

# Mental illness stigma and suicidality: the role of public and individual stigma

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**Aims.** Suicide rates are increased among unemployed individuals and mental illness stigma can contribute to both unemployment and suicidality. Persons with mental illness perceive negative attitudes among the general public and experience discrimination in their everyday life (=public stigma components) potentially leading to self-stigma and anticipated discrimination (=individual stigma components). Previous research found evidence for an association between aspects of mental illness stigma and suicidality, but has not yet clarified the underlying pathways explaining how different stigma components interact and contribute to suicidal ideation.

**Method.** Public and individual stigma components and their association with suicidal ideation were examined among 227 unemployed persons with mental illness. A path model linking public stigma components (experienced discrimination, perceived stigma) with suicidal ideation, mediated by individual stigma components (anticipated discrimination, self-stigma), was examined using structural equation modelling within Mplus.

**Results.** Our sample was equally split in terms of gender, on average 43 years old and about half reported no suicidal ideation during the past 30 days. In bivariate analyses all stigma components were significantly associated with suicidal ideation. In the path model and controlling for symptoms, the association between experienced discrimination and suicidal ideation was fully mediated by anticipated discrimination and self-stigma. Perceived stigma's contribution to suicidal ideation was fully mediated by anticipated discrimination, but not by self-stigma.

**Conclusions.** In general, programmes addressing multiple stigma components seem to be most effective in improving suicide prevention. Besides interventions targeting negative attitudes and discriminating behaviours of the general public, programmes to support persons with mental illness in coping with perceived and experienced stigma could improve suicide prevention. Future studies should test the short- and long-term effects of such interventions on suicidality and further investigate the role of stigma coping (e.g. secrecy) and emotional consequences (e.g. hopelessness and loneliness) for the association between stigma components and suicidality.

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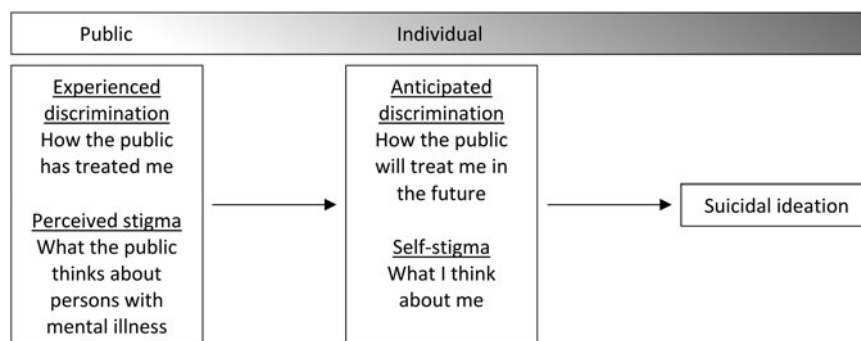
**Key words:** Individual stigma, mental illness stigma, public stigma, suicidality, unemployment.

## Introduction

Persons with mental illness are additionally distressed by negative attitudes and discriminating behaviour of the general public (Rüsç *et al.* 2005). Past efforts to decrease public stigma were only partly successful, improving mental health literacy levels among the general population but not changing the social rejection of persons with mental disorders (Schomerus *et al.* 2012). Therefore, persons with mental illness still face negative stereotypes (e.g. people with mental illness are incompetent), prejudice (e.g. 'Yes, applicants with mental illness are incompetent and I don't like them') and discrimination (e.g. 'I will not hire a person

with a mental illness'), which are the central elements of mental illness stigma (Rüsç *et al.* 2005). Besides perceiving negative attitudes ('What the public thinks about persons with mental illness like me'), persons with mental illness also experience discrimination in their everyday lives ('How members of the general public have treated me'). As those two aspects reflect attitudes and behaviours of the general public, for the purpose of this paper we will refer to perceived stigma and experienced discrimination as public stigma components. In our model (Fig. 1) public stigma components affect the way individuals with mental illness think about themselves (self-stigma) and whether they anticipate future discrimination (anticipated discrimination). Self-stigma occurs if and when negative stereotypes are internalised ('Because I have a mental illness, I am incompetent'), leading to poor self-esteem and behavioural futility (Corrigan *et al.* 2016). Based on personal experience and stigma perception, persons

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**Fig. 1.** Multi-component model of the association between mental illness stigma and suicidal ideation from the perspective of persons with mental illness.

with mental illness may anticipate future discrimination ('The public will treat me unfairly in the future'), often motivating them to keep their illness secret and avoid social situations for fear of being rejected (Link *et al.* 1989). We refer to self-stigma and anticipated discrimination as individual aspects of stigma since they reflect individual views and reactions to stigma. Among persons with mental illness public and individual stigma components were found to contribute to low help-seeking rates, poor clinical outcomes, social isolation, emotional distress and reduced access to housing and employment (Rüsch *et al.* 2005).

