Eur Arch Psychiatry Clin Neurosci (2014) 264:35–43
DOI 10.1007/s00406-013-0412-5

ORIGINAL PAPER

Emotional reactions to involuntary psychiatric hospitalization and stigma-related stress among people with mental illness

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Received: 12 February 2013 / Accepted: 5 May 2013 / Published online: 21 May 2013

Abstract Compulsory admission to psychiatric inpatient treatment can be experienced as disempowering and stigmatizing by people with serious mental illness. However, quantitative studies of stigma-related emotional and cognitive reactions to involuntary hospitalization and their impact on people with mental illness are scarce. Among 186 individuals with serious mental illness and a history of recent involuntary hospitalization, shame and self-contempt as emotional reactions to involuntary hospitalization, the cognitive appraisal of stigma as a stressor, self-stigma, empowerment as well as quality of life and self-esteem were assessed by self-report. Psychiatric symptoms were rated by the Brief Psychiatric Rating Scale. In multiple linear regressions, more self-stigma was predicted independently by higher levels of shame, self-contempt and stigma stress. A greater sense of empowerment was related to lower levels of stigma stress and self-contempt. These findings remained significant after controlling for psychiatric symptoms, diagnosis, age, gender and the number of lifetime involuntary hospitalizations. Increased self-stigma and reduced empowerment in turn predicted poorer quality of life and reduced self-esteem. The negative effect of emotional reactions and stigma stress on quality of life and self-esteem was largely mediated by increased self-stigma and reduced empowerment. Shame and self-contempt as reactions to involuntary hospitalization as well as stigma stress may lead to self-stigma, reduced empowerment and poor quality of life. Emotional and cognitive reactions to coercion may determine its impact more than the quantity of coercive experiences. Interventions to reduce the negative effects of compulsory admissions should address emotional reactions and stigma as a stressor.

Keywords Compulsory admission · Coercion · Shame · Self-stigma · Empowerment

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Introduction

Compulsory psychiatric inpatient treatment of people with mental illness is practiced worldwide while its justification and effects remain a matter of debate [1, 2]. Clinical benefits of compulsory inpatient treatment appear to be limited, and social outcomes may even deteriorate following involuntary admission, including indices of social inclusion such as employment and social contacts [3, 4]. Recent research has focused on how people with mental illness experience involuntary treatment [5] and on factors associated with perceived coercion [6–8]. In qualitative studies, loss of autonomy and self-esteem as well as strong emotional reactions such as feeling devalued, stigmatized and

dehumanized were common consequences of involuntary admission [4, 9]. People with mental illness described more frequent experiences of discrimination following involuntary inpatient treatment [10], which is consistent with quantitative findings among people with schizophrenia [11]. A user-led qualitative study underlined the role of emotional reactions to involuntary treatment [12].

Thus, previous research highlights the relevance of subjective views of people experiencing involuntary psychiatric treatment. However, quantitative studies on stigma-related cognitive as well as emotional reactions to involuntary hospitalization are scarce. A longitudinal study on stigma and coercion in outpatient settings found that coercion led to more perceived stigma and to lower levels of quality of life and self-esteem [13]. This is consistent with coercion increasing the vulnerability to self-stigma and public stigma which remain common in Western societies [14, 15]. But it is poorly understood which cognitive and emotional factors associated with stigma and compulsory admission render individuals with serious mental illness more vulnerable to self-stigma and to decreased empowerment.

Building on the research findings outlined above, in this quantitative study, we examined predictors of self-stigma and empowerment among people with a history of recent compulsory admission. Self-stigma and empowerment can be conceptualized as opposite ends of a continuum [16, 17]. High self-stigma and low empowerment are typically associated with negative outcomes such as poor quality of life and low self-esteem [18]. As predictors of self-stigma and empowerment, we focused on emotional reactions to involuntary hospitalization in terms of shame and self-contempt and on stigma-related stress (Fig. 1). Shame and self-contempt are self-directed and aversive negative emotions that are often associated with psychopathology [19–21]. The two emotions differ in the sense that shame, but not self-contempt, requires an imagined external observer [19]. Furthermore, shame can be seen as the emotional side of self-stigma [22]. Individuals prone to both of these emotional reactions to involuntary admission are more likely to internally and globally attribute the negative experience of coercive treatment, potentially heightening its negative effects.

