Title: Talking about mental illness, professional help, self-esteem and general health. A structural equation model of implicit and explicit internalized stigma.

Author names and affiliations:

Clara González-Sanguino*[a]; Miguel Ángel Castellanos [b]; Sara González-Domínguez[c] Manuel Muñoz [d]

[a] School of Psychology. Clinical Psychology Department. University Complutense of Madrid. Spain. ORCID: 0000-0001-7020-0604

[b] School of Psychology. Department of Psychobiology and Behavioral Sciences Methodology. University Complutense of Madrid. Spain

[c] Martínez Campos Psychosocial Rehabilitation Centre; School of Psychology. Clinical Psychology Department. University Complutense of Madrid. Spain

[a] Anti-Stigma Chair Group 5 - UCM Director. School of Psychology. Clinical Psychology Department. University Complutense of Madrid. Spain

*Correspondence may be addressed to: Clara González Sanguino; clagon06@ucm.es; +340658010968; School of Psychology University Complutense of Madrid Campus de Somosaguas, Ctra. de Húmera, s/n 28223 Pozuelo de Alarcón, Madrid.

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analysis. SGD wrote and revised the manuscript. MM directed the research project, designed the research, and reviewed the manuscript.

Abstract

This study aims to investigate the development and consequences of the internalized stigma (IS) explicitly and implicitly assessed, in relation to a longer time seeking professional help, avoidance of talking about the mental illness, self-esteem and general health perception. A structural equation model was developed in a clinical sample with heterogeneous psychiatric diagnoses (N=160). Results show that not talking about the illness and taking longer to ask for professional help is related to a higher IS, leading to poorer self-esteem and general health. Time in asking for help also has impact on the self-esteem, with the IS as a mediator between both variables. The self-esteem also mediates the negative relationship between IS and general health. Additionally, implicit IS has direct negative effects over self-esteem. The research underlines the important relationship between these psychosocial variables and IS. More studies are needed about implicit IS in order to better understand its effects and relationship with explicit IS and other relevant variables. Efforts should be made to encourage professional help and talking about mental illness in order to prevent IS, as well as interventions focused on damaged self-esteem to reduce its impact.

Introduction

The internalized stigma (IS) associated with mental illness refers to the stigma people feel just because they have a mental health problem. It can be defined as a "subjective process, embedded within a socio-cultural context, which may be characterized by negative feelings, maladaptive behavior, identity transformation, or stereotype endorsement" (Livingston & Boyd, 2010). This phenomenon has traditionally been associated with severe mental disorders (SMD), in which has been extensively studied (Del Rosal et al., 2020; Livingston & Boyd, 2010), although it should be noted that different investigations have also found the presence of IS in mental health problems considered "more common" such as depression or anxiety (Alonso et al., 2009; Brohan et al., 2010, 2011; Curcio & Corboy, 2020; Holubova et al., 2018). Over time, multiple studies have pointed out the negative impact that IS has on those who suffer from it (Del Rosal et al., 2020; Livingston & Boyd, 2010), with multiple theoretical models that have offered explanations for its origin and consequences, and new measures developed to measure it, proving the importance of the concept in the field of mental health. The areas of greatest interest in relation to the present research are discussed below.

Internalized stigma, self-esteem and health

The role of self-esteem has been widely studied, being one of the psychosocial variables that has shown a stronger relationship with IS (Livingston & Boyd, 2010; Del Rosal et al., 2020). Different studies have indicated the negative relationship between both constructs (Hofer et al., 2016; Lau et al., 2017; Pal et al., 2017; Vass et al., 2017), also present in several of the theoretical models developed. In *"The Illness Identity*" model, carried out in a sample of people with SMD, Yanos et al. (2010), propose that IS often has effects on hope and self-esteem, which then mediates the relationship with symptomatology, worse coping skills, and even increased risk of suicide. In the same line, *"The insight paradox"*

(Lysaker et al., 2006), describes how awareness of the disease has been linked to better functional outcomes, when in fact an increased insight along with IS, is often associated with poorer outcomes with negative effects on self-esteem. Another model in which self-esteem plays a major role is the one proposed by Drapalski et al. (2013), carried out also in a sample of people with SMI, showing how discrimination has a significant negative impact on the self-esteem, self-efficacy, and also the social relations.

On the other hand, several studies have shown the effect of IS on quality of life and health (Holubova et al., 2016; Lien et al., 2018; Morgades-Bamba et al., 2019; Picco et al., 2017). Thus, a model published by Mashiach-Eizenberg et al. (2013) shows how the IS affects the quality of life, with self-esteem and hope being mediators in this relationship.