One aspect which only recently attracted scientific attention is stigma's contribution to suicidality. Perceived stigma was associated with increased suicidal ideation among persons labelled as mentally ill or with deficits in emotional clarity (Oexle *et al.* 2016a; Wang *et al.* 2016). Stigma stress (occurring when perceived stigma-related harm exceeds personal coping resources) was associated with suicidal ideation, mediated by social isolation (Xu *et al.* 2016a). In longitudinal studies self-stigma or an increase in stigma stress predicted suicidal ideation after 1 year (Oexle *et al.* 2016b; Xu *et al.* 2016b). Some studies already analysed pathways between public and individual stigma components on suicidal ideation: Oexle *et al.* (2016a) found that secrecy and hopelessness mediated the association between perceived stigma and suicidal ideation. One other study found discrimination experiences to contribute to suicidal ideation by leading to self-stigma, social isolation and hopelessness (Farrelly *et al.* 2015). Based on these findings, addressing public and individual stigma could contribute to suicide prevention (Rüsch *et al.* 2014). However, previous studies mostly focused on single stigma components. More research on different roles of multiple stigma components is needed in order to inform suicide prevention programmes. The link between stigma and suicidality among unemployed individuals is particularly relevant since mental illness

stigma contributes to high unemployment rates among persons with mental illness and suicide rates are increased among unemployed persons (Stuart 2006; Milner *et al.* 2013).

Therefore, the present study examined a multi-component model of the association between public and individual stigma components and suicidal ideation from the perspective of persons with mental illness. Building on previous findings we developed a path model linking public stigma components as perceived and experienced by individuals with mental illness (experienced discrimination, perceived stigma) with suicidal ideation, mediated by individual stigma components (anticipated discrimination, self-stigma) (Fig. 1). We expected: (i) all included stigma components to be positively associated with suicidal ideation; and (ii) the associations between public stigma components and suicidal ideation to be at least partly mediated by individual stigma components.

## Methods

### Study design and participants

Data were derived from the AloHA project (AloHa: Arbeitslosigkeit und Hilfe-Aufsuchen), a study on unemployed persons with mental health problems. The study was advertised at unemployment agencies in southern Germany. Interested individuals completed a short telephone screening interview to determine eligibility. Inclusion criteria were being aged between 18 and 64 years and current unemployment (persons receiving full disability pension were excluded). Furthermore, individuals had to show psychological distress as indicated by a score  $\geq 13$  on the K6 Psychological Distress Scale (Kessler *et al.* 2003) OR have current alcohol- or substance abuse with a score  $\geq 1$  on items 2–4 of the CAGE-AID screening tool for current alcohol- and substance-use disorders (Brown & Rounds 1995). Conservatively and for the

sake of specificity, we omitted item 1 (cut down) from the CAGE-AID score because in previous studies nearly half of normal controls endorsed that item (see Hinkin *et al.* 2001). In addition to fulfilling either the K6 or CAGE-AID criterion, participants needed to reach a score of  $\geq 17$  (range of possible scores: 12–60) on the WHO-Disability Assessment Schedule 2.0 (Üstün *et al.* 2010), corresponding approximately to the 85th general population percentile and to the average disability level of persons with one mental disorder (Andrews *et al.* 2009). We thus only included participants with significant illness-related disability.

In total, 590 persons participated in the screening of whom 331 fulfilled eligibility criteria and were invited to participate in a questionnaire survey. Three hundred and one persons completed the baseline assessment. Participants with increased suicidality scores were offered to discuss treatment options with a psychiatrist and received information leaflets about nearby mental health services and emergency help-lines.