The stigma associated with mental illness has a range of negative consequences for people with mental illness [23–25]. Stress-coping models [26] posit that stigma as a stressor does not affect the stigmatized individual as a passive object; on the contrary, the individual's perceptions of stigma as potentially harmful to oneself (primary appraisal) and of one's personal resources to cope with stigma (secondary appraisal) influence whether stigma becomes a relevant stressor for the individual [26, 27]. According to this model, stigma stress only occurs if and when perceived stigma-related harm (primary appraisal) exceeds the person's perceived coping resources (secondary appraisal). Stress-coping models of stigma are well-established among other minorities [26], and there is increasing evidence for their validity among people with serious mental illness [28, 29].

Our study was designed to test the following three hypotheses. First, we expected both increased self-stigma and decreased empowerment to be predicted by higher levels of shame and self-contempt about one's involuntary hospitalization and by increased stigma stress. Second, we anticipated that more self-stigma and less empowerment would predict lower levels of quality of life and self-esteem. Third, we expected that self-stigma and empowerment would mediate the impact of predictor variables (shame, self-contempt, stigma stress) on both outcomes (quality of life, self-esteem).

Methods

Participants

Participants were recruited for a larger controlled trial of an intervention including psychoeducation, crisis cards and preventive monitoring to reduce involuntary psychiatric hospitalizations among people with serious mental illness in the Canton of Zürich, Switzerland (for more details of the study context and design see the study protocol [30] and www.zinep.ch). For the current study, we used the pre-intervention cross-sectional baseline data provided by 186 participants that were recruited in four psychiatric hospitals in the Canton of Zürich (for details of recruitment procedures, see [30]). In Switzerland, there is no compulsory community treatment, and in the Canton of Zürich, all physicians have the right to mandate compulsory admission to psychiatric inpatient care.

Participants had to meet the following inclusion criteria: (1) at least one involuntary hospitalization during the past 24 months, (2) between 18 and 65 years of age, (3) residency in the Canton of Zürich and (4) ability to give written informed consent. Exclusion criteria were an organic mental disorder, mental retardation or insufficient German language skills (for details of recruitment, see [30]). The study was approved by the regional ethics committee of Zürich. After complete description of the study to participants, written informed consent was obtained. Data were collected from 2010 to 2012; participants were on average about 43 years of age and 42 % male (details in Table 1). The most common psychiatric diagnoses, according to ICD-10 [31] and available from hospital charts, were substance-related (43 %), psychotic (27 %) and affective disorders (43 %). The number of lifetime involuntary psychiatric hospitalizations was

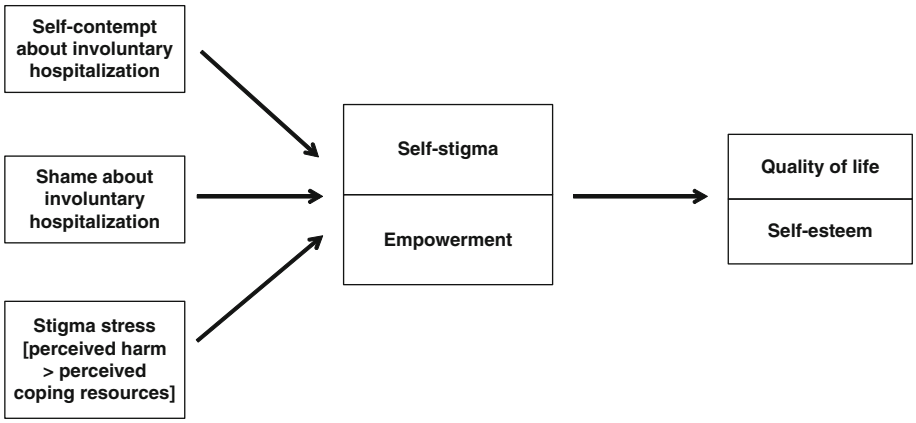

Fig. 1 Model of emotional reactions to involuntary hospitalization and of stigma stress as predictors of self-stigma, empowerment, quality of life and self-esteem

