

The More You Know: Examining the Association Between Informational Interventions and Stigma Towards Individuals with Pica

Casey Brugh and Amanda Joyce

Murray State University

Abstract

Stigma toward individuals with mental illness is common and can impair treatment, but familiarity with these individuals can reduce stigma. Educating individuals about mental illness can increase familiarity. This study examines the association between stigma and an informational intervention regarding pica. One hundred participants completed a survey with one of three vignettes describing an individual with pica. In one condition, only pica symptoms were described, in another, a pica diagnosis was given, and in the third, pica treatment was described. The three groups differed in overall stigma, personal stigma, and perceived stigma with decreased stigma in the labeling and informational conditions. Results suggest that providing individuals with information about different psychological disorders could be an effective way to reduce stigma towards individuals with mental illness.

Keywords: stigma, informational intervention, labeling, pica, mental illness

Stigma towards individuals with mental illness is a pervasive and difficult problem to solve. Stigma occurs when individuals hold preconceived notions about a person based on group membership (Stuart, 2014). Research shows that many people view individuals with mental illness in discriminatory and dehumanizing ways (Masuda, Price, Anderson, Schmertz, & Alamaras, 2009). Research on stigma is valuable, because understanding what stigmas exist and from where they originate can potentially lead to overcoming them. This is especially important, because individuals with mental illness who face stigma are less likely to seek treatment (US Department of Health and Human Services, 1999). More than that, if they are entered into treatment, the treatment will not be as effective as it otherwise could have been if they had not faced stigma (US Department of Health and Human Services, 1999). Therefore, the purpose of this research is to examine stigma, the association between stigma and information about mental illness among college students.

Stigma and stigmatizing attitudes also have negative effects on the families of those with mental illness (Muralidharan, 2016). Research indicates that relatives of individuals with mental illness report being more distressed and less empowered, and that they have less stable family functions as a direct result of stigma towards their family member (Muralidharan, 2016). Reduction of stigma is necessary, not only for those suffering from mental illness, but also for everyone around them.

Research suggests that stigma comes from a lack of familiarity with the individuals being stigmatized (Ahuja, Megha, Anisha, & Bhuvanewari, 2017). This is supported by the contact hypothesis which suggests that stereotypes and stigma can be reduced when individuals come into contact with out-groups, or the groups they stigmatize (McKeown & Dixon, 2017). Research supports this specifically concerning mental illness, with studies showing that those who are less familiar with mental illness have greater stigma towards those who suffer from it (Feeg, Pragar, Moylan, Smith, & Cullinan, 2014).

*Correspondence concerning this article should be addressed to Casey Brugh, Murray State University.
Email: CBrugh@MurrayState.edu.*

Additionally, research has indicated that simply giving people examples of individuals with mental illness may not be enough to reduce stigma. Specifically, one study examined whether giving people examples of celebrities seeking help was more effective at reducing stigma than was presenting them with general psychological information (Fauteux, McKelvie, Stuart, & DeMan, 2008). The results indicated that this was not an effective strategy for reducing stigma, and in some conditions actually had a negative effect on individuals' stigma (Fauteux et al., 2008).

Direct contact has been shown to be a successful intervention. Ahuja, Megha, Anisha, and Bhuvanewari (2017) examined how direct contact could reduce stigma that Indian college students had towards the mental illness. They found that levels of stigma decreased when participants were seated together for discussion with individuals with mental illness for just two hours (Ahuja et al., 2017). This supports the idea of the contact hypothesis, but a question remains: is it possible to achieve the same effect indirectly?