### Measures

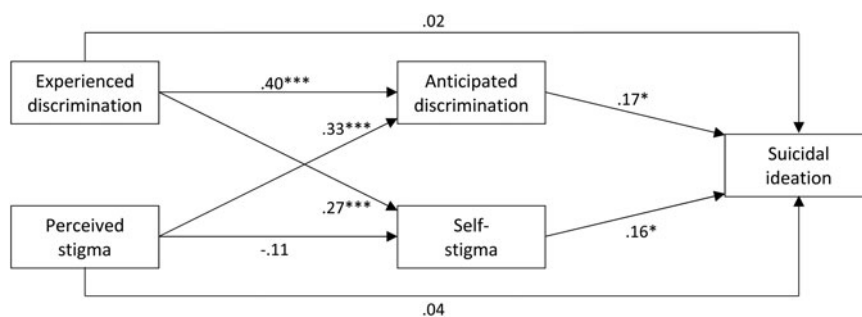
The 5-item Suicidal Ideation Attributes Scale (SIDAS) was used to assess current suicidal ideation (van Spijker *et al.* 2014). On the first item, participants rated suicidal thoughts during the past 30 days on a 11-point scale (0/never – 10/always). Persons who scored 1 or more were then asked to which extent these thoughts were controllable (0/no control at all – 10/full control), distressing (0/not at all – 10/extremely), interfering with their daily life (0/not at all – 10/extremely), and how close they were to a suicide attempt (0/not at all close – 10/have made an attempt). Item two (controllability) was reverse coded and a sum score from 0 to 50 indicated current suicidal ideation (Cronbach's alpha in this sample  $\alpha = 0.94$ ).

Experienced discrimination was assessed by the respective subscale of the Internalized Stigma of Mental Illness Inventory (ISMI; Ritsher *et al.* 2003). The subscale consists of five statements reflecting typical discrimination and participants rated the extent to which those statements reflected their personal experience on 4-point Likert scales (1/strongly disagree – 4/strongly agree; e.g. 'People ignore me or take me less seriously just because I have a mental illness'). A total experienced discrimination mean score was calculated across all items (Cronbach's alpha in this sample  $\alpha = 0.89$ ). Perceived stigma was assessed by the Perceived Devaluation-Discrimination Questionnaire (PDDQ; Link *et al.* 1989). Participants indicated whether 12 statements reflected their perception of public attitudes towards persons with mental illness on 6-point Likert scales (1/not true at all – 6/very true; e.g., 'Most people think less of a person who

has been in a mental hospital'), with higher mean scores reflecting more perceived stigma (Cronbach's alpha in this sample  $\alpha = 0.89$ ). The anticipation of being discriminated was assessed by the Questionnaire on Anticipated Discrimination (QUAD; Gabbidon *et al.* 2013). Participants rated their agreement with 14 statements about discrimination expectations on 4-point Likert scales (1/strongly disagree – 4/strongly agree; e.g. 'If the police know I have a mental health problem they will treat me unfairly'). A total anticipated discrimination score was calculated as the mean across all items (Cronbach's alpha in this sample  $\alpha = 0.91$ ). Self-stigma was measured using the self-apply subscale of the Self-stigma of Mental Illness Scale Short Form (SSMIS-SF; Corrigan *et al.* 2012a). Participants rated their agreement with five statements reflecting self-stigmatising attitudes on 9-point scales (1/strongly disagree – 9/strongly agree; e.g., 'Because I have a mental illness, I am dangerous'). A self-stigma sum score from 5 to 45 was calculated across all items (Cronbach's alpha in this sample  $\alpha = 0.64$ ). Psychopathology was measured using a 9-item version of the revised Symptom Checklist 90 (Klaghofer & Brähler 2000), yielding a total mean symptom score.

### Statistical analyses

Only participants who identified themselves as having a mental illness in response to a filter question ('I have a mental illness/see myself as having a mental illness or am impaired due to mental illness') were asked to provide information on experienced discrimination, anticipated discrimination and self-stigma associated with mental illness. Therefore, 227 individuals were included in the statistical analyses. Using SPSS Version 21, we compared those 227 individuals *v.* the 74 excluded participants who did not self-identify as mentally ill regarding suicidal ideation, perceived stigma, and socio-demographic variables (*t*-tests for continuous variables and chi-square ( $\chi^2$ ) tests for categorical variables) to rule out potential bias introduced by the exclusion. Variable distributions were checked visually, characteristics of the sample were described and correlations between the independent and dependent variables were calculated (Pearson correlations for continuous independent variables and point-biserial correlations for categorical independent variables). Finally, the hypothesised model (Fig. 2) was tested as a structural equation model (SEM) using maximum-likelihood estimation within MPLus Version 7.4 (Muthén & Muthén 1998). In line with previous recommendations (Kenny 2015) acceptable model fit is indicated by a non-significant  $\chi^2$ -statistic, CFI > 0.90, TLI > 0.90, RMSEA < 0.08 and SRMR < 0.08. Bootstrapping was used to ensure robust standard



**Fig. 2.** Path model linking public and individual stigma components with suicidal ideation. All paths were controlled for symptoms. \* $p < 0.05$ , \*\*\* $p < 0.001$ .

errors and confidence intervals (bootstrap replications: 5000). Estimated paths were controlled for potential confounding effects.

