

**THE EFFECTS OF A DIAGNOSTIC LABEL
AND SYMPTOM TYPES
ON CONTROLLABILITY ATTRIBUTIONS
AND PERCEPTIONS OF DANGEROUSNESS
TOWARDS PEOPLE WITH SCHIZOPHRENIA:
AN ANALOG STUDY**

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ABSTRACT

Laypeople often overestimate schizophrenia patients' level of dangerousness and make inaccurate assumptions regarding how much control patients have over the causes of their illness-related behaviors. The present study used hypothetical vignettes to examine whether controllability attributions and dangerousness perceptions differed when participants were explicitly told that a person has schizophrenia versus when the person's positive (e.g., hallucinations, delusions) or negative (e.g., flat affect, poor hygiene) symptoms were described but no diagnostic label was provided. We randomly assigned 420 undergraduate students to receive one of three vignettes that described a person with schizophrenia. In condition one, the person was explicitly labeled as having schizophrenia, but no other mental health information was provided. In condition two, the person was presented with a series of

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positive symptoms, but no diagnostic label was given. In condition three, the person was presented with primarily negative symptoms, but no diagnostic label was given. Participants rated their perceptions of the hypothetical person's perceived control over the causes of the disorder or symptoms (on a 9-point scale) and the person's perceived dangerousness (on a 5-point scale), using Likert-style ratings. In line with hypotheses and with attribution theory, participants viewed the hypothetical patient as having more causal control in the negative-symptom condition than in the diagnostic-label or positive-symptom conditions. Also in line with hypotheses, participants viewed the person depicted in the vignette as more dangerous when described with either the diagnostic label or with positive symptoms than when described with primarily negative symptoms. Study implications are discussed.

Keywords: schizophrenia, diagnostic label, positive symptoms, negative symptoms, controllability attributions, dangerousness

INTRODUCTION

The general public often holds misconceptions about the mentally ill. For example, laypeople often overestimate how much control patients with schizophrenia have over their symptoms and their causes (Weisman & López, 1997). Moreover, people with schizophrenia are often believed to be dangerous and unpredictable when in fact, the large majority of patients are nonviolent and even withdrawn (Angermeyer & Matschinger, 2003; Grausgruber, Meise, Katschnig, Schöny, & Fleischhacker, 2007; Link, Phelan, Bresnahan, Stueve, & Pescosolido, 1999; Tandon, Nasrallah, & Keshavan, 2009; Walsh, Buchanan, & Fahy, 2002). This is important because people with schizophrenia have been reported to internalize such stigmatizing misconceptions, which can lead to depressive symptoms and lower self-esteem (Ritsher & Phelan, 2004). In addition, patients with schizophrenia frequently experience discrimination in the workplace, in health care settings, and even by loved ones (Corrigan, 1998; González-Torres, Oraa, Arístegui, Fernández-Rivas, & Guimon, 2007).

The manner in which people with schizophrenia are described seems to affect the general public's perceptions of those diagnosed with the illness. Prior research suggests that negative symptoms are viewed as less stigmatizing and their onset as more controllable than positive symptoms (Found & Duarte, 2011; Grausgruber et al., 2007; Weisman & López, 1997). A few studies have

also compared the effects of vignettes that either mention or do not mention a schizophrenia diagnosis. Stone and Finlay (2008) found that the diagnostic label was more stigmatizing than certain types of symptoms, yet others have found the opposite (Penn et al., 1994; Rivera, De Arriba Rossetto, Pesqueira, & Otero, 2007). Previous studies have not compared the effect of describing a person with schizophrenia using a diagnostic label with that of describing a person with primarily positive or negative symptoms. As such, the purpose of this study is to examine differences in controllability attributions and perceptions of dangerousness depending on whether a person is labeled as having schizophrenia versus whether only positive or primarily negative symptoms of the illness are described.

