



Original article

An online intervention using information on the mental health-mental illness continuum to reduce stigma

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ABSTRACT

Background: A core component of stigma is being set apart as a distinct, dichotomously different kind of person. We examine whether information on a continuum from mental health to mental illness reduces stigma.

Method: Online survey experiment in a quota sample matching the German population for age, gender and region ($n = 1679$). Participants randomly received information on either (1) a continuum, (2) a strict dichotomy of mental health and mental illness, or (3) no information. We elicited continuity beliefs and stigma toward a person with schizophrenia or depression.

Results: The continuum intervention decreased perceived difference by 0.19 standard deviations (SD, $P < 0.001$) and increased social acceptance by 0.18 SD ($P = 0.003$) compared to the no-text condition. These effects were partially mediated by continuity beliefs (proportion mediated, 25% and 26%), which increased by 0.19 SD ($P < 0.001$). The dichotomy intervention, in turn, decreased continuity beliefs and increased notions of difference, but did not affect social acceptance.

Conclusion: Attitudes towards a person with mental illness can be improved by providing information on a mental health-mental illness continuum.

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1. Introduction

Changing the stigma of mental illness has proven a difficult task [1]. Recent time trend studies on the stigma of mental illness have shown that public attitudes towards persons with depression or alcohol dependence have barely changed over the last twenty-five years, while attitudes towards persons with schizophrenia have worsened [2–6]. Hence, established anti-stigma strategies have to be reconsidered, and there is a pressing need for novel approaches.

Such a novel approach could involve promulgating the idea of a mental health-mental illness continuum. A continuum model

corresponds to findings of epidemiological studies on the prevalence and severity of symptoms of mental illness among the general population. Continua from a few mild symptoms to many severe symptoms have been found for psychiatric disorders, like schizophrenia [7], depression [8], or alcohol dependence [9]. Stressing the continuous nature of mental distress has already been discussed as a potentially useful anti-stigma strategy [10]. The idea of replacing a perceived fundamental, qualitative difference between those with and those without mental disorder with a more quantitative difference on a symptom continuum is in line with current models of the stigma process: The widely used model proposed by Link and Phelan [11,12] posits the separation between ‘us’ and ‘them’ as central to the stigma process. Stressing the normality of mental illness symptoms could reduce separation: “if we are all affected – who are ‘the mentally ill’?” ([9], p. 442). In fact, observational studies suggest that continuity beliefs are

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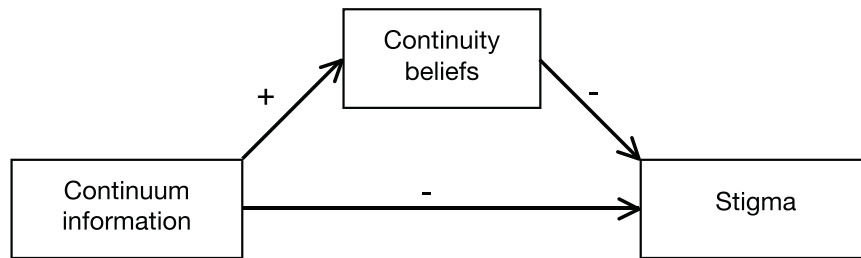


Fig. 1. Hypothesized effect of continuum information on continuity beliefs and stigma.

associated with less stigma. Surveys among large samples of the general population in Germany [13] and France [14] showed that endorsement of a mental health-mental illness continuum was associated with less fear, more empathy and less desire for social distance from a person with schizophrenia, depression, or alcohol dependence as described in a case vignette with no diagnostic label. An online-study of a convenience sample of 120 adults found continuum beliefs regarding schizophrenia associated with less negative stereotypes [15]. However, there have also been warnings of possible side effects of a continuity approach. Potentially, 'likeness-based' messages could increase notions of blame and foster the false belief that persons with mental illness only 'have to pull themselves together', thereby worsening stigma instead of reducing it [16,17]. So far, it has not been tested whether the provision of continuum information does change the stigma of mental disorder, and whether it carries any unwanted side effects.