Seeking for professional health

Receiving professional help is often a crucial step in dealing with a mental health problem. In this respect, several studies have shown how IS can be a barrier when seeking information about the illness and asking for professional help (Lannin et al., 2016; Vogel et al., 2006), with various theoretical approaches that have tried to explain this. Vogel et al. (2006), refer to the stigma associated with seeking psychological help, then formulating a model of IS carried out in a sample of students (Lannin et al., 2015). In this model, the stigma of mental illness and the help-seeking stigma, mediated by the IS and the internalized help-seeking stigma, show effects on self-esteem and reduce intentions to seek professional help. Additionally, in the social-cognitive model (Corrigan et al. 2010), is argued that avoidance and rejection of stereotypes about mental illness can lead to avoidance behaviors, causing the person not to seek professional help. From another perspective, a recent study conducted in first psychosis episodes, indicates that people who took longer to receive professional help had a greater perceived stigma, suggesting the hypothesis that IS may have a cumulative effect in those cases where it takes longer to treat the problem (Mueser et al., 2020). Thus, the time taken to seek professional help may also have a relationship with IS by contributing to avoidance

behaviors and poor knowledge of the problem, which will eventually increase the IS in the long term.

Talking about the mental health problems

Similarly, being able to talk about the mental health problems with others is often a crucial step in dealing with the illness, but fear of negative reactions from others and feelings of shame are common (Barney et al., 2006). Some research have found that the IS is related to non-disclosure of the mental illness and not talking about it (Bos et al., 2009). The importance of this variable has also been evidenced through intervention programs focused on reducing IS, such as the one developed by Corrigan et al. (2015), and its different versions (Corrigan et al., 2018; Mulfinger et al., 2018; Rüsch et al., 2019). These interventions focus on the process in which the person decides on what to reveal or talk about their illness (Corrigan & Lundin, 2001), and have had very positive results in reducing IS in all its dimensions, even having effects on symptomatology (Corrigan et al., 2015; González-Domínguez et al., 2019). In this way, being able to talk about mental health problems seems to be important in relation to IS, although this variable has not been included in any theoretical model so far.

A new approach to stigma: the implicit stigma

In the last decades the develop of implicit measures, such as the Implicit Association Test (IAT) (Greenwald et al., 1998), has made possible to access a different stigma in mental health: the implicit stigma. This measure provides access to a type of stigma obtained automatically or indirectly. Several studies have confirmed the presence of implicit social stigma both in general population and people with mental health problems (Denenny et al., 2014; Rüsch, Todd, et al., 2010; Sandhu et al., 2019; Wang et al., 2016), and have showed that it is usually independent of explicit stigma (González-Sanguino, Muñoz, et al., 2019; Sandhu et al., 2019; Wang et al., 2016). On the other hand, it is also possible to find a couple

of studies about IS at the implicit level, establishing it as an independent measure of explicit IS, as well as turned out to be a predictor of different variables, such as self-esteem (González-Sanguino, 2021), quality of life (Rüsch, Corrigan, et al., 2010), treatment adherence, and risk behaviors (von Hippel et al., 2018). Despite the interest of this new point of view, implicit IS has not been included in any theoretical approach for the time being.

Rationale, objectives and hypothesis

Taking into account the aforementioned relationships with different variables and the impact of IS on the people who suffer it, and considering the lack of models developed in samples with diagnoses not only of SMD, as well as models that consider stigma at an implicit level. The present research aims to study the IS both implicit and explicit in a clinical sample with people with SMI and other "common" diagnoses, and his relationship with several variables, such as talking about the mental illness, asking for professional help, self-esteem and general health. We hypothesize that, (1) not talking about mental health problems and more time in seeking professional help will be related to more IS. (2) The IS will have negative effects over self-esteem and general health. (3) The implicit IS will be independent to the explicit IS, and it will have effects on self-esteem and general health (4). (5) Talking about mental health problems and a longer time in asking for help will be related to each other. A structural equation model was carried out, as well as an analysis of the hypothetical trajectories and comparisons with different alternative models proposed to establish the best definitive model that allows us to understand the relationship of this set of variables to each other.

Methods

Participants

A total of 164 participants were recruited of which 160 completed the evaluation in full. The final sample ($n = 160$) was made up of persons in outpatient care from different

psychology or psychiatric services ($n = 111$); and by users of rehabilitation services aimed at persons with SMI ($n = 49$). The following were proposed as inclusion criteria: age between 18-67 years (inclusion criteria for users of the rehabilitation services); being in psychiatric or psychological treatment. The exclusion criteria were: to have severe cognitive impairment; to present substance use as the main pathology; manic or agitated states that prevented completion of the assessment.