According to attribution theory (Weiner, 1993), when an adverse event, such as being diagnosed with schizophrenia, occurs, people try to determine who or what was responsible for the event. Subsequently, they make judgments as to whether or not the afflicted person was able to control the cause of the event. If one is judged to have been unable to control the causes of an unfortunate event, the person is less likely to be blamed, and people often react with empathy and positive behaviors such as helping. However, if one is judged to have been able to control the cause or causes of their hardship, others will often blame the individual for the adverse event, feel anger towards him or her, and engage in negative behaviors such as punishment (Corrigan, 2000; Weiner, 1993). Learning that a person has schizophrenia, an illness with widely recognized biological and/or genetic underpinnings, may elicit uncontrollable attributions (Kymalainen & Weisman, 2004; Phelan, Cruz-Rojas, & Reiff, 2002; Pickard, 2011). Similarly, because positive symptoms are more readily associated with schizophrenia and mental illness in general than are negative symptoms (Erritty & Wydell, 2013; National Alliance on Mental Illness [NAMI], 2008), these symptoms may be less likely to elicit controllability attributions. Using an analog approach, Weisman and López (1997) indeed found that undergraduate students perceived negative symptoms and their causes as more controllable than positive symptoms and their causes. The authors speculated that this is because florid positive symptoms, such as hallucinations and delusions, are more readily associated with severe mental illness whereas passive negative symptoms, such as apathy and asociality, are associated with more controllable causes such as personality factors. It seems plausible that because the general public strongly associates the schizophrenia label with uncontrollable causes (Kymalainen & Weisman, 2004; Phelan et al., 2002) and positive symptoms with schizophrenia (NAMI, 2008), a diagnostic

label and positive symptoms would elicit lower causal controllability scores than negative symptoms.

Previous findings on perceptions of dangerousness towards people with schizophrenia are mixed. Some offer support for the modified labeling theory, which suggests that mental illness labels can lead to negative consequences in the lives of people who are afflicted with psychological disorders (Link, Cullen, Struening, Shrout, & Dohrenwend, 1989), while others do not. The majority of previous studies have examined the effect of type of description of a person with schizophrenia on social distance, which can be defined as “the degree to which a person will willingly associate with another from a distinct social group” (Reber, Allen, & Reber, 2009, p. 748). Since social distance is related to dangerousness, violence, and unpredictability, it can aid in estimating the public’s perception of dangerousness (Angermeyer, Beck, & Matschinger, 2003; Grausgruber et al., 2007; Penn et al., 1994). However, most previous studies have only examined social distance or perceptions of dangerousness elicited by either the schizophrenia label (Angermeyer & Matschinger, 2003; Grausgruber, 2007; Lauber, Nordt, Falcató, & Rossler, 2004; Link et al., 1999) or by positive and negative symptoms (Found & Duarte, 2011; Grausgruber et al., 2007).

No prior published studies that we are aware of have compared people’s reactions to a diagnostic label with their reactions to two separate positive- and negative-symptom descriptions. Rivera and colleagues (2007) found that a vignette describing symptoms of paranoid schizophrenia (e.g., persecutory delusions) elicited more desired social distance than a vignette that only mentioned a diagnostic label. In contrast, Stone and Finlay (2008) compared participants’ reactions to a vignette that included a diagnostic label with their reactions to various descriptions of positive and negative symptoms, and found the diagnostic label to be more stigmatizing than certain negative symptoms (i.e., anhedonia, or loss of pleasure, and asociality) and positive symptoms (i.e., unusual thought content, such as the belief that people could read the thoughts of the person described). Furthermore, Penn and colleagues (1994) found no significant differences in participants’ desire for social distance from a mentally ill person or perceptions of dangerousness towards the mentally ill, regardless of whether a vignette included a diagnostic label or a combination of positive and negative symptoms but no label. Finally, one study (Found & Duarte, 2011) found that positive symptoms elicited more social distance and perceived risk than negative symptoms, and another (Grausgruber et al., 2007) found that negative symptoms elicited less social distance.