Table 1 Descriptive statistics and bivariate correlations of predictor variables

	$M \pm$ SD; range or %	Gender ($f = 0$, $m = 1$)	Age	Invol. hosp.	Psych. symptoms	Self-contempt	Shame	Stigma as harmful	Coping resources
Gender % male	42 %	–							
Age	43.1 ± 11.6; 19–64	−0.05	–						
Involuntary hospitalizations, lifetime	3.7 ± 5.1; 1–36	0.00	0.10	–					
Psychiatric symptoms[a]	42.3 ± 10.1; 25.0–78.0	−0.03	−0.16*	0.04	–				
Self-contempt	3.3 ± 2.7; 1–9	−0.16*	0.09	0.11	0.07	–			
Shame	5.0 ± 3.1; 1–9	−0.15*	0.07	0.12	0.01	0.57***	–		
Appraisal of stigma as harmful	3.4 ± 2.0; 1–7	−0.16*	−0.02	0.19*	0.21**	0.42***	0.42***	–	
Appraisal of resources to cope with stigma	5.3 ± 1.4; 1.8–7	0.14	−0.08	0.05	−0.08	−0.33***	−0.11	−0.41***	–
Stigma stress[b]	−1.9 ± 2.9; −6.0–5.3	−0.18*	0.02	0.11	0.19*	0.45***	0.34***	0.89***	−0.77***

* $p < .05$; ** $p < .01$; *** $p < .001$

[a] Brief Psychiatric Rating Scale [37]

[b] Difference score between "appraisal of stigma as harmful" and "appraisal of resources to cope with stigma". Higher scores equal more perceived stigma stress, that is, perceived harm exceeding perceived coping resources [28, 29]

determined by self-report and corroborated by hospital charts in the four participating sites.

Measures

Emotional reactions to coercion and stigma stress

Emotional reactions to involuntary hospitalization were assessed by one item on shame ("I felt shame to receive involuntary psychiatric treatment") and one item on self-contempt ("I felt self-contempt to receive involuntary psychiatric treatment"), both rated from 1 (not at all) to 9 (extreme). The cognitive appraisal of mental illness stigma as a stressor was assessed by a previously validated 8-item measure [28, 29], based on Lazarus and Folkman's [27] conceptualization of stress appraisal processes. All items were scored from 1 to 7 with higher scores equaling higher agreement. Four items assessed the primary appraisal of mental illness stigma as harmful (e.g., "Prejudice against people with mental illness will have harmful or bad consequences for me"; Cronbach's $\alpha = 0.95$). Four additional items measured the secondary appraisal of perceived resources to cope with stigma (e.g., "I have the resources I need to handle problems posed by prejudice against people with mental illness"; Cronbach's $\alpha = 0.86$). A single stress appraisal score was computed by subtracting perceived resources from perceived harmfulness. A higher difference score with a possible range from −6 to +6 indicates the appraisal of stigma as stressful and as exceeding personal coping resources, higher scores equaling more stigma stress.

Self-stigma and empowerment

Self-stigma was assessed by the 29-item Internalized Stigma of Mental Illness Inventory [32]. Because the stigma resistance subscale had low internal consistency in our sample (Cronbach's $\alpha = 0.54$), the five stigma resistance items were not included in the total self-stigma score. The remaining 24 items yielded one mean score between 1 and 4, with higher scores indicating more self-stigma ($M = 1.9$, SD = 0.6; Cronbach's $\alpha = 0.94$). Personal sense of empowerment was assessed using the 28-item Empowerment Scale [33] with higher mean scores between 1 and 4 equaling greater empowerment ($M = 2.9$, SD = 0.4; Cronbach's $\alpha = 0.84$).