In this study, we conduct an online survey experiment in a population sample in Germany to examine how information on the mental health-mental illness continuum affects attitudes towards a person with mental illness. The hypotheses tested in this study are conceptualized in Fig. 1. We assume that a continuum intervention reduces stigma, and that this effect is mediated by increasing continuity beliefs. Hence, we will first test the effect of a continuum intervention on continuity beliefs and stigma, and then examine whether the effect of the continuum intervention on stigma is mediated by continuity beliefs.

2. Methods

2.1. Sample

We conducted an online survey among persons > 15 years old from an established market research panel in Germany. Participants were contacted by email in November 2014 and asked to complete an online questionnaire. Sampling was stratified for age, gender and place of residence of the respondents, resulting in a sample matching the general population for these characteristics. A total of 12,321 email invitations were sent out, and respondents were included until the predefined quota for age, gender and place of residence were accomplished in the final sample of those completing the interview. Two thousand four hundred and eighty-five persons started the interview, 350 respondents were rejected because of full quota. Of 2135 respondents randomized, 456 dropped out before finishing the interview, resulting in a final sample of 1679 persons completing the entire interview. This final sample consisted of 51% women, 21% of the sample being 15–24 years, 14% 25–34 years, 19% 35–44 years, 16% 45–55 years, and 29% > 55 years of age, which corresponds exactly to the general population in Germany. Participants were, however, on average better educated than the general population: 44% had completed 12 or 13 years of schooling (general population: 27%), 34% 10 years of schooling (general

population: 29%), and 22% had completed 9 years of schooling or less (general population: 43%). The study was approved by the Greifswald University institutional review board.

2.2. Interview

2.2.1. Intervention

Respondents were randomly assigned one of three different conditions: They either received a text explaining the mental health-mental illness continuum ($n = 554$), a text of similar length and topic, but different message, describing a strict dichotomy of mental health and mental illness ($n = 530$), or no-text ($n = 595$). We were thus able to compare attitudes elicited after a continuum message to attitudes elicited absent of any message, and to attitudes elicited after an oppositely framed message. Both intervention texts were drafted to resemble a short newspaper article on mental illness. They contained reference to a fictitious study and a researcher "Dr. Harald Buch" endorsing the text's message, and were similar in length and language. Apart from the fictitious researcher and study, we were careful not to include false information in both texts. The continuum intervention text was headed by "Is there a sharp line between mental illness and mental health? No, it's a matter of degree", the dichotomy text was headed "How can we distinguish mental illness from mental health? There are clear differences." While the continuum text provided information on the high prevalence and different degree of severity of psychiatric symptoms, the dichotomy text focused on the unique experience of severe mental illness. So, for example, both interventions referred to "anhedonia, or 'loss of interest', a core symptom of depression", followed by different explanations from Dr. Buch. In the continuum intervention, he was cited "One in four persons in our study stated that they had experienced this at some point during the last two weeks. Some told us they experienced it strongly all the time, whereas others said they experienced it much less strongly and for shorter periods of time". In the dichotomy intervention, Dr. Buch stated "In mental illness, this means a complete inability to feel any pleasure. Such experiences are truly beyond the imagination of healthy people". For the full text of both interventions, see Appendix A. Participants were instructed to read the information carefully and answer the subsequent questions.

2.2.2. Mental illness case vignettes

After reading the intervention texts, or at the beginning of the interview in the no-text-condition, respondents were randomly assigned to read different versions of a case vignette of a woman, Anne, who experienced either symptoms of severe depression or acute schizophrenia. The case vignettes were adopted from vignettes used in representative population studies conducted in Germany that had been validated by trained experts in psychopathology [2]. They did not contain a diagnostic label. After reading the case vignettes, respondents answered questions regarding their attitudes and beliefs about Anne.

