent to the diagnosis. By contrast, "schizophrenic" appeared in the topic Arts, Culture, Entertainment, and Mass Media, which indicated a more general use of the term not specifically associated with any diagnosis. On the contrary, "schizophrenic" was often used metaphorically to signify split or incoherent states or circumstances. That trend was further evidenced by the fact that no stigmatizing
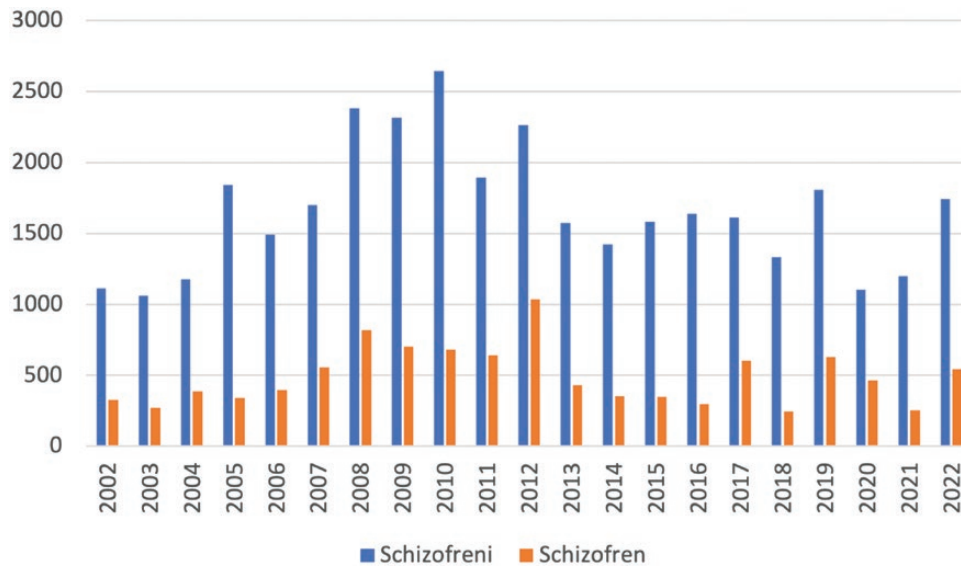
Fig. 1. Prevalence of the terms "schizophrenia" ("schizofreni" in Swedish) and "schizophrenic" ("schizofren" in Swedish) from 2002 to 2022 ($N = 44,199$) in Swedish mass media.

Table 2. Comparing the prevalence of the terms "schizophrenia" and "schizophrenic" in the top 17 media topics.

Media topic	"Schizo-phrenia" $N = 34\,141$	Media topic	"Schizo-phrenic" $N = 10\,058$
	n		n
1.Health	4506	1.Arts, Culture, Entertainment, and Mass Media	1762
2.Arts, Culture, Entertainment, and Mass Media	2484	2.Society	403
3.Society	1719	3.Politics	309
4.Crime, Law, and Justice	1623	4.Crime, Law, and Justice	302
5.Science and Technology	1611	5.Health	274
6.Economy, Business, and Finance	1104	6.Economy, Business, and Finance	156
7.Politics	569	7.Science and Technology	135
8.Human Interest	473	8.Sport	113
9.Labor	231	9.Environment	109
10.Education	222	10.Human Interest	98
11.Weather	102	11.Lifestyle and Leisure	43
12.Lifestyle and Leisure	94	12.Conflict, War, and Peace	35
13.Environment	84	13.Weather	33
14.Sport	68	14.Education	31
15.Disaster, Accident, and Emergency Incident	55	15.Labor	26
16.Conflict, War, and Peace	51	16.Disaster, Accident, and Emergency Incident	14
17.Religion	41	17.Religion	12

reporting was found for "schizophrenia" in relation to media topics such as Weather and Religion, unlike for "schizophrenic," stigmatizing examples of which were identified in most types of media.