Quality of life, self-esteem, psychiatric symptoms

Quality of life was measured by the WHO Quality of Life Assessment Scale (WHOQOL-BREF [34]), widely used among people with severe mental illness [35]. Items were rated from 1 to 5, and mean scores were multiplied by four to render them comparable with the WHOQOL-100 [34], yielding final domain scores between 4 and 20. Two of the WHOQOL-BREF four quality of life domains appeared most relevant and therefore were included in our data analyses: psychological quality of life (6 items, $M = 12.9$, SD = 3.5; Cronbach's $\alpha = 0.86$) and quality of social relationships (3 items, $M = 13.1$, SD = 3.5; Cronbach's $\alpha = 0.60$). General self-esteem was measured by Rosenberg's [36] 10-item self-esteem inventory and a mean score between 0 and 3, higher scores equaling greater self-esteem ($M = 1.9$, SD = 0.7; Cronbach's $\alpha = 0.89$). Psychiatric symptoms were assessed by the expanded 24-item version of the Brief Psychiatric Rating Scale [37] with items rated from 1 to 7 and a sum score between 24 and 168, higher scores equaling more symptoms.

Statistical analyses

We analyzed our data in four steps. First, bivariate associations between predictor variables were examined by Pearson's correlations (Table 1); the magnitude of dependent correlations was compared using the Williams' test [38]. Because stigma stress is a difference score between the perception of stigma as harmful (primary appraisal) and perceived coping resources (secondary appraisal), we also examined the correlations between predictor variables and both appraisals (Table 1). Second, we used two multiple linear regressions to examine self-contempt, shame and stigma stress as predictors of self-stigma or empowerment (Table 2). Third, we examined self-stigma and empowerment as predictors of two quality of life domains and of self-esteem in altogether three multiple regressions (Table 3). In all these regressions, we controlled for psychiatric symptoms [39], the number of lifetime involuntary hospitalizations, diagnoses of a substance-related, psychotic or affective disorder as well as age and gender, entering them in a first step as independent variables. In a second step, we added the independent variables of interest. The increase of R^2 from the first to the second step indicated the additional variance explained by the variables of interest after controlling for clinical and sociodemographic variables.

Table 2 Stepwise multiple linear regressions on self-stigma and empowerment (standardized beta coefficients)

Independent variables	Self-stigma[a]		Empowerment[b]	
	Clinical and socio-demogr. variables only	Full model	Clinical and socio-demogr. variables only	Full model
Psychiatric symptoms[c]	0.25**	0.15**	−0.13	−0.07
Number of involuntary hospitalizations, lifetime	0.13	0.03	−0.00	0.05
Diagnosis of substance-related disorder	−0.07	0.01	0.07	0.05
Diagnosis of psychotic disorder	−0.08	0.00	0.19*	0.13
Diagnosis of affective disorder	0.03	0.06	0.04	0.01
Age	−0.03	−0.10	−0.05	0.01
Gender (0 = female, 1 = male)	−0.21**	−0.05	0.13	0.05
Self-contempt about involuntary hospitalization		0.15*		−0.26**
Shame about involuntary hospitalization		0.17*		0.12
Stigma stress[d]		0.50***		−0.31***
R^2	0.13	0.57	0.06	0.24

* $p < .05$; ** $p < .01$; *** $p < .001$

[a] Internalized stigma in mental illness inventory [32]

[b] Empowerment Scale [33]

[c] Brief Psychiatric Rating Scale [37]

[d] Difference score between "appraisal of stigma as harmful" and "appraisal of resources to cope with stigma". Higher scores indicate higher perceived stigma-related stress, that is, perceived harm exceeding perceived coping resources [28, 29]

Table 3 Stepwise multiple linear regressions on quality of life and self-esteem (standardized beta coefficients)