2.2.3. Continuum and differentness beliefs

Seven items enquired whether the respondents considered Anne's problem to be on a continuum from mental health to mental illness, and to what extent they considered Anne to be fundamentally different from other people. Answers were given on a five-point Likert-scale from 1 = don't agree at all to 5 = agree completely. Principal component factor analysis revealed two factors with an Eigenvalue > 1. We conducted oblique promax rotation, because we assumed the underlying latent constructs "continuum beliefs" and "belief in fundamental difference" to be related. Factor 1 (Eigenvalue 2.73, explained variance 39%), which we termed "continuity beliefs" comprised four items such as "Sometimes we are all at least a little like Anne, it is only a question of how pronounced this state is". Factor 2 (Eigenvalue 1.54, explained variance 22%) comprised items, such as "There is something about Anne that makes her fundamentally different from other people", which we termed "fundamental difference". For item wording and details of the factor analysis, see [online supplementary Table S1](#). Both sets of items showed acceptable internal consistency (alpha 0.74 and 0.70, respectively). Pearsons' correlation between the factors was 0.29. We calculated factor scores for both factors with unit variance and zero mean. Higher scores indicate greater belief in a continuum or stronger belief in fundamental differentness, respectively.

2.2.4. Social distance

The desire for social distance was elicited with an established scale of five items that asked respondents how willing they were to engage in various situations of everyday contact with Anne like moving next door or spend an evening socializing with her [18]. Answers were again given on five-point Likert-scales with the anchors 1 = "don't agree at all" and 5 = "agree completely". Similar to earlier studies using this scale, principal component factor analysis showed one factor with an Eigenvalue > 1 (2.99, explained variance 60%) [19]. For details see [online Table S2](#). This scale showed good internal consistency (alpha 0.82). Again we calculated a factor score, higher scores indicating greater willingness to interact with Anne and thus lower desire for social distance. We refer to this score as 'social acceptance'.

2.2.5. Negative stereotypes: blame, dangerousness and unpredictability

Seven items assessed negative stereotypes related to Anne. Principal component factor analysis of these items revealed two factors (see [online Table S3 for details](#)). The first factor "blame" (Eigenvalue 3.35, explained variance 48%) comprised items like "Anne is to blame for her problems" (alpha 0.85). The second factor "dangerous/unpredictable" (Eigenvalue 1.48, explained variance 21%) comprised items like "Anne is unpredictable", or "Anne is a danger to other people" (alpha 0.70). Again, we calculated two factor scores, higher scores indicating more blame and stronger perceived dangerousness.

2.2.6. Manipulation recall

At the end of the interview, we asked respondents who had received either the continuum or dichotomy intervention: "Remember the information about mental illness you read at the beginning of this survey. What was the most important message of Dr. Buch's study?" Three different possibilities were offered, with respondents choosing the one they believed to be most accurate:

- there is a continuum from mental health to mental illness;
- mental disorders cause a large proportion of sick leaves;
- mental illness and mental health are separate and completely different states of mind.

We created a dummy variable "correct recall" = 1 if respondents answered this question according to the intervention they received.

After completing the interview, participants were debriefed about the study with the statement: "The information text at the beginning of this survey was phrased deliberately in a one-sided manner in order to study the effect of different kinds of information on the way people respond to our questions. Generally, it is believed today that there is a continuum from mental health to mental illness. The cited study and the scientist Dr. Buch were made up for the purpose of this study and do not exist in reality".

2.2.7. Statistical analysis

Kruskal–Wallis and Chi² tests were used to compare baseline covariates across groups ([Table 1](#)). Almost all baseline covariates were well balanced. The distribution of the randomized illness descriptions was borderline significant ($P = 0.07$), with slightly fewer respondents receiving the schizophrenia vignette in the continuum intervention condition.

The average treatment effects of the continuum and dichotomy condition, compared to the "no-text" condition, on social distance, continuum beliefs, perceived differentness and negative stereotypes were estimated using multiple linear regression analysis. Regression models were adjusted for baseline covariates, which were prognostic of the outcome and imbalanced [20]. Residuals plots, quantile–quantile plots and Cook–Weisberg tests were used to assess normality and constant error variance. We used a median regression model for those dependent variables that had non-normal residuals. Additional models included interaction terms (type of intervention * disorder of the vignette) to test whether the effect of the intervention was modified by type of diagnosis (i.e. depression or schizophrenia).