Procedure

The study was approval by the University Ethics Committee, as well as of the Ethics Committees from the different assistance resources, and it was conducted in accordance with the Declaration of Helsinki and with the data protection laws regarding regulation (EU) 2016/679 of the European Parliament and of the Council, of April 27, 2016. All participants were informed by the professionals who usually attended them of the existence of the study and the possibility of participating voluntarily. Those interested were notified in writing of the purpose of the research, and completed the informed consent form. All evaluations were were carried out individually and by specialized interviewers previously trained. The assessment interview had an average duration of 45 minutes. Initially, the participant was informed about the research and the informed consent form was provided for signature. Subsequently, the person's data sheet was completed by means of a structured interview. Afterwards, the person was provided with the different questionnaires to complete them self-applied, with the researcher being attentive to any doubts or queries. Finally, the person completed the SC-IAT on a computer.

Variables and instruments

Socio-demographic and clinical variables. The following variables were collected: Age; Gender; Place of residence; Marital status; Last studies completed; Occupation; Talking or not about mental illness with a non-health professional (*Have you been able to talk about*

your mental illness with someone other than a professional (e.g. family, friends, couple…)?); Time in receiving professional help (*How long did it take you to ask for professional help regarding your psychological problem?*); Type of assistance resource: outpatient care or rehabilitation resources.

IS. Measured by the Internalized Stigma of Mental Illness (ISMI) (Ritsher et al., 2003). This scale evaluates the subjective experience of IS. It consists of 29 items in Likert-type format (1-4), so higher scores indicate more IS (e.g. *I feel out of place in the world because I have a mental illness*). It is grouped into 5 factors that refer to the different dimensions: (1) Stereotype endorsement. Degree of agreement with common stereotypes about people with mental illness; (2) Alienation. Evaluates the subjective experience of being less than others and having a deteriorated identity; (3) Social withdrawal. Assesses the self-discriminating behaviours displayed by the person; (4) Discrimination. Refers to the person's perception of how he/she is treated by others; (5) Resistance to stigma: attempts to resist or not be affected by IS. The α Cronbach obtained in the original version was .90, in the present study .85.

Implicit IS. Taking into account previous literature about the implicit assessment of stigma, and the previously mentioned studies on the implicit assessment of internalized stigma (Rüsch, Corrigan, et al., 2010; von Hippel et al., 2018), a simplified version of the original IAT (Greenwald et al., 1998), the Single Category-IAT (SC-IAT) (Karpinski and Steinman, 2006), was developed in Spanish. Based on the strength of association between categories and the evaluative dimension of the stimuli, a series of words must be classified into different categories. The instrument measures the response time, which can be interpreted in terms of the strength of the associations of the concepts. It is assumed that subjects respond more quickly when the concept and response attribute are strongly

associated (e.g., healthy and pleasant) than when they are weakly associated (e.g., sick and pleasant).

In order to obtain an implicit measure of IS, it was necessary to conduct two SC-IAT: one that relates mental illness to good or bad attributes (stigma; SC-IAT-S) and another in which the subject relates mental illness to himself or others (internalization; SC-IAT-I). The tests were developed based on an IAT on mental illness previously developed by our research team (González-Sanguino et al., 2019) using the following categories, attributes and words to classify: SC-IAT-S: *Mental illness: schizophrenia, psychosis, madness, bipolar, depression; Good: wonderful, nice, kind, right, pleasant; Bad: detrimental, dangerous, violent, worthless, pity*. SC-IAT-I: *Mental illness: schizophrenia, psychosis, madness, bipolar, depression; Me: I, me, myself, my, mine, self, mine.; Not me: they, their, them, not me, other.* For each of the SC-IAT, scores were obtained following the correction protocols proposed by Greenwald, Nosek, and Banaji (2003). The total measure of implicit IS was obtained by combining the results of both tests (Rüsch, Corrigan, et al., 2010; von Hippel et al., 2018), establishing that implicit IS will exist in those cases in which the subject relates the illness with negative attributes and also attributes it to himself. To facilitate the interpretation of the data, the scores were typed and a constant of 5 was added, so that the higher the value in the scores, the more IS was implied (Rüsch et al., 2010).

Self-esteem. Evaluated with the Rosenberg Self-Esteem Scale (RSE) (Rosenberg, 1965). Questionnaire to explore personal self-esteem understood as feelings of personal worth and respect for oneself. Composed of 10 items with Likert type format (1-4), high scores indicate greater self-esteem. (eg.: *On the whole, I am satisfied with myself*). The original version of the scale has an α Cronbach range from 0.77 to 0.88, in the present research was .89.

General health. Measured by an item on the World Health Organization's (WHOQOL-BREF) reduced quality of life scale (WHOQoL Group, 1998). This questionnaire consists of 26 questions, and includes two questions on quality of life and perception of the state of general health, the latter being chosen to measure the perception of general health satisfaction in the sample (*How satisfied are you with your health?).* The answers are of the Likert type (1-5). Higher scores indicate better general health.