Educating individuals about mental illness is frequently used as a practice in counseling and clinical work to help individuals understand their own experiences with their illness, as well as to help them and their families learn coping skills (Landwehr & Baker, 2012). Research results are mixed on the effects of educational intervention on stigma, with some arguing that it decreases stigma while others argue that it does not (Dueweke & Bridges, 2017; Ivezic, Sesar, & Mužinić, 2017). For example, one study examined the effects of brief behavioral interventions, including teaching individuals about mental illness, on Latino immigrants in regards to suicide. They found that it increased suicide literacy, but it did not decrease the level of stigma that others had towards individuals with suicidal behaviors (Dueweke & Bridges, 2017). Other research shows that online informational interventions decrease stigma more than a control condition, but not more than other online interventions (Griffiths, Christensen, Jorm, Evans, & Groves, 2004). Specifically, this study found that individuals with elevated depression scores experienced a reduction in personal stigma after viewing a webpage describing depression (Griffiths, Christensen, Jorm, Evans, & Groves, 2004). In another example, Ivezic, Sesar, and Mužinić (2017) examined individuals with schizophrenia in order to determine the effects of stigma. These individuals typically had high levels of self-stigma, meaning that they stigmatized themselves and their own disorder, which adversely affects treatment. After engaging in informational interventions, however, individuals reported a decrease in the amount of self-stigma in which they engaged (Ivezic, Sesar, & Mužinić, 2017). That said, much of the research in this area is still underdeveloped, with conflicting information arising amongst the studies. This study examined the association between informational interventions and stigma among college students.

The specific disorder that will be utilized for this research is pica. Pica is a mental disorder that is diagnosed in individuals who eat non-nutritious, non-food items (American Psychiatric Association, 2013). The purpose of this research is not to examine pica specifically, but rather to employ pica as a tool with which the association between stigma and access to educational information will be studied. Pica was chosen because it is likely less well-known than many other disorders, thus decreasing the likelihood that individuals will come into the study with preconceived notions and stigmas. However, individuals with this disorder tend to violate social norms drastically enough that descriptions of it should evoke reactions from participants.

Thus, the purpose of our research is to examine the association between informational interventions and stigma in college students with regards to their perceptions of individuals with pica. We hypothesized that an increase in information would be related to a decrease in stigma. Based on this assumption, conclusions may be drawn about how individuals with their own diagnosis would stigmatize others. If increased knowledge and information about mental illness decreases stigma, then individuals with their own diagnosis should understand mental illness more than other participants. Therefore, we hypothesized that individuals with their own mental illness would exhibit decreased levels of stigma regardless of condition.

Method

Participants

This study was conducted at a midsized Midwestern university. Participants were students in introductory psychology classes who received class credit for participating in studies. The participants ($n = 100$; 23 men) had a mean age of 19 years. The sample had a racial distribution of 80 White and 17 non-white individuals, including African-American and Indian, with an additional 3 individuals who did not report their race. This distribution is fairly representative of a typical psychology class in this area of the country.

Procedure

Participants were recruited through their introductory psychology classes, and they registered for the study online. They came into the lab for a 15-minute session. Participants were asked to read a vignette as well as to respond to a short series of questionnaires. Participants were randomly assigned to one of three conditions. Conditions differed only in the choice of vignette presented to participants.

Materials

The questionnaires included, in this order, demographic variables, including a question asking whether or not participants had ever been diagnosed with a mental illness, as well as the Mental Illness Familiarity Scale (Holmes, Corrigan, Williams, Canar, & Kubiak, 1999), followed by one of the three vignettes describing an individual with pica (Feeg, Prager, Moylan, Maurer Smith, & Cullinan, M., 2014), the Depression Stigma Scale (Griffiths, Christensen, Jorm, Evans, & Groves, 2004), and the Days Mental Illness Stigma Scale (Day, Edgren, & Esshleman, 2007).

Mental Illness Familiarity Scale. This scale was used to understand how familiar participants were with mental illness prior to the interventions employed in this study. This scale asks participants a series of yes or no question such as “I have a relative who has a severe mental illness” (Holmes, Corrigan, Williams, Canar, & Kubiak, 1999). This scale is seven items long (Holmes et al., 1999).

Vignettes. The vignettes that were used were based on vignettes created by Feeg and colleagues (2014). The vignettes provided three levels of information—a control condition in which no diagnosis occurred; a labeling condition in which a label was given to the described disorder; and an information condition in which participants were told what the disorder was and how it was treated. Participants received instructions before their respective vignette, which read, “please read the following passage”.

Control condition vignette. The first vignette served as a control condition. It included information about an individual with pica as follows:

Sarah is a 15-year-old girl who lives with her parents in Kentucky. She is a student who spends an inordinate amount of time alone reading, writing, and listening to music. Over the summer, her behavior changes and becomes erratic and out of control. The condition builds for a while, gathering strength, until it overwhelms her. She begins to have urges to eat non-nutritious, non-food items. Eventually, the urges overcome her and she begins to eat chalk she found in her house. She continues to eat chalk for several months until she begins to develop digestion problems because of it; at which time her parents intervene.