Next, we analyzed whether treatment effects on stigma outcomes are mediated by continuity beliefs using linear structural equation models [21–23]. We report the proportion of the total effect mediated, which can be defined as the ratio of the natural indirect effect to the total effect [22].

Table 1
Sociodemographic characteristics of the three randomized groups ($n = 2135$).

	No intervention ($n = 733$)	Continuum text ($n = 698$)	Dichotomy text ($n = 704$)	P^*
Age, median (25th, 75th percentile)	40 (26, 55)	41 (24, 55)	41 (24, 55)	0.725
Women, n (%)	391 (53.3)	365 (52.3)	375 (53.3)	0.901
Education, n (%)				
8 years of schooling or less	180 (24.6)	153 (22.0)	158 (22.4)	0.382
10 years of schooling	239 (32.6)	222 (31.9)	250 (35.5)	
12–13 years of schooling	413 (42.8)	321 (46.1)	296 (42.1)	
Type of vignette				
Depression n (%)	360 (49.1)	385 (55.2)	363 (51.6)	0.071
Schizophrenia n (%)	373 (50.9)	313 (44.8)	341 (48.4)	

* P -value for overall difference between groups (continuous variables: Kruskal–Wallis test; categorical variables: Fisher's exact test).

Compared to the “no-text condition”, the dichotomy condition had lower odds of completing the interview ($OR = 0.7$, $P = 0.009$ from logistic regression adjusted for baseline covariates), which indicated that the missing-at-random assumption underlying the complete case analysis might be violated [24,25]. Thus, we performed inverse probability weighting [25] and multiple imputation by chained equations [24] as sensitivity analyses. Both missing data techniques produced very similar estimates, so we report complete case analyses only. Analyses were conducted using STATA version 12.1 (Stata Corporation, College Station, TX).

3. Results

On a descriptive level, stigma variables and continuity beliefs were associated in the expected direction. Continuity beliefs were related to lower perceptions of fundamental difference (Pearson's correlation coefficient R , -0.29 , $P < 0.001$), stronger social acceptance (R 0.25 , $P < 0.001$), lower perceived unpredictability (R -0.30 , $P < 0.001$), and slightly more blame (R 0.06 , $P < 0.05$). Table 2 shows the correlation matrix of stigma variables and continuity beliefs.

Following the mediation model summarized in Fig. 1, we organize the presentation of our analyses to answer the following questions:

- does a continuum intervention increase continuity beliefs as expected?

- does the intervention also affect stigma-related variables, such as differentness, social acceptance, blame, and unpredictability?
- are existing intervention effects on stigma variables mediated by changes in continuity beliefs?

3.1. Effect of the interventions on continuity beliefs

Both the continuum intervention and dichotomy intervention had significant effects on continuity beliefs in the expected direction (Table 3, first column), with estimated average treatment effects of 0.19 and -0.17, respectively. The effects were not different in study participants who received the depression or schizophrenia vignette (Wald test for significance of interaction, $P=0.16$, see online Table S4).

3.2. Effects of the interventions on stigma

Table 3 also shows unadjusted and adjusted models for perceived difference, social acceptance, blame, and perceived dangerousness. Reading the continuum text reduced perceived fundamental difference (adjusted model, -0.19 SD, $P = 0.001$), increased social acceptance (0.18 SD, $P = 0.003$), and reduced blame (-0.18 SD, $P = 0.05$), compared to the no-text condition. Reading the dichotomy text had opposite effects regarding perceived difference, increasing this belief by 0.25 SD ($P < 0.001$). However, the dichotomy text had no effect on social distance, and was, similar to the continuum text.

Table 2
Pairwise correlation coefficients for continuity beliefs and stigma variables.