All media topics and most types of media none-theless contained reporting that can be regarded as stigmatizing. All types of stigmatizing mechanisms were also represented, including using the terms as metaphors to signify something that is fragmented or in-coherent, associating the terms with acts of violence (eg, when describing perpetrators), and misusing the terms, including by stating that schizophrenia is a personality disorder. A key explanation for the prevalence of such stigmatizing reporting may be a consequence of editorial decision-making, or *gatekeeping*, defined as selecting and editing information to make news.[28] Research on jour-nalism indicates that editors generally favor news based on crime, conflict, and/or controversy.[29] According to Carmichael et al.,[28] editors implicitly define *newsworthi-ness* as referring to events that are out of the ordinary, especially when they involve threats to public order or the violation of social norms or the law. Indeed, much media

Table 3. Categories of responses (*n* = 77) following the anti-stigma material sent to the media professionals, 2019–2022

Response category	*n* (%)	Description of the category and examples
Acknowledges the information	26 (34)	The media professionals acknowledged that they were incorrect and wrong. They also stated that they will consider how to express themselves in the future and expressed that they appreciated the feedback.
Responds half-heartedly	15 (19)	The media professionals, often editors, stated that they would discuss it with the journalist responsible, but no time frame was given. Also, no proper excuses were provided or any acknowledgments that they expressed themselves incorrectly
Apologizes	12 (16)	The media professionals expressed a sincere apology, which included an expression of regretting their phrasing. However, no expression of undertaking any corrective action was given
Undertakes corrective actions	11 (14)	The media professionals undertook actions, often in the form of editing the texts. For example, the online version of a respected encyclopedia revised its description of schizophrenia following the feedback. A notable example was an online retailer of T-shirts that removed a product as it depicted a stigmatizing print of schizophrenia
Justifies their choice of words	11 (14)	The media professionals justified their choice of words. Often, they argued that theirs was an established definition or description (eg, metaphorical use such as "schizophrenic economy"). Others argued that they were quoting secondary sources and therefore could and would not change their texts. In some of those examples, the media professionals were seemingly upset over receiving the anti-stigma material
Other	2 (3)	Included cryptic responses with multiple meanings that could not be adequately categorized

coverage of mental illness disproportionately focuses on such topics.[30] Thus, from an editor's perspective, positive stories of recovery may be mundane and not especially newsworthy.

The findings for the second aim indicate that most media professionals did not respond to the standardized anti-stigma material issued by the StigmaWatch project. However, of the respondents (33%), most acknowledged their inaccurate or ill-chosen language and somewhat apologized for their stigmatizing reporting. Even more interesting, 14% of respondents reported taking measures to rectify their reporting, including by editing their descriptions of schizophrenia in an online authoritative encyclopedia. In another example, communications officers withdrew a T-shirt line that depicted stigmatizing prints from their online retail shop. Such actions show that the anti-stigma material was partly effective, even despite modest response rates.

Generally, the StigmaWatch initiative makes a valuable contribution to the existing body of research, which lacks interventions designed specifically for media professionals.[10]

The limited research that does exist, have demonstrated some efficacy in reducing stigmatizing attitudes among the media professionals. However, these interventions resulted in both positive and negative depictions of mental illness in the media coverage.[10] In contrast, the StigmaWatch project, evaluated in this article, appeared to be more successful, as 47% of media professionals that responded acknowledged their stigmatizing reporting or even corrected it by revising their reporting.

The issue of stigmatizing language can be addressed in various ways. This study primarily examined an educational approach, which demonstrated some degree of success. However, another approach that has been the subject of ongoing debate involves renaming the term "schizophrenia" altogether.[31] Proponents of this idea argue that renaming may help decrease stigma by distancing the term from its historical connotations. Nonetheless, there is a concern that changing an established diagnostic label like "schizophrenia" could lead to potential disruptions, given its deep-rooted presence in psychiatric literature and clinical practice. Currently, there is limited evidence available regarding the impact of renaming on the stigma experienced by individuals with schizophrenia.[32] It is essential to recognize that regardless of the chosen approach, the sole focus on changing the name should not divert attention from crucial issues such as enhancing access to care and reducing discrimination.