Labeling condition vignette. The second vignette was identical to the first but contained an additional sentence that provided a label to this condition. This sentence read:

After visiting a clinical psychologist, Sarah is diagnosed with a mental disorder known as pica.

Information condition vignette. The final vignette was identical to the second but contained an additional paragraph that provided information about the condition. This read:

Pica is a disorder in which individuals eat non-nutritious, non-food items such as dirt, chalk, or paint. This behavior can result in hospitalization if an individual develops blockages or is poisoned. Pica occurs primarily in young children but can present itself at any age. While the causes of pica are mostly unknown, it can be treated. There are several therapeutic treatments that can manage pica and have been shown to be effective. In some cases, nutritional management can also be an effective tool in treating pica.

Questionnaires. In addition to receiving one of the above three vignettes, participants also completed a packet of questionnaires. These questionnaires were identical across conditions in order to determine participants’ stigma towards the individual described in their vignette. Participants were then asked to rate how much they agreed with statements based on the passage.

Depression Stigma Scale (DSS). The Depression Stigma Scale was the first of the measures of stigma to appear in the questionnaire packet (Griffiths, Christensen, Jorm, Evans, & Groves, 2004). This scale was originally written to measure stigma toward depression; however, the author gave permission for this study to alter it slightly. Rather than asking about depression, the questionnaire asked about attitudes regarding pica. The purpose of the measure did not change. Rather, wording was changed such that any instance of “depression” was replaced with “pica” in order to measure stigma toward pica. This scale measures both personal and perceived stigma. Personal

stigma, as measured by this scale, is the stigma that individuals themselves exhibit towards individuals with a specific mental illness. Perceived stigma, as measured by this scale, is the stigma that individuals believe others would exhibit towards individuals with a specific mental illness. A sample item for personal stigma would be “I would not employ someone if I knew that they had pica”. A sample item for perceived stigma would be “Most people would not employ someone if they knew that they had pica”. It was included not only because it explored stigma, but also because it could potentially indicate how information about those with a disorder affects stigma at the personal vs. perceived level. There were 18 questions in this measure that asked participants to rate their agreement with statements on a rating scale (1-4). A higher score means that participants have higher levels of stigma toward the individual in the vignette. The personal subscale had a reliability of $\alpha = .709$ and the perceived subscale had a reliability of $\alpha = .823$.

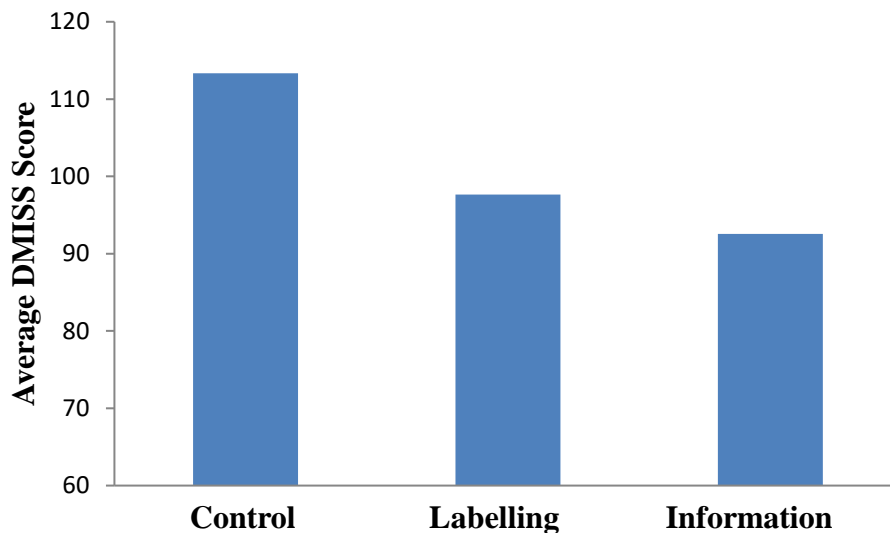
Days Mental Illness Stigma Scale (DMISS). The DMISS was the final scale included in the survey (Day, Edgren & Eshleman, 2007). This scale not only provides information on overall stigma, but also has many subscales to help indicate what common aspects of stigma are present, for example hygiene, relational disruption, and recovery. This scale gives insight into what aspects are being changed or manipulated successfully by the informational intervention that was presented. This scale had 28 items that asked participants to rate their agreement with statements on a rating scale (1-7). A sample item from this scale would be “I feel anxious and uncomfortable when I’m around someone with pica”. A higher score overall and within each subscale indicates higher levels of stigma, or specific aspects of stigma, towards the individual in the vignette. The overall reliability of this scale was $\alpha = .921$, with the subscale reliabilities ranging from $\alpha = .652$ to $\alpha = .925$.