	Continuity beliefs	Fundamental difference	Social acceptance	Blame	Unpredictability
Continuity beliefs	1.0000				
Fundamental difference	-0.29***	1.0000			
Social acceptance	0.25***	0.00	1.0000		
Blame	0.06*	-0.15***	-0.23***	1.0000	
Unpredictability	-0.30***	0.36***	-0.14***	-0.00	1.0000

* $P < 0.05$.
*** $P < 0.001$.

Table 3
Treatment effects of the intervention on continuity beliefs and stigma.

		Continuity beliefs				Fundamental difference							
		Model 1		Model 2 (adjusted)		Model 1		Model 2 (adjusted)		Model 1		Model 2 (adjusted)	
		β	P	β	P	β	P	β	P	β	P	β	P
Intervention													
No intervention (Ref.)													
Continuum		0.185	0.000	0.193	0.000	-0.196	0.001	-0.185	0.001	-0.185	0.001	0.001	0.001
Dichotomy		-0.174	0.001	-0.170	0.001	0.241	0.000	0.247	0.000	0.247	0.000	0.000	0.000
Disorder													
Depression (Ref.)													
Schizophrenia		-0.849	0.000	-0.852	0.000	0.378	0.000	0.371	0.000	0.371	0.000	0.000	0.000
		Social acceptance				Blame		Unpredictability					
		Model 1		Model 2 (adjusted)		Model 1		Model 2 (adjusted)		Model 1		Model 2 (adjusted)	
		β	P	β	P	β^a	P	β^a	P	β	P	β	P
Intervention													
No intervention (Ref.)													
Continuum		0.162	0.006	0.175	0.003	-0.177	0.066	-0.178	0.050	0.013	0.814	0.004	0.938
Dichotomy		0.066	0.262	0.067	0.256	-0.198	0.041	-0.156	0.089	0.097	0.091	0.096	0.094
Disorder													
Depression (Ref.)													
Schizophrenia		-0.240	0.000	-0.244	0.000	-0.174	0.029	-0.189	0.012	0.570	0.000	0.573	0.000

β : linear regression coefficient; standardized factor scores were regressed on type of intervention and vignette condition (model 1), adjusted for sociodemographic variables (model 2). Significant coefficients are in bold.

^a Median regression coefficient.

also associated with less blame. Neither intervention affected the perceived unpredictability of Anne.

Using Wald tests, we examined whether effects of the two oppositely framed interventions differed significantly. This was confirmed for effects on perceived difference ($P < 0.001$). For social acceptance, effects of the continuum and dichotomy intervention differed just below the 0.05 level of significance ($P = 0.07$). When restricting our analysis to those respondents who received one of the two intervention texts and who did recall the intervention correctly at the end of the interview ($n = 663$ out of 1068 from both intervention groups), social acceptance was significantly greater in those who had received the continuum vignette compared to the dichotomy vignette (0.16 SD, $P = 0.044$, see [online Table S5](#)). Coefficients did not differ significantly for blame ($P = 0.81$), suggesting that the observed reduction of blame was a non-specific intervention effect. [Table 3](#) also shows that the schizophrenia vignette provoked stronger perceptions of fundamental difference, less social acceptance, less blame and more perceived unpredictability and dangerousness compared to the depression vignette.

Interaction analyses revealed that treatment effects were not modified by the type of vignette condition the respondents received ([online Table S4](#)).

3.3. Mediation of intervention effects on stigma by continuity beliefs

So far, our analyses show that the continuum intervention increased belief in a symptom continuum of mental disorder, increased social acceptance, and reduced perceived fundamental difference. Next, we wanted to find out whether these intervention effects were in fact mediated by stronger continuity beliefs. Structural equation models adjusted for age, sex, education and type of vignette showed that 24.9% (95% confidence interval, CI: 6.3–43.4) of the total effect of the continuum intervention on perceived difference and 26.4% (CI 5.9–46.8) of its total effect on social acceptance were mediated by continuity beliefs. Values for the dichotomy intervention were slightly lower: 21.9% (CI 1.7–42.0) of the total effect on perceived difference and 23.2% (CI 0.9–45.5) of the (not significant) total effect on social acceptance were mediated by continuity beliefs. Our analyses are thus consistent with a partial mediation of the continuum intervention effect on stigma by increasing continuity beliefs.

