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Recent correlational research has indicated that belief in a continuum of psychiatric problems is related to decreased psychiatric stigma. These findings have generated enthusiasm to conceive antistigma programming centered on encouraging embrace of continuum beliefs. However, the extant correlational literature does little to support the prospects of manipulation of continuum beliefs. Moreover, several factors converge to suggest that an experimental manipulation of continuum beliefs cannot easily be achieved. Volunteers in an online study read a detailed description of a young man with schizophrenia and were then randomized to read either (a) a summary of research attesting to a continuum view of schizophrenia, (b) a summary of research attesting to a categorical view of schizophrenia, or (c) no additional material. Respondents also completed self-report measures of the strength of their endorsement of continuum and categorical views of schizophrenia. Consistent with published correlational findings, greater endorsement of the continuum view was related to less desire for social distance, lesser endorsement of the unpredictability stereotype, and marginally less fear. On the other hand, there was no evidence that experimental manipulation of continuum beliefs affected stigma. The current findings are discussed in the context of other recent continuum-based antistigma interventions. Additional work is needed to more fully evaluate the prospects of such an approach.

## **Keywords**

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## **Disciplines**

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## **Comments**

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Continuum Beliefs and Schizophrenia Stigma: Correlational and Experimental Evidence

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### **Abstract**

Recent correlational research has indicated that belief in a continuum of psychiatric problems is related to decreased psychiatric stigma. These findings have generated enthusiasm to conceive anti-stigma programming centered on encouraging embrace of continuum beliefs. However, the extant correlational literature does little to support the prospects of manipulation of continuum beliefs. Moreover, several factors converge to suggest that an experimental manipulation of continuum beliefs cannot easily be achieved. Volunteers in an online study read a detailed description of a young man with schizophrenia and were then randomized to read either (1) a summary of research attesting to a continuum view of schizophrenia, (2) a summary of research attesting to a categorical view of schizophrenia, or (3) no additional material. Respondents also completed self-report measures of the strength of their endorsement of continuum and categorical views of schizophrenia. Consistent with published correlational findings, greater endorsement of the continuum view was related to less desire for social distance, lesser endorsement of the unpredictability stereotype, and marginally less fear. On the other hand, there was no evidence that experimental manipulation of continuum beliefs affected stigma. The current findings are discussed in the context of other recent continuum-based anti-stigma interventions. Additional work is needed to more fully evaluate the prospects of such an approach.

*Keywords:* psychiatric stigma; continuum beliefs; schizophrenia

### Continuum Beliefs and Schizophrenia Stigma: Correlational and Experimental Evidence

Stigma is enabled to the extent that ingroups (“us”) appraise outgroup members (“them”) as occupying a distinct social category with rigid boundaries (Link & Phelan, 2001). Research indicates that belief in categorical difference predicts psychiatric stigma. Biomedical views of mental illness etiology, which may reinforce appraisals of “otherness,” lead to desires for greater social distance, prognostic pessimism, and perceptions of dangerousness (Haslam & Kvaale, 2015).

In contrast, continuum beliefs center on the idea that psychopathology and normality are merely separate points on a fluid continuum. In this view, individuals with psychiatric problems are not fundamentally different from others; rather, continuum beliefs underscore similarities between psychopathology and the ordinary distress to which all people are vulnerable.

Correlational evidence indicates that continuum beliefs are related to more positive and less negative emotional reactions, less desire for social distance, and weaker endorsement of damaging stereotypes (Angermeyer, Millier, Rémuzat, Refaï, Schomerus, & Toumi, 2014; Schomerus, Matschinger, & Angermeyer, 2013; Wiesjahn, Brabban, Jung, Gebauer, & Lincoln, 2014; Wiesjahn, Jung, Kremser, Rief, & Lincoln, 2016). On the basis of this correlational evidence, some investigators have suggested that interventions to encourage development of continuum beliefs could be usefully incorporated into anti-stigma programming.

This possibility is worth pursuing, but several factors converge to encourage pause. First, the correlational research, which taps continuum beliefs that people arrive at on their own, is silent with respect to the feasibility of manipulating continuum beliefs. Second, tried-and-true anti-stigma programs, such as those involving contact (Couture & Penn, 2003), probably work in part by eroding perceptions of difference and, downstream, encouraging organic revision of

beliefs. But, direct intervention at the level of belief is likely to be fraught by the likely powerful motivational underpinnings of the beliefs under examination here. That is, belief in the “otherness” of individuals with psychiatric problems may afford safe psychological distance from a plight that is dreaded and feared. Wahl (1995) related his experience of reading Schiller and Bennett’s (1994) *The Quiet Room*, a memoir that describes the interruption of the first author’s happy childhood by a lengthy struggle with psychosis. In reflecting on parallels between Schiller and his own daughter, Wahl found himself “searching for evidence that [his] daughter was very different from (and thus less vulnerable than) the daughter described in the book” (pp. 125-126). Moreover, numerous theoretical reflections on stigma (Dovidio, Major, & Crocker, 2000; Jones, Farina, Hastorf, Markus, Miller, & Scott, 1984; Kurzban & Leary, 2001) have construed it as reflecting a mechanism that facilitates safe distance from threatening attributes and the individuals who possess them. For some people, then, attempts to weaken perceptions of “otherness” via direct manipulation of continuum beliefs could be met with a sharp increase in perceived vulnerability and ultimately, defensiveness and resistance.