To clarify and expand upon research in this area, our study will examine how a diagnostic label versus separate descriptions of positive or negative symptoms impacts perceived dangerousness. However, despite the paucity of research that compares perceptions of dangerousness elicited by a diagnostic label versus specific symptoms, it is possible to make assumptions about these perceptions based on other research. The general public associates the schizophrenia label with dangerousness and violence (Angermeyer & Matschinger, 2003; Grausgruber et al., 2007; Link et al., 1999) and more readily associates positive symptoms with schizophrenia (NAMI, 2008). In addition, positive symptoms are associated with more social distance and perceived risk (Found & Duarte, 2011). Because of these findings, it is possible to assume that a diagnostic label and a description of positive symptoms may elicit higher perceived dangerousness scores than a description that includes negative symptoms.

Taking into account previous research, we hypothesized that in a vignette with three possible descriptions of a person with schizophrenia (1. a description mentioning the schizophrenia label with other neutral information, 2. a description of positive symptoms, or 3. a description of primarily negative symptoms), causal controllability scores would be lower for the schizophrenia-label vignette than for the negative-symptom vignette. Furthermore, replicating Weisman and López (1997), we hypothesized that negative symptoms would elicit higher causal controllability scores than positive symptoms. We will also examine on an exploratory basis whether there is a difference in causal controllability scores between the diagnostic-label and positive-symptom vignettes. Moreover, we hypothesized that perceived dangerousness scores would be higher for the schizophrenia-label vignette and the positive-symptom vignette than for the negative-symptom vignette. Finally, we will examine how a diagnostic label versus a description of positive symptoms only influences perceptions of dangerousness.

METHODS

Participants

The sample consisted of 420 undergraduate students ($M_{\text{age}} = 19.19$ years, $SD_{\text{age}} = 2.72$; 62.9% females and 37.1% males) from the University of Miami. Participants classified themselves as either Caucasian (45.5%), Hispanic (22.6%), Other (14.3%), Asian-American (11.2%), African American (4.5%),

or Native American (1.9%). Participants were recruited from introductory psychology courses and were compensated with research participation credit.

Procedure

Participants met with a trained graduate or undergraduate student in groups of ten. They were asked to read, complete, and sign an informed consent form if they agreed to participate. They were then given a packet of questionnaires which took approximately two to three hours to complete. Participants read all the questionnaires and recorded their responses individually. However, a research assistant was available to answer questions if needed.

Measures

While several measures on a variety of topics (e.g., racism, religion, and spirituality) were administered as part of the assessment packet, only the measures of interest for the present study will be discussed below.

Vignettes. Participants were given one of three vignettes, which were all of approximately the same length but which varied in the type of information used to describe a young man named Derek. The first vignette mentioned that Derek had been diagnosed with schizophrenia and included neutral demographic information, such as his age, eye and hair color, occupation, and family information. In the second vignette, Derek was described using positive symptoms; he was said to hear other people talking about him, to believe that people wanted to harm him, and to believe that others could read his thoughts. In the last vignette, Derek was described using primarily negative symptoms. For instance, he was described as not having much energy, having lost interest in things, staying home most of the time, showing little emotion, and not speaking much. In this vignette, Derek was also described as previously having experienced two positive symptoms (i.e., believing that others were following him and hearing people talking about him), so that the description would meet criteria for schizophrenia according to the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text rev.; *DSM-IV-TR*; American Psychiatric Association [APA], 2000). Once again, neither of the symptom vignettes mentioned the schizophrenia label but only described the symptoms. See Appendix A for a complete description of each vignette.

Controllability attributions. To measure attributions of controllability, participants rated one item, modified from Russell's (1982) Causal Dimension Scale. Specifically, participants were asked to rate how controllable they believed the cause of the person's "problems" described in the vignette were on a Likert scale. Scores could range from 1 (*Uncontrollable by the person*) to 9 (*Controllable by the person*).

Dangerousness. To measure perceptions of dangerousness, participants were asked, "To what extent does the following attribute apply to the person described in the vignette: Dangerous?" Responses were rated on a Likert scale ranging from 1 (*Not at all*) to 5 (*Very much*).