**Results**

Regarding psychological distress and substance use criteria the analysed sample consisted of 154 persons fulfilling criteria based on the K6, 16 persons fulfilling criteria based on the CAGE-AID and 57 persons fulfilling criteria of both K6 and CAGE-AID. Compared with the 227 individuals included in the analyses, persons excluded due to the lack of self-identification as mentally ill were less distressed by suicidality ( $M = 8.0$ ,  $S.D. = 10.9$ ;  $M = 3.0$ ,  $S.D. = 7.0$ ;  $t = -4.5$ ,  $p < 0.001$ ) and symptoms ( $M = 3.2$ ,  $S.D. = 0.7$ ;  $M = 2.4$ ,  $S.D. = 0.7$ ;  $t = -8.1$ ,  $p < 0.001$ ). No significant differences between the two groups were found regarding perceived stigma, age, length of lifetime unemployment and gender (all  $p > 0.15$ ).

As expected the distribution of suicidal ideation was skewed, with nearly half of participants (47%) reporting no suicidal thoughts during the past 30 days

(Table 1). Compared to the midpoint of the scales, on average medium experienced discrimination, medium perceived stigma, medium anticipated discrimination, low to medium self-stigma and medium symptom levels were observed. Participants were on average 43 years old and about half female. The average length of lifetime unemployment was about 5 years, ranging from 3 days up to 30 years.

Suicidal ideation was significantly and positively associated with experienced discrimination, perceived stigma, anticipated discrimination, self-stigma and symptoms (all  $p < 0.01$ ). No significant associations with suicidal ideation were found for age, gender and length of lifetime unemployment. Therefore, only symptoms were included as a confounder in the subsequent SEM analysis (Table 2).

Fit indices of the final model suggest acceptable fit (Table 3). Path estimates are shown in Fig. 2. Previously observed direct effects of public stigma components (experienced discrimination, perceived stigma) on suicidal ideation lost significance, while individual stigma variables significantly contributed

**Table 1.** Sample characteristics,  $N = 227$

Variables (and range of possible scores, where appropriate)	Mean (SD), or $n$ , %	Percentiles		
		25	50	75
Suicidal ideation (SIDAS), 0–50	8.0 (10.8)	0.0	2.0	14.0
Experienced discrimination (ISMI), 1–4	2.3 (0.8)	1.6	2.2	2.8
Perceived stigma (PDDQ), 1–6	4.3 (0.9)	3.7	4.3	5.0
Anticipated discrimination (QUAD), 1–4	2.2 (0.6)	1.8	2.2	2.6
Self-stigma (SSMIS-SF), 5–45	14.4 (6.7)	9.0	13.0	19.0
Symptoms (SCL9), 1–5	3.2 (0.7)	2.7	3.2	3.8
Age (years)	43.1 (11.0)	34.0	45.0	52.0
Gender				
Male (0)	113, 50%	–		
Female (1)	114, 50%			
Lifetime unemployment (months)	65.0 (59.6)	24.0	48.0	96.0

**Table 2.** Pearson or point-biserial correlations between independent and outcome variables,  $N = 227$ 

Independent variables	Suicidal ideation (SIDAS) (past 30 days)
Experienced discrimination (ISMI)	0.30**
Perceived stigma (PDDQ)	0.20*
Anticipated discrimination (QUAD)	0.35**
Self-stigma (SSMIS-SF)	0.26**
Symptoms (SCL-9)	0.40**
Age (years)	-0.06
Gender (0 = male, 1 = female)	-0.05
Lifetime unemployment (months)	0.00

\*\* $p < 0.001$ ; \* $p < 0.01$ .

to the outcome. Total indirect effects were significant for experienced discrimination ( $\beta = 0.11$ , 95%CI 0.03–0.21), but not for perceived stigma ( $\beta = 0.04$ , 95%CI -0.03 to 0.11). Experienced discrimination indirectly contributed to suicidal ideation via both self-stigma ( $\beta = 0.01$ , 95%CI 0.01–0.11) and anticipated discrimination ( $\beta = 0.07$ , 95%CI 0.01–0.15). Perceived stigma increased suicidal ideation via anticipated discrimination ( $\beta = 0.06$ , 95%CI 0.01–0.13), but not via self-stigma ( $\beta = -0.02$ , 95%CI -0.06 to 0.01). The estimated model explained 22% of the total variance in suicidal ideation ( $R^2 = 0.22$ ). We also tested an alternative model, including covariance between experienced discrimination and perceived stigma as well as between anticipated discrimination and self-stigma. As the fit was bad, the model was rejected.