Results

A one-way between-subjects ANOVA was conducted to compare the effect of information given on stigma in the three conditions: control, labeling, and informational. The ANOVA was first conducted using the DMISS as the dependent variable, then repeated using the DSS Personal as the dependent variable, and finally with the DSS Perceived as the dependent variable. As can be seen in Figure 1, there was a significant difference in stigma as measured by the DMISS between the three conditions [$F(2,99) = 13.130, p < .001, \eta^2 = .210$].

Figure 1

Average DMISS Scores by Condition



There was also a significant difference in personal stigma as measured by the DSS between the three conditions [$F(2,99) = 7.565, p = .001, \eta^2 = .133$]. Finally, there was also a significant difference in perceived stigma as measured by the DSS between the three conditions [$F(2,99) = 9.018, p < .001, \eta^2 = .154$] (see Figure 2, Table 1).

Figure 2

The average DSS personal and perceived score by condition

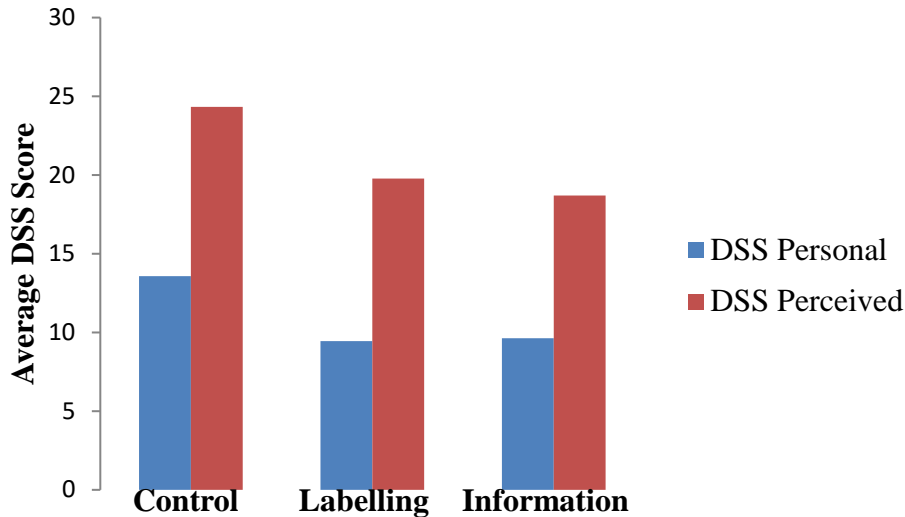


Table 1

Descriptive Statistics for and Correlations Among Variables of Interest

	<u>Mean (Standard Deviation)</u>			<u>Correlations</u>		
	Control	Labeling	Information	1	2	3
<i>n</i>	33	34	35			
(1) DSS Personal	13.58 (4.28)	9.44 (4.47)	9.46 (6.05)	--		
(2) DSS Perceived	24.33 (5.57)	19.76 (5.11)	18.20 (7.48)	.383**	--	
(3) DMISS	113.33 (18.43)	97.85 (17.41)	90.00 (21.01)	.624**	.435**	--

Note. Means for variables of interest are reported, followed by standard deviations in parentheses for these variables in each of the three conditions. The final three columns represent the correlations among these variables of interest for all groups.