RESULTS

Preliminary Analyses

The study had an experimental between-subjects design in which the independent variable was type of vignette with three levels (diagnostic label, positive symptoms, and negative symptoms) and the dependent variables were causal controllability scores and perceived dangerousness scores, with higher scores representing more control and more dangerousness.

Preliminary analyses were conducted to determine if there were significant gender, ethnicity, or age differences in controllability and/or dangerousness scores. Independent-samples *t* tests showed no significant gender differences in controllability scores, $t(409) = 1.79$, $p = .075$, or dangerousness scores, $t(295.410) = -1.78$, $p = .077$. One-way analyses of variance (ANOVAs) indicated no significant ethnic differences in controllability scores, $F(5, 405) = 1.26$, $p = .279$, or dangerousness scores, $F(5, 410) = 1.30$, $p = .261$. Likewise, Pearson *r* correlations showed no significant age differences in controllability, $r(409) = -.036$, $p = .464$, or dangerousness scores, $r(414) = .014$, $p = .779$.

Effect of Vignette Type on Controllability

Means and standard deviations for controllability broken down by vignette type are presented in Table 1. The results of a one-way ANOVA indicated a significant difference in vignette type for attributions of controllability, $F(2, 405) = 9.26$, $p < .001$, $\eta^2 = .04$. A Tukey Honestly Significant Difference

(HSD) test indicated that the diagnostic-label and positive-symptom vignettes elicited lower causal controllability scores than the negative-symptom vignette. However, there was no difference in controllability scores between the vignettes with the schizophrenia label and positive symptoms.

Table 1. Means and Standard Deviations for Controllability and Dangerousness

Vignette Type	Controllability			Dangerousness		
	<i>n</i> ^a	<i>M</i>	<i>SD</i>	<i>n</i> ^a	<i>M</i>	<i>SD</i>
Diagnostic Label	142	2.73	2.20	143	2.93	1.08
Positive Symptoms	135	3.24	2.32	137	3.22	1.10
Negative Symptoms	131	3.92	2.30	132	2.11	1.16
Total	408	3.28	2.32	412	2.76	1.20

^aBecause not all participants who responded to the dangerousness item responded to the controllability item, different sample sizes were used for each variable's analysis.

Effect of Vignette Type on Dangerousness

Means and standard deviations for perceived dangerousness broken down by vignette type are presented in Table 1. A one-way ANOVA showed a significant difference in perceived dangerousness scores according to vignette type, $F(2, 409) = 36.06, p < .001, \eta^2 = .15$.

Results of a Tukey HSD test indicated that both the diagnostic-label vignette and the positive-symptom vignette elicited higher dangerousness scores than the negative-symptom vignette. However, dangerousness scores did not significantly differ for the diagnostic-label and positive-symptom vignettes.

DISCUSSION

The purpose of this study was to determine whether the manner in which a person with schizophrenia is described affects people's perceptions of this person's ability to control the cause or causes of the disorder and people's perceptions of the danger that this person poses. As hypothesized, the diagnostic-label vignette elicited lower causal controllability scores than the negative-symptom vignette. Moreover, as expected, the negative-symptom vignette elicited higher causal controllability scores than the positive-symptom vignette. There was no significant difference between a diagnostic label and positive symptoms with regard to causal controllability scores.