4. Discussion

Presenting respondents with a text explaining the continuum of mental health and mental illness increased continuity beliefs, reduced notions of fundamental difference, and increased social acceptance. Intervention effects on fundamental difference and social acceptance were partially mediated by continuity beliefs. Our findings show that continuity beliefs can be increased by providing appropriate information, and that this increase contributes to a reduction in stigma. These effects did not differ significantly between schizophrenia and depression. No specific intervention effects of either continuum or dichotomy messages were found in relation to blame and dangerousness.

4.1. Limitations

Online experimental studies carry certain methodological problems. While the intervention can formally be delivered in a completely standardized way, users of the survey enjoy great freedom as to when, where and how intensely they partake in the study. Recall of the intervention was thus moderate at the end of the survey (62%), but in spite of this, intervention effects were still visible. Another problem in online studies is sampling bias because

surveys are restricted to Internet users. By introducing quota for age, sex and region, we could ensure a sample matching the German population for these characteristics, but our achieved sample was more highly educated than the general population. To address this limitation and find out whether intervention effects differed in persons with higher versus lower education, we repeated our analyses introducing interaction terms for type of intervention and education. These interactions remained below the level of significance ($P = 0.11$ – 0.78), so we assume that education did not have a strong influence on intervention effects. Finally, since we did not conduct a follow up study, we do not know how sustained the changes induced by our intervention are.

4.2. Continuum messages in anti-stigma work

The effects of continuum messages on social acceptance and perceived differentness regarding a person with mental illness found in this study indicate that such messages are potentially useful in anti-stigma campaigns. Moreover, fears that continuum messages could increase blame [16,17] were not corroborated by our study. So far however, continuum messages have not played a prominent role in anti-stigma work. In a qualitative consensus development study evaluating different messages for their usefulness in population wide anti-stigma campaigns [26], Clement et al. found continuum messages ranking only 6th among 10 proposed messages. In that study, a panel of stigma researchers, clinicians, persons with lived experience and relatives rated different anti-stigma messages. While persons with experience of mental disorders seemed to support continuity messages, psychiatrists were critical: They gave continuum messages a usefulness-rating of only 2.5 out of 10, compared to an overall rating of continuum messages of 7 out of 10 by the entire panel.

4.3. Continuum messages in psychiatry

Beyond anti-stigma work, our study suggests that generally, stressing the continuous nature of mental distress in public messages on psychiatric research and mental illness could be a way to reduce the stigma of mental illness. Media analyses of the portrayal of mental illness have so far focused on false stereotypes [27] or unbalanced etiological information [28], but not on continuity messages. Hence, it is unknown to what extent the continuous nature of mental health is mirrored in media coverage of mental health problems, but we assume that continuity messages are rare. There seems to be a natural tension between a continuous model of mental health and a medical approach aiming at a firm diagnosis of mental illness. After all, establishing a diagnosis and discerning healthy from ill persons is among the public's core expectations from psychiatrists [29]. Integrating a mental health-mental illness continuum into a useful concept of mental disorder is thus an ongoing challenge to academic psychiatry. Current diagnostic systems, such as ICD-10 reflect the continuous nature of mental health by linking psychiatric diagnoses to the number and severity of present symptoms, thus establishing thresholds on a continuum [30]. By stressing these thresholds, however, diagnostic systems seem to downplay rather than emphasize the continuum. Debates on 'at risk' stages or 'sub-clinical phenotypes' [31] further explore the continuum of mental distress, frequently defining new and lower thresholds to identify persons at risk of developing a mental disorder [32]. The new DSM-5 has started to incorporate dimensional approaches within selected diagnostic groups, such as personality disorders or autism spectrum disorder [33], and the controversial Research Domain Criteria (RDoC) proposed by the National Institute of Health are conceptualized as continuous functional domains [34]. According to our findings, advancing and promulgating a consistent

conceptualization of mental illness as on a continuum with mental health would probably help reduce the stigma of mental illness.