Analysis

The analyses were conducted with the R statistical software environment using the Lavaan package (Rosseel, 2012). Subjects who did not complete the entire evaluation were eliminated to avoid missing data (n = 4; N = 160). The estimation was performed using maximum likelihood. Different models were tested according to the theoretical approaches and hypotheses established. To select the best model, we used the strategy of comparing several fit indices (Ruiz et al., 2010; Schreiber et al., 2006), as well as the lowest AIC (Akaike's information criterion). The results indicate for each model the chi-square test (reference criterion p > .05) and the following fit indicators with their reference cutoff values (Ruiz et al., 2010): *CFI* (comparative fit index) (≥ 0,95),, *TLI* (Tucker Lewis index) (≥ 0,95), *SRMR* (standardized residual mean square root) (near 0) and *GFI* (goodness-of-fit index) (≥ 0,95), and the *RMSEA* (approximation mean square error) (< 0,08) index with its 90% confidence interval and the significance of the respective contrast. Comparison between the models was made by contrasting the chi-square difference.

Results

Sample characteristics and Internalized Stigma

The average age of the participants in the sample was 45.38 years, with a slightly higher percentage of females (54.38%). Most of the persons were single (56.25%), with residence in medium-sized cities (64.38%). Less than the half of the sample had a job at the

time of the interview (43.75%). Regarding the type of care received, 69.38% attended outpatient psychiatric or psychological services. The most frequent diagnosis was anxiety disorder (39.38%), followed by depression (22.50%) and schizophrenia (19.38%). In relation to explicit IS, an average total score was obtained on the ISMI of M = 59.01, with SD = 14.46. For implicit IS, the SC-IAT revealed a mean score in the sample of M = 3.91, SD = .14. A more detailed descriptive analysis of the sample and results can be seen in Table 1.

INSERT TABLE 1 ABOUT HERE

Explicit and Implicit Internalized Stigma Model

In order to analyze the relationship between the IS and the potential variables to be included in the model, the different dimensions of the ISMI were included as indicators of stigma. The correlation matrix (Table 2) was used as a guide, selecting the variables that showed correlation with at least one dimension of the IS. Different models were developed according to the theoretical approaches and hypotheses.

The model with the best results was the "M1. Explicit and Implicit IS Model", which included the observed variables of "talking about it", "time to ask for help", implicit IS, "self-esteem" and "general health". Explicit IS was included as a latent variable, formed by the dimensions of alienation, social withdrawal, stereotype endorsement and discrimination. The relationships established in this model indicated that not talking about the mental health problems, along with more time in asking for professional help shows a direct effect over the IS, which in turn shows indirectly and directly effects on the self-esteem and the perception of general health. On one hand, the time taken in asking for professional help shows a direct effect on self-esteem, with the IS as a mediator of the relationship. On the other hand, the IS shows a direct effect in the general health with the self-esteem mediating the relationship with indirect effects on this variable. Additionally, implicit IS has negative and direct effects over self-steem independently of IS and other variables. The coefficients of the model are

presented in table 3 together with Wald's test and the *p* value. The fit values of this model (Table 3) were *RMSEA* = 0.025, *IC* (90%) = (0.00 - 0.078) and *p* = 0.076, this being a very acceptable fit value. This model is represented graphically in Figure 1.

INSERT TABLES 2 AND 3ABOUT HERE

INSERT FIGURE 1 ABOUT HERE

Exploratory models

In addition to the M1, different models were developed for comparison. These models were compared taking into account the values obtained in their fit indices (Table 4). The *M2. Baseline model* was composed by the variables of "talking about it" and "time to ask for help", showing a relationship with explicit IS as a latent variable formed by the dimensions of alienation, social withdrawal, stereotype endorsement and discrimination. Explicit IS in turn acted mediating the relationship with general health and self-esteem. This model, although it reported acceptable indices, presented a higher AIC than the M1 Implicit and Explicit IS Model (4943.24 vs. 4936.51), as well as a lower CFI (.98 vs. .99), and a higher RMSEA (.0472 vs. .0156).

On the other hand, *Model 3. Model without implicit IS* was similar to M1, except that it did not include implicit IS as a variable. Thus, this model showed the relationship of "talking about it" and the "time to ask for help" with explicit IS, the relationship of time "to ask for help" with "self-esteem", and the role of explicit IS on "general health" and "self-esteem". This model showed a slightly lowed CFI compared to M1 (.994 vs. .997), a slightly higher AIC (4939.49 vs. 4936.51) and a higher RMSEA (.0247 vs. .0156). Comparison with M1 shows how the inclusion of the implicit IS seems to improve the fit indices.