Taken together, the results of this study may help shed light on public perceptions of people with schizophrenia. The fact that participants perceived a distinction in controllability attributions between the negative-symptom vignette and the other two vignettes that included a diagnostic label and positive symptoms may suggest that laypeople still have an incomplete view of what constitutes the symptoms of schizophrenia. This finding is consistent with Weisman and López's (1997) earlier finding that a person with schizophrenia described in a vignette is considered to be more in control of the causes of his negative symptoms than of his positive symptoms. Because positive symptoms are more readily associated with mental illness (Erritty & Wydell, 2013), they may elicit uncontrollable causal perceptions. In contrast, negative symptoms are less likely to be associated with severe mental illness and more likely to be associated with controllable causes such as personality factors or lack of effort (e.g., laypeople may believe that a person with schizophrenia who lacks energy to complete a task has the ability to "snap out of it" but willingly chooses to remain inactive; Erritty & Wydell, 2013; Vaughn, 1977, as cited in Fadden, Bebbington, & Kuipers, 1987). In line with attribution theory, participants are more likely to blame the described person for having these symptoms (Weisman & Lopez, 1997; Weiner, 1993). Blaming an individual for his or her symptoms can, in turn, lead to negative reactions, including discrimination (Corrigan, 2000; González-Torres et al., 2007; Weiner, 1993). Moreover, because people are less likely to associate negative symptoms with mental illness, they may be less likely to think that treatment is necessary for these behaviors (Erritty & Wydell, 2013). These potential consequences make it necessary to create effective and efficient ways to disseminate accurate information about the illness, perhaps through public education programs that explain schizophrenia, its symptoms, and its causes.

As expected, the diagnostic-label and positive-symptom vignettes elicited higher dangerousness scores than the negative-symptom vignette. That is, the person described was considered more dangerous when the diagnostic label

was given or when positive symptoms were described than when negative symptoms were given. Dangerousness scores were not significantly different for the diagnostic label and positive symptoms.

The finding that a person is perceived as more dangerous when described using a diagnostic label and positive symptoms than when described using negative symptoms is somewhat consistent with reality in that patients experiencing psychotic (positive) symptoms are more likely to be violent than those experiencing negative symptoms (Link, Andrews, & Cullen, 1992; Swanson et al., 2006). Although this view is accurate, the fact that schizophrenia, and positive symptoms in particular, were perceived as more dangerous can lead to an increased desire for social distance from patients diagnosed with schizophrenia (Angermeyer et al., 2003; Link et al., 1999). This may, in turn, lead to stigmatization, social isolation, and lost opportunities for personal advancement for individuals who have been diagnosed with schizophrenia. Providing mass educational programs regarding the true rate of violence in people with schizophrenia (which is below 10 percent, with odds ratios for serious violence of 1.46 for those experiencing suspiciousness and persecutory symptoms, 1.43 for people experiencing hallucinations, and 1.31 for those experiencing grandiosity; Swanson et al., 2006; Walsh et al., 2002) may help reduce this stigma (Penn, Kommana, Mansfield, & Link, 1999).

Moreover, there was no significant difference in controllability and dangerousness scores between the diagnostic-label and the positive-symptom vignettes. Thus, it is possible that in participants' minds, both vignettes clearly depicted a person with mental illness. In fact, a report conducted by the National Alliance on Mental Illness (2008) found that a large percentage of the general public correctly identified hallucinations and delusions (positive symptoms) as symptoms of schizophrenia.

Our study had several limitations which can be addressed in future research. The analog nature of our study may limit generalizability. Similarly, undergraduate psychology students' perceptions of schizophrenia may not generalize to the larger public. For example, they may be more understanding of people afflicted with mental illness (which may explain the relatively low causal controllability scores given). As such, further research with a more representative sample is needed. Finally, controllability and dangerousness were rated with single-item measures. Follow-up research with more comprehensive measures will allow for a more nuanced understanding of how symptom presentation relates to perceptions of controllability and dangerousness.