4.4. Relevance of different stigmatizing beliefs

The intervention did not affect all elicited domains of stigmatizing beliefs in a similar manner. Notions of fundamental differentness and the desire for social distance (as an indicator of individual discrimination) both represent central components of the stigma process, separation and discrimination [11]. The intervention effect on these two stigma domains is thus underlining the potential usefulness of a continuum approach for combating stigma in general. The importance of negative stereotypes like being responsible for ones condition or being unpredictable, however, differs between different mental disorders [35]. Blame, which was not specifically affected by our interventions, is a particularly relevant for the stigma of substance use disorders, but less so for schizophrenia and depression [36]. The stereotype of dangerousness and unpredictability, however, is relevant particularly for the stigma of schizophrenia [35], so the missing impact of continuity messages on this stigma component may also indicate possible limitations of a continuity based anti-stigma approach.

5. Conclusion

Our study adds to the existing evidence of a robust relationship between continuity beliefs and lower stigma by demonstrating that it is possible to challenge these beliefs and to improve stigma by promulgating a continuous model of mental health. Presumably, sustained changes in our portrayal of mental illness could have far stronger effects than a one-time online intervention as examined in this study.

Disclosure of interest

The authors declare that they have no competing interest.

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Appendix A

A: Continuum intervention:

Is there a sharp line between mental illness and mental health? No, it's a matter of degree.

Most people think that there is a sharp line between mental health and mental illness. But this is not true.

A recent study published in World Psychiatry shows that symptoms of mental illness are experienced by almost everybody at some point in their life. Even seemingly strange symptoms like hearing voices are common.

Dr. Harald Buch from Greifswald University, one of the authors of the study, states: "Actually, almost everybody experiences symptoms of mental illness. It is just a question of how long and how severe".

Take anhedonia, or "loss of interest", a core symptom of depression. Dr. Buch: "One in four persons in our study stated that they had experienced this at some point during the last two weeks. Some told us they experienced it strongly all the time whereas others said they experienced it much less strongly and for shorter periods of time". Only when several symptoms occur at the same

time with a certain degree of severity, a condition is called a mental illness.

Scientists call this a continuum: Nobody is 100% mentally healthy, and nobody is 100% mentally ill. Instead, everybody experiences symptoms of mental distress to some degree. "We need the term mental illness to define who needs treatment and who doesn't", says Dr. Buch. "But in terms of symptom experience, it is only a matter of severity. It is not a question of All or Nothing, it is a continuum".

B: Comparison intervention:

How can we distinguish mental illness from mental health? There are clear differences.

For many persons, it seems unclear where exactly the boundary between mental illness and mental health is. But in fact, there are clear differences.

A recent study published in World Psychiatry shows that people who have a mental illness experience symptoms that are very different from normal experiences. Looking at these symptoms, it is pretty straight forward to tell apart mental illness from mental health.

Dr Harald Buch from Greifswald University, one of the authors of the study, states: "People with mental illness think and feel in a way that is profoundly different from others. What they experience is way outside the experience of healthy people".

Take anhedonia, or "loss of interest", a core symptom of depression. Dr Buch: "In mental illness, this means a complete inability to feel any pleasure. Such experiences are truly beyond the imagination of healthy people".

A skilled interviewer knows how to ask about these experiences. As Dr. Buch puts it "If these abnormal states of mind are detected, a diagnosis of mental illness can be made with great certainty".

According to Dr. Buch, mental illness thus always involves a state of mind that is fundamentally different from normal. "Looking at these core symptoms, it's either health or illness, there is no in-between. We need to identify these distinct illnesses, so we can give people specific treatment".

Appendix B. Supplementary data

Supplementary data associated with this article can be found, in the online version, at <http://dx.doi.org/10.1016/j.eurpsy.2015.11.006>.

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