Finally, models 4 and 5 explore the relationship between talking about mental health problems and the time to ask for help. *M4. Talk about-time* is the same as M1, only that the direct relationship between "talking about it" and "time to ask for help" was included; *M5.*

12

Time-talk about included the opposite direct relationship, "time to ask for help" over "talking about it". Both models showed elevated AICs (5886.1, 5087.84) and RMSEA values (.0247, .0247) compared to M1, as well as slightly lower CFI indices (.99). Furthermore, in the relationship between variables, in both cases the relationship between "talking about it" and "time to ask for help" was not statistically significant.

INSERT TABLE 4 ABOUT HERE

Discussion

The results indicate average levels of IS through our sample, similar to other studies carried out with heterogeneous samples in terms of diagnosis (Chang et al., 2016; Holubova et al., 2016; Holubova et al., 2018; Karidi et al., 2015; Maharjan & Panthee, 2019). Regarding the implicit IS results also reveal average levels of this variable, consistent with the existing research that also found implicit IS in clinical samples (Rüsch, Corrigan, et al., 2010; von Hippel et al., 2018).

Definitive structural equation model

In the proposed definitive structural equation model, it is possible to differentiate three moments, confirming several of the initial hypotheses raised. Firstly, not talking about the mental illness and taking longer to ask for professional help, results in more IS. Both variables have been studied previously, finding that higher stigma is often related to not talking about the illness, embarrassment and hiding the diagnosis (Bos et al., 2009; Corrigan & Rao, 2012). Besides, IS has also being also one of the main barriers to get information about the illness and seeking professional help (Kular et al., 2019; Lannin et al., 2015; Lannin et al., 2016). In the model the relationship is established in the opposite direction, showing how these variables can have effects on the IS. This underlines the importance of normalizing mental health problems by talking about them and having a simple and quick access to

professional help in order to avoid the appearance of IS, and confirms our first hypothesis (H1).

Secondly, the stigma is observed as a latent variable composed by its emotional, cognitive, behavioral and discrimination dimensions. This dimensional conception of the IS is also mentioned by Drapalski et al. (2013) and in accordance with their model, the dimension of resistance to stigma was not included. Subsequently, and as a result, negative effects on self-esteem and general health perception are observed, including also the negative effect of implicit IS on self-esteem that, which is established as an independent variable of the explicit IS. This third moment confirms our second hypothesis about the self-esteem and general health (H2), as well as the third hypothesis regarding independence between implicit and explicit IS (H3).

The importance of self-esteem

Regarding self-esteem, it appears as a particularly important variable. On one hand, IS acts as a mediator between it and the time in asking for professional help. Without the appearance of the IS more time in asking for help gives rise to greater self-esteem, nevertheless, when this relation is moderated by the IS, more time in asking for help is related to less self-esteem. This implies that delaying asking for professional help avoids the impact on self-esteem, perhaps having as a basis denial and avoidance of the problem, and may be positive for preserving self-esteem in the short term. This would be perfect if the person never had to face the problem, but the reality is that once self-judgment, shame, fear and other IS reactions come into play, taking longer to seek professional help has a negative impact on self-esteem and is more detrimental in the long term. This effect is consistent with the social-cognitive model (Corrigan et al., 2010), that stresses the importance of internalizing stigma in order for self-esteem to be affected. And also is in line with the *Insight Paradox* (Lysaker et al., 2006), in which a greater awareness of the illness and internalization

of stigma is associated with poorer outcomes. On the other hand, the perception of general also shows a relationship with the IS, mediated by self-esteem. These results are in line with other IS models, where the stigma is found to have a significant impact on self-esteem and hope, as well as on quality of life, reproducing once again the key role of this variable on health (Drapalski et al., 2013; Lannin et al., 2015; Lysaker et al., 2006; Mashiach-Eizenberg et al., 2013; Yanos et al., 2008).

The role of implicit IS

The implicit IS shows direct negative effects on self-esteem, acting independently of the explicit IS, as previously mentioned (H3). The fact that implicit IS only has effects on self-esteem may show the lack of relationship and dissociation between the implicit and explicit in relation to stigma, both having effects on self-esteem, but independently one of each other. This dissociation of the implicit and explicit has been found in previous research on social stigma (Denenny et al., 2014; González-Sanguino, Muñoz, et al., 2019; Sandhu et al., 2019), as well as in IS (Rüsch, Corrigan, et al., 2010; von Hippel et al., 2018). On the other hand, the hypothesis about the effect of the implicit IS is partially met, since it has a direct relationship only on self-esteem (H4). However, self-esteem subsequently has effects on general health, and can be also established as a mediator between the implicit IS and its negative effects on general health.