**Indicates significant correlations at the .01 level

In addition to the significant differences between conditions on each of the three scales, we also found significant differences between conditions in most subscales of the DMISS. These include treatability [$F(2,99) = 5.920, p = .004$], relational disruption [$F(2,99) = 5.240, p = .007$], hygiene [$F(2,99) = 7.903, p = .001$], anxiety [$F(2,99) = 6.464, p = .002$], and visibility [$F(2,99) = 8.895, p < .001$]. The only two subscales that did not show significant differences between conditions were recovery [$F(2,99) = .958, p = .387$] and professional efficacy [$F(2,99) = .076, p = .076$]. All significant differences on the DMISS and DSS were in a direction that indicated that increased information was associated with reduced stigma (see Table 2).

Table 2*Descriptive Statistics for the DMISS Subscales*

	<u>Mean (Standard Deviation)</u>		
	Control	Labeling	Information
<i>n</i>	33	34	35
Treatability	16.63 (2.90)	14.47(2.34)	16.09(2.85)
Relational Disruption	22.19 (8.126)	19.68 (7.40)	16.68 (8.02)
Hygiene	13.62(4.65)	11.85(4.44)	9.61(4.90)
Anxiety	25.66(9.52)	20.71(7.73)	18.79(9.57)
Visibility	12.72(4.71)	9.59(2.99)	8.97(3.79)
Recovery	10.16(2.27)	10.65(2.41)	11.15(2.49)
Professional Efficacy	12.00(2.03)	10.91(2.094)	11.30(2.365)

Note. Means (and standard deviations in parentheses) for each of the variables on the left is reported for each individual condition (control, labeling, and information).

Additionally, post hoc independent samples t-tests were conducted to compare the control to the labeling condition, the control to the informational condition, and the labeling condition to the informational condition for each of our scales of interest. There was a significant difference in the levels of stigma as measured by each of the three stigma scales between the control and labeling (all $t > 3.3$, all $p < .001$), and control and informational (all $t > 3.0$, all $p < .004$) conditions. However, there was not a significant difference between the levels of stigma as measured by any of the three stigma scales between the labeling and informational conditions (all $t < 1.20$, all $p > .24$).

The second hypothesis that was tested was that individuals who indicated that they had their own mental illness would report lower levels of stigma than those who did not. An independent samples t-test was conducted and found a significant difference in overall stigma as measured by the DMISS between those who reported having been diagnosed with a mental illness ($M = 8.50$ $SD = 5.342$) and those who did not ($M = 11.21$ $SD = 5.247$), [$t(100) = -2.179$, $p = .032$]. Those who reported having been diagnosed with a mental illness displayed less overall stigma than those who did not. However, further analysis revealed that there were not significant differences in the levels of personal or perceived stigma between these two groups [$t(100) = 1.89$, $p = .061$; $t(100) = .070$, $p = .945$].

Discussion

The purpose of this study was to examine whether or not an informational intervention would be successful in reducing stigma towards individuals with mental illness. Importantly, we found that increased levels of information about a person with a disorder did reduce stigma in participants. Though there were some unexpected findings, which will be discussed further, the results seem to generally support the idea that informational approaches can reduce stigma. Thus, the research improves upon the existing literature by exhibiting more evidence in support of informational interventions.

These results indicate that generally, the more information a participant is given about an individual and their condition, the less stigma that they show towards them. Overall stigma, as indicated by multiple measures, decreased significantly when participants were given more information about the individual with pica. This is in line with our hypothesis as well as with the theoretical framework on which we based this hypothesis, namely the contact hypothesis and past research on the origins of stigma (McKeown & Dixon 2017; Ahuja, Megha, Anisha, & Bhuaneswari, 2017). However, the contact hypothesis argues that this reduction in stigma occurs when individuals have direct contact with dissimilar others (McKeown & Dixon, 2017; Ahuja, Megha, Anisha, & Bhuaneswari, 2017). Here, we have displayed that, at least for stigma towards individuals with pica, this reduction in stigma can be achieved simply by learning more about an individual rather than direct contact.

This pattern was true for personal stigma as well as perceived stigma, meaning that the more that individuals learned, the less they stigmatized the individual *and* the less they believed others would stigmatize the individual. This is interesting, because while the reduction in personal stigma is consistent with the idea that familiarity breeds likeness, this familiarity cannot be used to explain why they would believe *others* to have lower stigma. Perhaps individuals experience a false consensus and believe that their views are more or less in line with the views of others. Therefore, as their own beliefs changed, they would assume that the beliefs of others would align. More research is needed to examine that unique finding.