In conclusion, results from this study suggest that a person with schizophrenia is considered to be more able to control the causes of his condition if he is described using negative symptoms, yet is perceived as more dangerous if he is described using either a diagnostic label or positive symptoms (compared to negative symptoms). It is particularly striking that the symptoms that were perceived to be due to more controllable causes (negative symptoms) are actually more common over the life course in schizophrenia; in other words, it appears that the symptoms that laypeople are least likely to associate with genuine side effects of mental illness are actually the ones that they are most likely to witness (Tandon et al., 2009). The general public's attributions of controllability may, in turn, cause them to feel angry towards people who present with negative symptoms (Weiner, 1993). Furthermore, because the public may not associate negative-symptom behaviors with mental illness, they may not believe treatment is necessary for them (Erritty & Wydell, 2013). Meanwhile, those with positive symptoms (or those known to have a schizophrenia diagnosis) are thought to be more dangerous, despite the relatively brief duration of these symptoms and the relatively low threat of serious violence posed by people who present with them (Swanson et al., 2006; Tandon et al., 2009). These perceptions of dangerousness may lead others to distance themselves from people who have schizophrenia or positive symptoms in particular, though they do not pose much of a threat (Angermeyer et al., 2003; Grausgruber et al., 2007; Penn et al., 1994). Because these misconceptions can detrimentally affect the psychological well-being of people with schizophrenia, action should be taken to educate the general public about schizophrenia and the true nature of those afflicted with the disorder.

APPENDIX A

Vignettes

Diagnostic Label

Derek is a 28-year-old Caucasian male who grew up in Miami, Florida. When he was 18, he was diagnosed with schizophrenia. Derek has brown hair and green eyes and is 5'10". He has a sister who is 25 and a brother who is 22. His sister's name is Mary and she works as an office assistant in Northern Florida. His brother's name is Steve and he recently graduated from college with a degree in accounting and is looking for employment. He lives in

Massachusetts. Derek lives in Miami and talks to his brother and sister once or twice a month. Both of his siblings have brown hair and green eyes just like Derek. Derek's parents are originally from Ohio but moved to Miami shortly before Derek was born. His mother, Emily, works as an elementary school teacher. His father, Chris, is a paralegal. Derek speaks to his parents on a weekly basis. As a child, Derek loved to read and go to the park. He still reads frequently and likes to be around nature. His favorite color is blue and he enjoys listening to most types of music. Derek had just finished High School and was living with his parents when he was diagnosed with schizophrenia. His parents consulted several professionals to confirm the diagnosis.

Positive Symptoms

Derek began to notice people talking about him. At first he was not sure who it was talking or why they talked about him. People talked about him in many different places and he gradually became used to it. Sometimes at night they would be outside his window or in the next apartment. Sometimes it was almost like telepathy. Sometimes they said very nasty things. It became very clear to him that something was definitely going on. They had singled him out and they meant to cause him trouble. Some very powerful people intended to harm him, and these people left clues everywhere in order to threaten and worry him. He had to be very cautious because these people seemed to know an incredible amount about him. Perhaps they were secretly monitoring him. He had some very surprising experiences. People seemed able to know about his thoughts. He would just think about a topic and, next thing, they would broadcast that very topic over the radio or the TV. People on the street would signal that they knew what he was thinking. Sometimes signals appeared in things he was reading that showed how much they knew about him. Sometimes these people would put their thoughts into his mind. That felt strange.

Negative Symptoms

Derek does not have much energy. He sleeps a lot and, when up, is quite satisfied to sit around not doing much. He does little or nothing spontaneously, on his own initiative. He has to be asked or told to do things, even simple things like taking a bath or putting on clean clothes. Even if he begins a task, he is soon worn out and stops. It is tough to finish things. He does not find much interesting. Things that had previously been attractive or stimulating just do not seem to matter anymore. He does not get out with others much. It just does not seem worth the effort and trouble. Not much is fun. Not much is

exciting. It is simpler just to stay at home and take things easy by himself. He seems to be affected less by things, to show less emotion. He laughs less, cries less, worries less. It is a quiet state, a bit dull. Things just do not seem to affect him like they used to. He seems to have fewer feelings, and the feelings are not as strong. Even his face shows less expression. He used to have a lot of troubling thoughts about people following him. He could frequently hear people talk about him even though he couldn't see anyone around him. Now, not much goes through his mind. He does not have many thoughts, many ideas.

Most of the time his mind is quiet and empty. When he speaks it is always pretty much about the same old stuff. Not much new is going on. He tends not to speak much anyway.

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