Independent variables	Quality of life, social relationships[a]		Quality of life, psychological[a]		General self-esteem[b]	
	Clinical and socio-demogr. variables only	Full model	Clinical and socio-demogr. variables only	Full model	Clinical and socio-demogr. variables only	Full model
Psychiatric symptoms[c]	−0.12	−0.01	−0.17*	−0.03	−0.19*	−0.01
Number of involuntary hospitalizations, lifetime	0.06	0.10	0.00	0.03	−0.03	0.03
Diagnosis of substance-related disorder	−0.09	−0.13	0.10	0.06	−0.08	−0.11*
Diagnosis of psychotic disorder	0.14	0.07	0.32***	0.24***	0.25**	0.16**
Diagnosis of affective disorder	0.05	0.05	0.00	−0.01	0.04	0.04
Age	−0.11	−0.10	0.09	0.12*	0.09	0.10*
Gender (0 = female, 1 = male)	−0.01	−0.10	0.15*	0.02	0.19*	0.04
Self-stigma[d]		−0.29**		−0.34***		−0.51***
Empowerment[e]		0.27**		0.43***		0.39***
R^2	0.06	0.28	0.14	0.57	0.13	0.70

* $p < .05$; ** $p < .01$; *** $p < .001$

[a] WHOQOL-BREF [34]

[b] Rosenberg Self-Esteem Inventory [36]

[c] Brief Psychiatric Rating Scale [37]

[d] Internalized stigma in mental illness inventory [32]

[e] Empowerment Scale [33]

In our fourth and final analytic step, we differentiated between predictor (self-contempt, shame, stigma stress) and mediator (self-stigma, empowerment) variables and their influence on outcomes in three path analyses—one for each outcome (two quality of life domains, self-esteem; Table 4). The path analyses were based on three linear regression models, separately for each outcome. In each path analysis, we tested the full model that included direct (predictor on outcome, not mediated) as well as indirect effects (predictor on outcome, mediated by self-stigma or empowerment). These analyses provided standardized path coefficients and their significance level, a nonsignificant effect for the direct path being consistent with full mediation [40]. In the regressions of the second and third analytic steps outlined above (Tables 2, 3), we were able to control for a range of clinical and sociodemographic variables. Limited by our sample size, in the path analyses, this was not feasible and we only included the variables of interest (see Fig. 1). Path modeling was done using MPlus v7 [41]; all other analyses were conducted using SPSS version 20. Findings were considered significant at a level of $p < .05$.

Results

Bivariate correlations between predictor variables

Stigma stress, shame and self-contempt about involuntary hospitalization were positively correlated with each other (Table 1). The primary appraisal of stigma as harmful was related to shame and self-contempt as well as to psychiatric symptoms and the number of lifetime involuntary hospitalizations. The secondary appraisal of resources to cope with stigma was inversely related only to self-contempt ($r = -0.33$, $p < .001$), not to shame ($r = -0.11$, n.s.; Table 1), and the first of these two correlations was significantly stronger than the second (Williams' test, $T = 7.35$, $p < .001$). Female gender was weakly associated with higher levels of self-contempt, shame and stigma stress, the latter being related also to increased psychopathology. Diagnoses of a substance-related, psychotic or affective disorder were not associated with shame, self-contempt or stigma stress (all p values >.20; correlation coefficients not shown in Table 1).

Predictors of self-stigma and empowerment

Self-stigma and empowerment were significantly negatively associated ($r = -0.56$, $p < .001$). In multiple linear regressions on self-stigma, higher levels of shame and self-contempt about being involuntarily hospitalized as well as stigma stress predicted increased self-stigma (Table 2). In the second step of this regression, self-contempt, shame and stigma stress predicted an additional 44 % of self-stigma beyond clinical and sociodemographic variables. Self-stigma was also associated with psychiatric symptoms. In regressions on empowerment (Table 2), higher levels of empowerment were related to less self-contempt about one's involuntary treatment and to less stigma stress; these two predictor variables increased the amount of explained empowerment variance by 18 %.