The direct effect of implicit IS on self-esteem may be due to the fact that assessment through the SC-IAT involves emotions and concepts related to oneself, which although done indirectly or automatically may have a greater relationship with self-esteem than with the general health, but with an indirect impact on it. On the other hand, it should be noted that between the alternative models developed, the model without the implicit IS provide good statistical results, but the *M1. Explicit and Implicit Stigma Model* shows a statistical index improvement including implicit IS. Models including this dimension of stigma are unknown,

and further studies using this variable are needed to understand in depth its role in the formation and consequences of stigma, as well as the relation with other variables.

Exploratory models

It should be noted that the M2. Baseline model, and the proposed *M3. Model without implicit IS*, had acceptable fit indices. However, the inclusion of the relationship between the time to seek professional help and the aforementioned inclusion of the implicit IS improved the results, underlining the aforementioned importance of both variables. On the other hand, it is noteworthy that no relationship was found between talking about the mental illness and the time taken to ask for help, rejecting our alternative Models 4 and 5 and our fifth hypothesis (H5). Although it could be assumed that both variables must be related, they reflect very different processes. Talking about the illness with a professional, usually is done in a standardized environment, with a person who is specifically committed and trained to do it, and with the knowledge in advance of getting the professional support. However, talking about the illness to non-professionals can be much more complex, as it is usually done in a more unpredictable setting, without being sure about the opinions or beliefs of others. This difference is also supported by the results obtained, since in the clinical sample studied, despite the fact that all participants had asked for professional help, many of them had not wanted or been able to talk about these problems with non-professionals (a percentage close to 20%).

Limitations of the study

Several limitations can be found in this study. Firstly, it is necessary to highlight that in the recruitment of the sample, only those people who wanted to do it voluntarily participated, maybe creating a bias in the sample. In relation to the instruments used, it should be noted that some of the variables included in the study were evaluated by means of single-item questionnaires affecting their reliability and validity, although no other alternative was

found in the literature to measure these variables (e.g. Time in ask for help). On the other hand, it should be noted that although the models report directionality with direct or indirect effects of the variables, in no case should these relationships be interpreted as causal, since they are not based on a controlled experiment with random assignment or longitudinal data (Weston & Gore, 2006). Finally, although an attempt has been made to establish a certain theoretical coherence with previous models and studies about internalized stigma neither the instruments used, nor the variables included in the different models are identical, so it is difficult to establish statistically relevant comparisons between models conclusively.

Implications for practice

These results may have important practical implications indicating the importance of prevention focused on talking about mental health problems and normalizing the asking for professional help, as for example some of the messages that have been included in the social marketing campaign oft Time to Change (González-Sanguino, et al., 2019; Sampogna et al., 2017) or the mass media Obertament campaign (Rubio-Valera et al., 2016), where they emphasize the importance of being able to talk and ask about mental health problems. It also points out the need to promote campaigns or actions focused on promoting and normalizing the request for professional help in the case of having a mental health problem.

Additionally, the results also support intervention programs for IS focused on disclosure strategies, such as Honest Open Prod (Corrigan et al., 2015; Rüsch et al., 2019). As well as the results suggest the need to address self-esteem in those already suffering from IS. Thus, including this variable in intervention programs, for example in some session focused on the damage self-esteem due to the IS (González-Domínguez et al., 2019), may lead to more positive results, even resulting in an improved overall health perception.

Conclusion

This research highlights the relationship of talking about mental illness and the time in seeking professional help with IS, the role of implicit IS, as well as the consequences of this variables on self-esteem and general health. The central role of self-esteem indicates also the importance of focusing on this variable in intervention programs, in order to reduce the impact caused by both explicit and implicit IS, with will have subsequent repercussion on the perception of general health. The model developed supports different intervention strategies, as well as suggests new lines of action to reduce IS. Finally, it is necessary to highlight the importance of the implicit IS, which is established as an independent variable of the explicit IS with important effects, being necessary more studies to better understand the role of the implicit in relation to the stigma and mental health.

Declarations

Conflicts of interest: the authors have no conflicts of interest to declare that are relevant to the content of this article.

Availability of data and material: The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.

Code availability: not applicable

Ethics approval: The study was approval by the University Ethics Committee, as well as of the Ethics Committees from the different assistance resources, and it was conducted in accordance with the Declaration of Helsinki and with the data protection laws regarding regulation (EU) 2016/679 of the European Parliament and of the Council, of April 27, 2016

Consent to participate: informed consent was obtained from all individual participants included in the study.

Consent for publication: not applicable.