The current study offers both correlational and experimental evidence bearing on the link between continuum beliefs and psychiatric stigma. Volunteers in an online study read a detailed description of a young man with schizophrenia and were then randomized to read either a summary of research attesting to a continuum view of schizophrenia, a summary of research attesting to a categorical view of schizophrenia, or no additional material. Respondents also completed self-report measures of the strength of their endorsement of continuum and categorical views of schizophrenia. Significant links between ordinary variation in self-reported continuum beliefs and several stigma measures were predicted to emerge. In contrast, it was predicted that experimental induction of a continuum view would yield no improvement in

stigma compared to induction of a categorical view or to a control manipulation that references neither.

## Method

### Participants

Participants ( $n = 308$ , 45.1% female, 78.6% White,  $M$  age = 33.8) completed the study online, using Amazon's Mechanical Turk. They were paid 50 cents for participating.

### Materials

*Vignettes.* Three vignettes, written for use in this study, described a 25 year-old man ("Adam") with schizophrenia. The vignettes, which invoked the diagnostic label "schizophrenia," included detailed descriptions of Adam's experience with auditory hallucinations, paranoid delusions, and disorganized thinking. Two of the vignettes included a second section that summarized ostensible research that supports continuum or categorical views of schizophrenia (see online supplementary appendix).

*Stigma measures.* The Social Distance Scale (SDS; Link, Cullen, Frank, & Wozniak, 1987) includes seven items that tap respondents' willingness to engage, at varying degrees of closeness, with a target person. Responses were recorded on four-point scales.

A 10-item measure of emotional reactions (Schomerus et al., 2013) was administered. Consistent with previous work, items were grouped into fear, anger, and pro-social categories. Responses were recorded on five-point scales.

A 12-item semantic differential (Olmsted & Durham, 1976) was administered to measure stereotyped attitudes. Respondents rated both "Adam" and "Average Man" on seven-point scales anchored by bipolar adjectives. Difference scores for all 12 items were then computed by subtracting ratings for "Average Man" from ratings for "Adam." Two items, safe-dangerous and

predictable-unpredictable, were deemed especially important given their relevance to schizophrenia stigma.

*Continuum and category beliefs.* Respondents' endorsement of continuum and categorical views schizophrenia were measured using two items (Categorical – “People who have schizophrenia are fundamentally different from ordinary people”; Continuum – “People who have schizophrenia have symptoms [delusions, hallucinations] that are similar to the occasional experiences of ordinary people”). Responses were recorded on five-point scales.

### **Procedure**

Participants first provided informed consent. Second, they completed scales irrelevant to the current paper and not discussed here. Third, participants read the statement about “Adam” and were then randomized to read either a summary of ostensible research attesting to a continuum view of schizophrenia, a summary of ostensible research attesting to a categorical view of schizophrenia, or no additional material. A photograph of a young Caucasian man with a neutral expression accompanied presentation of the vignettes in an effort to boost their potency. Fourth, participants completed the three stigma measures, which were randomly ordered for each participant, and the two items measuring continuum and categorical views of schizophrenia. Finally, they read a debriefing script and terminated participation in the study.

## **Results and Discussion**

### **Correlational findings**

Bivariate correlations capturing links between continuum/categorical beliefs and stigma are presented in Table 1. Only control participants are included in these analyses to ensure that their continuum/categorical beliefs reflect only personally held views not influenced by the experimental manipulations. Greater endorsement of the continuum view was related to less

desire for social distance, lesser endorsement of the unpredictability stereotype, and marginally less fear. Greater endorsement of the categorical view was related to more desire for social distance and more fear.

### **Experimental Findings**

Subsequent to the experimental manipulation, groups differed with respect to self-reported continuum beliefs,  $F(2, 305) = 35.40, p < .001, \eta_p^2 = .19$ , and categorical beliefs,  $F(2, 305) = 8.43, p < .001, \eta_p^2 = .05$ , in the expected directions. However, there was no evidence that the manipulation of continuum beliefs affected stigma. A multivariate analysis of variance (MANOVA) with group entered as a fixed factor and six stigma dimensions entered as dependent variables yielded a statistically nonsignificant result,  $\lambda = 0.98, F(12, 600) = 0.49, p > .05, \eta_p^2 = .01^1$  (see online supplementary table for descriptive statistics pertinent to all experimental analyses).