Strengths and Limitations

Strengths of the study were its coverage of news media across Sweden and its consideration of several decades and years of data due to print sources that have long been digitized. Those strengths enabled the inclusion of a broad scope of types of media, both paper-based and digital. Moreover, because the database had a transcription function, it also allowed searching for the terms "schizophrenia" and "schizophrenic" within audiovisual sources such as radio and TV segments.

However, the radio and TV sources were rather limited compared with the print and web sources. Retriever's database, focused on print and web-based news media, contains fewer audiovisual sources, including social media platforms (eg, Instagram, Facebook, and TikTok), which are becoming more common sources of news. Another limitation was the inability to differentiate the level of significance and focus given to individual articles in newspapers and TV news segments. Thus, the true influence of those reports on readers and viewers could not be assessed. Examining the placement and size of articles within newspapers and TV news segments could offer insight into their impact.

For the second aim, a strength of the study was that all members of the public could report stigmatizing news media. Furthermore, project members with lived experience assessed whether reports were stigmatizing. This is important as research show that patient perspectives in psychiatric inpatient settings may differ from that of clinicians.[33] Therefore, understanding such differences, and by working collaboratively with patients, clinicians can create a more supportive environment, which can promote recovery.[34]

Even so, a limitation of that procedure was that identifying stigmatizing reporting was not systematic, because it relied on whether members of the public identified such reports. Another limitation was the somewhat low-response rate from media professionals (33%), which precludes gauging how generalizable the findings are to the full population of such professionals. Nevertheless, the response rate should be evaluated against the fact that only one email was sent by the project's staff, and no reminders were sent to nonresponders.

Conclusions, Implications, and Directions for Future Research

It is essential for health-care professionals to understand how schizophrenia is depicted in media and how its portrayal contributes to its stigmatization, especially given research indicating that health-care professionals have stigmatizing beliefs about individuals with schizophrenia.[13] As shown in the study, portrayals of schizophrenia can be unrealistic and fail to capture the complexity and diversity of experiences among individuals with the condition. Health-care professionals who are aware of those media depictions can educate patients and their families about the realities of the illness and dispel harmful myths. Likewise, by understanding how media representations of schizophrenia contribute to patients' experiences with stigma, health-care professionals can better address patients' concerns and provide more effective treatment.[20]

For those reasons, mental health professionals and researchers in the field are responsible for rectifying misleading metaphors that refer to mental illness and for promoting the acknowledgment of the positive accomplishments of individuals with such conditions. Results from the StigmaWatch project show that doing so is indeed possible. The project was user-driven and thus has parallels with citizen journalism, a field in which individuals with mental illness have demonstrated the potential to educate the public and reduce stigma by speaking out about their own lives and circumstances.[28]

Researchers also need to examine the origins and patterns of the use of psychiatric language in mainstream media, along with the role that inaccurate portrayals of mental illness play in preventing individuals from seeking treatment.[2] For instance, conducting interviews with newly diagnosed patients and their loved ones may provide further insight into the impact of media representations on treatment.[5] Future research should also investigate interventions for educating journalism students, including modules that cover mental health topics in their training curricula.[20] It would also be valuable to examine the implementation of newly developed reporting guidelines for media coverage of mental illness, and their implementation within news organizations.[35] This could involve assessing whether such guidelines result in more accurate portrayals and appropriate language use in media coverage of mental health issues.

Supplementary Material

Supplementary data are available at *Schizophrenia Bulletin Open* online.

Acknowledgments

Ethical Standards

An ethics application was not required per Sweden's Ethical Review Act, for the study did not include research on humans following the law's stipulation that only living persons who participate in research are considered to be research subjects.[36] The study material consisted of publicly available media reports published in newspapers and other media sources, such that the study could be defined as involving public document analysis.[21] Regarding the anti-stigma intervention, the project members in StigmaWatch had already categorized the responses from the media professionals into an Excel spreadsheet prior to the study. Neither any email correspondence nor any potentially personal or private information was observed. Therefore, the author confirm that this study adheres to the ethical standards set by the relevant national and institutional committees and to the 2008 revised version of the Helsinki Declaration.

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