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Table 1. Descriptive statistics of the sample and results in both explicit and implicit IS

Variable	Categories	N	%	ISMI		SC-IAT	
				M	SD	M	SD
Gender	Male	73	45.63	61.98	1.74	3.90	.11
	Female	87	54.38	56.51	1.46	3.91	.14
Place of residence	Medium town	103	64.38	58.77	1.54	3.96	.14
	Small town	23	14.38	61.73	2.61	3.88	.14
	Big town	34	21.25	57.88	2.03	3.93	.10
Occupation	Working	70	43.75	56.67	1.71	3.88	.13
	Unemployed	30	18.75	59.30	2.56	3.94	.15
	Leave	6	3.75	62.33	5.95	3.94	.09
	Retired	10	6.25	55.90	4.05	3.82	.17
	Incapacity for work	25	15.63	69.08	3.01	3.92	.14
	Student	19	11.88	54.52	2.39	3.95	.08
Level of studies	University	60	37.50	57.65	1.66	3.88	.13
	BPT	58	36.25	61.94	2.06	3.91	.15
	High school	42	26.25	56.90	2.22	3.92	.11
Marital status	Single	90	56.25	60.80	1.52	3.91	.14
	Married	55	34.38	57.07	2.02	3.89	.12
	Divorced	13	8.13	55.07	3.24	3.89	.12
	Widowed	2	1.25	57.5	7.5	3.81	.01
Talk about it	Yes	132	82.50	57.22	1.14	3.90	.14
	No	28	17.50	67.42	3.26	3.92	.11
Diagnosis	Schizophrenia	31	19.38	61.77	2.31	3.92	.13
	Bipolar disorder	13	8.13	67.07	3.42	3.95	.12
	Personality disorder	7	4.38	64.71	5.25	3.85	.22
	Depression	36	22.50	55.83	2.48	3.87	.11
	Anxiety	63	39.38	56.86	1.84	3.91	.13
	OCD	10	6.25	61.00	4.95	3.87	.18
Assistential resource	Rehabilitation network	49	30.63	63.55	1.81	3.93	.13
	Primary care	111	69.38	57.00	1.40	3.86	.12
Age *		45.16 (13.54)					
Ilness duration *		12.09 (10.14)					
Time to ask for professional help *		2.87 (4.62)					

M = mean; SD = standard deviation; ISMI = Internalized Mental Illness Scale; SC-IAT = Single Category Implicit Association Test; SMI = Severe Mental Illness; BPT = basic professional training; OCD = obsessive compulsive disorder; * = mean and SD

Table 2. Correlations between variables

	1	2	3	4	5	6	7	8	9	10
1. Talk about it	1									
2. Time asking for	.018	1								
3. Self-esteem	.163*	.117	1							
4. General health	.124	-.040	.251**	1						
5. ISMI-Alienation	-.266**	.220**	-.287**	-.195*	1					
6. ISMI-SE	-.257**	.125	-.183*	-.316**	.555**	1				
7. ISMI-	-.233**	.164*	-.172*	-.156*	.538**	.506**	1			
8. ISMI-SW	-.201*	.080	-.235**	-.296**	.640**	.567**	.523**	1		
9. ISMI-SR	.064	.000	.063	-.037	.071	-.027	.020	.157*	1	
10. Implicit IS (SC-	-.05	-.10	-.17*	.08	.04	.006	-.07	-.02	.07	1

ISMI = Internalized Mental Illness Scale; IMSI-SE = Stereotype Endorsement; ISMI-SW = Social

Table 3. Coefficients of the Explicit and Implicit Internalized Stigma Model with Wald's test and its p-value. B unstandardized coefficients and B(std) standardized coefficients

| Component		β	β(std)	Se	Wald	p
Measurement components:						
IS	→ Alienation	1.00	.97			
IS	→ SW	1.04	.975	.11	9.70	< .001
IS	→ SE	.70	.897	.08	8.95	< .001
IS	→ Discrimination	.81	.842	.10	8.35	< .001
Regressions components:						
IS	← Time ask for help	.16	.164	.06	2.50	.012
IS	← Talk about it	-3.07	-.26	.78	-3.93	.000
SELF-ESTEEM	← IS	-.56	-.42	.14	-4.00	.000
SELF-ESTEEM	← Time ask for help	.24	.168	.10	2.42	.015
SELF-ESTEEM	← Implicit IS	-7.23	-.166	3.22	-2.24	.025
General health	← IS	-.09	-.340	.03	-3.11	.002
General health	← Self-esteem	.04	.167	.02	2.13	.033
Variances:						
	Alienation	7.09	.354	1.19	5.94	< .001
	SW	8.85	.386	1.39	6.35	< .001
	SE	5.85	.479	.81	7.19	< .001
	Discrimination	10.19	.54	1.34	7.59	< .001
	Sel-esteem	30.06	.84	3.45	8.73	< .001
	General health	1.31	.864	.15	8.81	< .001
	IS	11.04	.547	1.98	5.59	< .001

IS = Internalized Stigma; SE = Stereotype Endorsement; SW = Social Withdrawal

Table 4. Chi-square contrast. Fitting indexes and RMSEA for the models fitted in this work.