### **Conclusions**

The current data add to a small but emergent literature exploring the impact of manipulated continuum beliefs on psychiatric stigma. Only two other published studies have attempted to explicitly manipulate continuum beliefs. Schomerus, Angermeyer, Baumeister, Stolzenburg, Link, and Phelan (2016) asked online volunteers to read an engaging newspaper-like text summarizing a specific ostensible study supporting the continuum view, a similar text supporting a dichotomous view, or no text at all. The volunteers then read a case vignette of a woman experiencing depression or schizophrenia. Results indicated that, compared to the no-text control, the continuum manipulation led to decreased appraisals of differentness, decreased desire for social distance, and decreased blame. Wiesjahn and colleagues (2016) asked online volunteers to first read a short description of schizophrenia symptoms that made no reference to

specific cases. The volunteers then read a text, evocative of journal-style prose, summarizing unspecified research supporting the continuum view, a similar text supporting a biogenetic view, or no text at all. Results indicated that the continuum manipulation led to decreased appraisals of incompetence/unpredictability.

Both studies offer tepid support for continuum intervention. In the Schomerus et al. (2016) study, the differentness effect that was conceived as a primary study outcome seems more akin to a successful manipulation check. For the other two outcomes (social distance and blame), effects were small and, notably, continuum versus dichotomy condition comparisons did not achieve statistical significance. This pattern suggests nonspecific effects of intervention, generally, rather than a unique effect of continuum intervention, specifically. In the Wiesjahn et al. (2016) study, the authors examined six stigma outcomes without correcting for alpha inflation. The one very small effect ( $d = .10$ ) that did emerge would have likely failed to achieve statistical significance following adjustment for multiple tests.

The extant literature does little to support continuum-based anti-stigma intervention, but additional work is needed to more fully evaluate the prospects of such an approach. First, heretofore weak interventions delivered strictly online have almost certainly contributed to the very weak or null effects uncovered to date. There is a clear need to interrogate continuum belief manipulations using potent laboratory tasks. To this end, follow-up research is testing the effects of a compelling laboratory situation involving confrontation with an actual person with ostensible schizophrenia and reading of specific scientific literature attesting to a continuum view. Second, all three available experimental studies asked participants to read about a psychiatric problem and continuum versus other views in separate tasks. Does the order of the tasks matter? The Schomerus et al. (2016) study, which yielded somewhat more support for

continuum intervention, asked participants to first confront the continuum view and then read case material. Such an ordering lends itself to the viewing of case material through the lens of the continuum view, possibly maximizing its potential to positively impact impressions of the target person. Third, future work could explore speculations regarding defensiveness upon confrontation with continuum material. How do people appraise continuum information? Do threat appraisals predict defensive rejection of the continuum view? Does this rejection, for some people, fuel rather than attenuate psychiatric stigma? If it does, strategies to overcome defensiveness might be explored. For instance, pointing out that normal people occasionally have psychotic experiences, but that very few develop problems that rise to the level of a diagnosis, could minimize perceived threat and thus impulses toward defensive resistance. Finally, continuum beliefs could hold promise of illuminating stigma reduction effects across the broad spectrum of stigma intervention research. That is, when an intervention demonstrates a stigma reduction effect, is this effect partly mediated by an erosion of perceived differentness that is part-and-parcel of the continuum view? These questions await answers, but for now, the current data suggest that enthusiasm to conceive anti-stigma programming centered on continuum beliefs is premature.

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**Footnote**

<sup>1</sup> Alternative analyses of the correlational and experimental data conducted after application of various participant exclusion criteria (e.g., unreasonably fast study completion, failure to correctly discern group assignment at debriefing, response sets to measurement scales) did not fundamentally change the pattern of findings reported here.

Table 1

*Bivariate Correlations between Continuum Beliefs, Categorical Beliefs, and Multiple Dimensions of Stigma (Control Participants Only)*

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	Continuum Beliefs	Categorical Beliefs
Social Distance	-.22*	.23*
Fear	-.18 <sup>†</sup>	.22*
Anger	-.13	.05
Pro-Social Emotion	-.06	-.16
Stereotyped Attitudes		
Safe-Dangerous	-.04	.13
Predictable-Unpredictable	-.22*	.01

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*Note.*  $n = 103$ . The bivariate correlation between continuum beliefs and categorical beliefs was  $r = -.03$ ,  $p = ns$ .

\*  $p < .05$ , <sup>†</sup>  $p < .10$