## Discussion

Our findings provide initial evidence how public and individual aspects of stigma contribute to suicidal ideation among unemployed persons with mental health problems. As hypothesised and in line with previous findings, all included stigma components were positively associated with suicidal ideation. In the path analysis, we found that individual stigma components completely mediated the association between public stigma and suicidal ideation.

More experienced discrimination increased both self-stigma and anticipated discrimination, which

then both contributed to suicidal ideation. While we expected the same pattern for perceived stigma, it was only associated with anticipated discrimination, not with self-stigma. This is in line with previous observations that the sole awareness of stigma does not always lead to self-stigma, as perception alone is not necessarily self-relevant (Link *et al.* 1989; Corrigan *et al.* 2009). A recent investigation based on a different sample than the one included in the current study found perceived stigma to be associated with suicidal ideation only among persons labelled as mentally ill for whom stigma was self-relevant (Oexle *et al.* 2016a). Although all included individuals in the current study identified themselves as having a mental illness, some participants might have judged perceived stigma as less self-relevant. Nevertheless, as it leads to increased anticipated discrimination, perceived stigma contributed to suicidal ideation. While no previous study examined the effect of anticipated discrimination on suicidal ideation, we found a robust association between the two. As the anticipation of being discriminated is common among persons with mental illness, even if discrimination is not experienced (Thornicroft *et al.* 2009; Lasalvia *et al.* 2013), this finding is noteworthy and deserves more scientific attention. While our model included public stigma as perceived and experienced by persons with mental illness as well as individual stigma components, we did not include stigma coping and emotional consequences as potential mediators. In line with previous findings (Farrelly *et al.* 2015; Oexle *et al.* 2016a; Xu *et al.* 2016a) loneliness and hopelessness could mediate the association between stigma components and suicidal ideation. In contrast to earlier studies (Milner *et al.* 2013) we did not find an association between the length of unemployment and suicidal ideation.

Findings on the association between mental illness stigma and suicidal ideation are rare and previous studies employed heterogeneous study designs mainly focused on single stigma components. Additionally, some previous findings were subject to bias as analyses were not controlled for confounding effects such as symptom levels or binary outcome measures were used. Our study addressed a meaningful gap by analysing data derived from unemployed individuals, a hard to reach population with increased

**Table 3.** Fit indices of the final path model

$N$	df	$p(\chi^2)^*$	CFI*	TLI*	RMSEA*	SRMR*
227	17	0.11	0.99	0.92	0.08	0.01

\*Acceptable fit is indicated by a non-significant  $\chi^2$ , CFI > 0.90, TLI > 0.90, RMSEA < 0.08, SRMR < 0.08 (Kenny 2015).

suicide rates. A continuous outcome measure was used and our analyses accounted for the complexity of mental illness stigma as perceived and experienced by people with mental illness as well as controlled for symptoms. The generalisability of findings is limited due to self-selection of participants and the sampling criteria. As merely unemployed persons with mental health problems were included, associations might be different in other samples. However, our results are in line with previous findings among other samples and lifetime unemployment was considered as a potential confounding variable. Due to cross-sectional data no firm conclusions about causality can be drawn.

Nevertheless, the present study provides meaningful information for future programmes targeting mental illness stigma in order to improve suicide prevention. In general, multi-faceted approaches targeting both public and individual stigma components are likely to be most effective. Perceived stigma and experienced discrimination among persons with mental illness could be reduced by interventions targeting negative attitudes and discriminating behaviour of the general public, such as programmes including social contact with stigmatised persons and education (Corrigan et al. 2012b; Thornicroft et al. 2016). In line with our results, such interventions are likely to also reduce individual stigma components (Evans-Lacko et al. 2012). Additionally, persons with mental illness should be supported in coping with perceived stigma and experienced discrimination. While self-stigma can be reduced by interventions using psycho-education and peer support (Mittal et al. 2012), evidence for programmes reducing anticipated discrimination is lacking. Future research should examine short- and long-term effects of anti-stigma interventions on suicidality.

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### Conflict of Interest

None.

### Ethical Standards

All individuals gave their written informed consent prior to their participation. The study was approved

by the Ethics Committee of Ulm University (reference number: 344/13).

### Availability of Data and Materials

Participants provided written informed consent under the condition of confidentiality of their data including restricted access of third parties. Therefore, data cannot be shared publicly.

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