Models	Chi-square test				Fit indexes				RMSEA		
	χ^2	df	p	AIC	CFI	TLI	SRMR	GFI	value	CI	p
M1. Explicit and implicit IS model	22.85	22	.409	4936.51	.997	.99	.003	.95	.0156	.00 - .09	.811
M2. Baseline model	24.41	18	.142	4943.24	.98	.97	.04	.95	.0472	.00 – .09	.499
M3. Model without implicit IS	18.66	17	.348	4939.49	.994	.99	.03	.96	.0247	.00 – .08	.726
M4. Talk about-time	18.66	17	.348	5886.11	.99	.99	.03	.97	.0247	.00 – .08	.726
M5. Time-talk about	18.66	17	.348	5087.84	.99	.99	.03	.97	.0247	.00 – .08	.726

CFI = comparative fit index; *TLI* = Tucker Lewis index; *SRMR* = standardized residual mean square

Figure 1. Explicit and Implicit Internalized Stigma Model
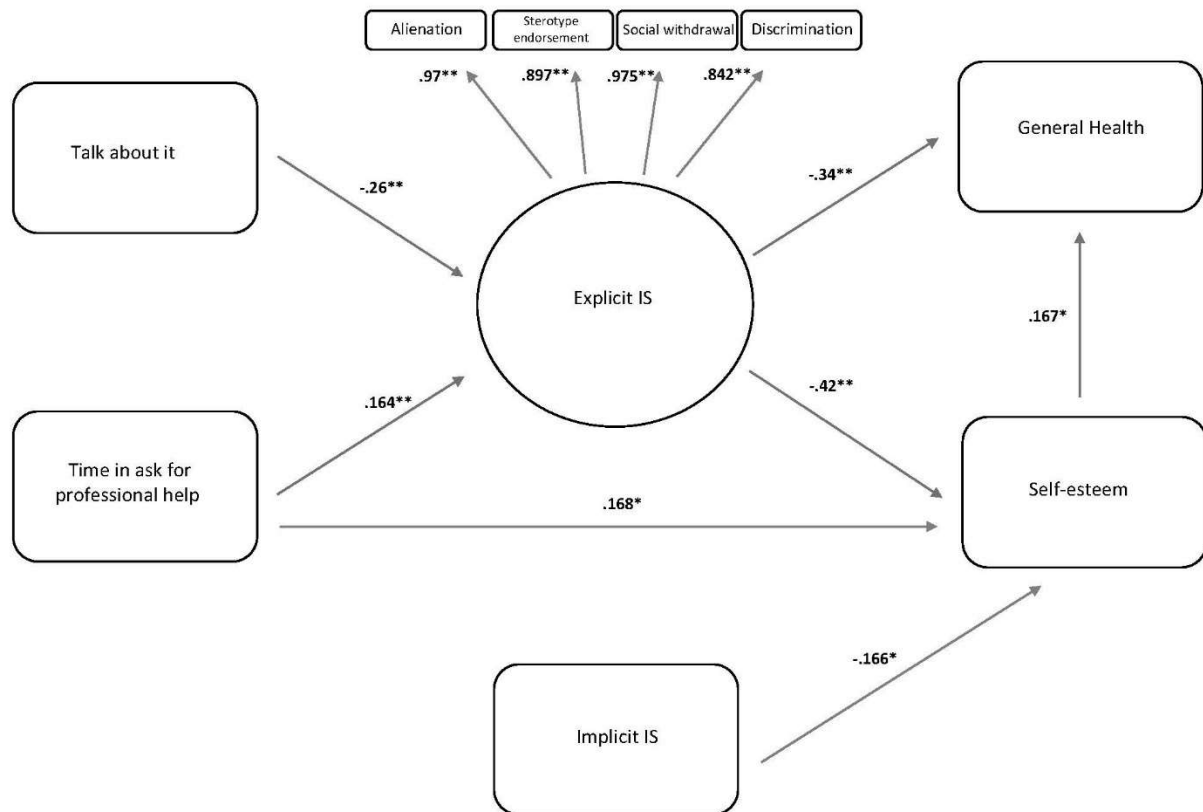
Note: the rectangles represent observed variables. The oval represents unobserved latent variable. The number next to each connector is the value of the standardized regression weight and their significance is represented with asterisks: * $p < .05$; ** $p < .001$