The subscales of the Days Mental Illness Stigma Scale also showed interesting results. Almost all of the subscales showed a significant decrease in stigma, yet recovery and professional efficacy did not. This could be due to the nature of the individual questions within those subscales. The subscales that showed significant reduction in stigma were all questions that referred to the individual with the disorder itself, for example their hygiene or relationships. This would suggest that the stigma towards the individual was reduced through informational interventions. However, questions on the other subscales, recovery and professional efficacy, focused on whether or not the individual will recover and whether or not the field of psychology is equipped to deal with the individual's problems. Thus, it appears that, even though the information provided to participants impacted stigma toward the individual with stigma, it did not impact how the participants viewed their experience with the illness.

This means that while their direct stigmatizing attitudes of the person decreased, their attitudes towards the disorder itself did not. Despite the fact that in the informational intervention condition, recovery and treatment are addressed, there was not a decrease in these areas. It could be due to a limitation in the vignettes; perhaps the treatment was not discussed well enough. While the vignettes do not go into detail about how pica is treated, they do mention that pica can be treated, and that it can be treated through either behavioral or nutritional therapy. Assuming this finding is not due to the vignettes would present another possible explanation. Perhaps individuals are more likely to be open-minded towards individuals with pica, while simultaneously not trusting the ability of professionals to treat these disorders. Beyond treatment, participants believed that recovery was unlikely. This could speak to a distrust of the field and its abilities to treat mental illness.

The second hypothesis also had surprising results. We hypothesized that individuals with their own mental illness diagnosis would exhibit lower levels of stigma regardless of the condition, but results indicate that this is not completely the case. Individuals with their own mental illness showed a reduction of stigma as measured by the DMISS, but displayed no reduction in either personal or perceived stigma as measured by the DSS. Based on the idea that stigma comes from a lack of understanding, these results are surprising (Ahuja, Megha, Anisha, & Bhuvanewari, 2017). From that viewpoint, someone with their own diagnosis should have a better understanding of mental illness than the general public, and therefore would have less stigmatizing attitudes. It is possible that this is due to the nature of the disorder chosen for the vignettes in this study. Perhaps pica is a lesser-known mental illness and was too far removed from the experiences that participants have likely had. It is possible that we would have found an impact of personal experience of mental illness on stigmatizing attitudes had we provided vignettes with more common disorders, such as depression or anxiety.

Limitations and Future Directions

While important, we must note that this study is limited in its scope. Since the population was restricted to college students, the results may not be representative of a larger population, particularly in that our population was further limited in terms of gender and ethnicity. While the population is not representative of the U.S. population at large, it is representative of an introductory psychology class at the university where this research was conducted. This study also examined the association between stigma and informational interventions in the context of pica specifically, meaning that the association found here might not apply in the context of other mental illnesses. Future research should address these concerns with more representative samples and by replicating research like this with other mental illnesses as the framework.

In addition, the portion of the population who reported having been diagnosed with a mental illness is only a fraction of the total population. While their levels of stigma showed the same patterns as the population at large, it would still be valuable to have a more balanced group for comparison. Finally, the design of this study is after-only. While it would have been valuable to examine levels of stigma before and after presenting participants with the vignette, we believed that this could result in priming and could change the results of the study. Still, this study is promising in that these results suggest that informational interventions reduce stigma towards individuals with mental illness. This supports research such as the recent work by Ivezić, Sesar, and Mužinić (2017), which demonstrated a relationship between information given to participants and self-stigma in individuals with

schizophrenia. This has interesting and important implications in practice. This suggests that stigma can be reduced by teaching individuals about mental illness and about those individuals who suffer from these illnesses.

Additionally, even in the labeling condition this reduction occurred, meaning that being able to attribute the described behaviors to a named mental illness aided in reducing stigma. In other words, rather than simply increasing awareness of the problem, this research suggests that psychologists can combat stigma by helping the public to better understand the experiences of those suffering from mental illness. Further research should examine how to increase the impact of these informational interventions in order to potentially find a greater reduction of stigma. Research should also be conducted on the attitudes towards recovery and professional efficacy that were seen in this study.

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