Table 4 Mediation analysis on effects of predictor variables on quality of life and self-esteem, mediated by self-stigma and empowerment

Predictor variables	Direct or indirect paths	Dependent variables		
		Quality of life, psychological[d]	Quality of life, social[d]	Self-esteem[e]
Self-contempt about involuntary hospitalization	Direct	0.01	0.11	−0.10
	Indirect via self-stigma[b]	−0.05*	0.01	−0.09**
	Indirect via empowerment[c]	−0.14***	−0.10**	−0.12***
Shame about involuntary hospitalization	Direct	−0.02	−0.08	0.10
	Indirect via self-stigma[b]	−0.05*	−0.01	−0.09**
	Indirect via empowerment[c]	0.06	0.04	0.05
Stigma stress[a]	Direct	−0.09	−0.22*	0.02
	Indirect via self-stigma[b]	−0.14**	−0.04	−0.27***
	Indirect via empowerment[c]	−0.15***	−0.10**	−0.12***

Numbers in the table are standardized path coefficients for the full model that includes direct and indirect paths

* $p < .05$; ** $p < .01$; *** $p < .001$

[a] Difference score between "appraisal of stigma as harmful" and "appraisal of resources to cope with stigma". Higher scores indicate higher perceived stigma-related stress, that is, perceived harm exceeding perceived coping resources [28, 29]

[b] Internalized stigma in mental illness inventory [32]

[c] Empowerment Scale [33]

[d] WHOQOL-BREF [34]

[e] Rosenberg Self-Esteem Inventory [36]

Predictors of quality of life and self-esteem

In regressions on quality of life, less self-stigma and more empowerment independently predicted better quality of life, both in the social relationships and in the psychological domain and after controlling for sociodemographic and clinical variables (Table 3). We found a similar pattern in regressions on self-esteem, with less self-stigma and more empowerment predicting better self-esteem. Adding self-stigma and empowerment as predictor variables in the second step of each regression increased the explained variance by 22 % (quality of life, social), 43 % (quality of life, psychological) and 57 % (self-esteem), respectively. A diagnosis of a psychotic disorder was associated with better psychological quality of life and more self-esteem. Lower self-esteem was also related to substance-related disorders and to younger age.

Self-stigma and empowerment as mediator variables

Using three path analyses, we examined whether self-stigma and empowerment mediated the effect of shame, self-contempt and stigma stress on two quality of life domains and on self-esteem as broader outcomes (Table 4; Fig. 1). First, self-stigma consistently mediated the effects of shame, self-contempt and stigma stress on reduced psychological quality of life and on self-esteem. Second, empowerment mediated the negative effect of self-contempt and stigma stress, but not of shame, on all three outcomes. Finally, the direct paths from the predictor variables (shame, self-contempt, stigma stress) to the outcome variables were nonsignificant in the presence of mediator variables which is consistent with full mediation [40]; the only exception was stigma stress that retained a significant direct effect on social quality of life.

Discussion

Our study examined emotional reactions to involuntary hospitalization as well as the perception of stigma as a stressor in a large group of individuals with a history of recent compulsory admission. Supporting our first hypothesis, stigma stress, shame and self-contempt independently predicted increased self-stigma and decreased empowerment, after controlling for symptoms, diagnoses and sociodemographic variables. The fact that the number of lifetime involuntary hospitalizations was not associated with self-stigma or empowerment suggests that it is less the quantity of coercive experiences than their perceived emotional and cognitive quality that determines their impact. Furthermore, the patterns observed in our study appeared to be independent of psychiatric symptoms and diagnoses, suggesting that the model tested here applies to individuals with severe mental illness across diagnostic boundaries and is not an epiphenomenon of high symptom levels.

Shame and self-contempt were independent predictors of self-stigma and may therefore capture distinct emotional

reactions to coercion. Shame is usually accompanied by the feeling to be exposed and devalued in the eyes of others including at least an imagined observer [42], whereas self-contempt refers to the failure to meet one's own standards with or without external observers [19]. Since the social interactions during involuntary admission are by definition experienced by the individual with mental illness as highly negative at the time, if not necessarily in retrospect [43], it is plausible that two distinct emotions play an independent role, one that does and one that does not imply external observers. Interestingly, we found that both emotions were equally strongly associated with the perception of stigma as more harmful; but only self-contempt, not shame, was related to fewer perceived resources to successfully cope with stigma. We can therefore speculate that self-contempt, even more than shame, may undermine one's confidence to cope with external challenges, which would be consistent with its prominent role in people with remitted depressive disorders [19]. Finally, our findings suggest it is worth looking into specific emotional reactions rather than into general negativity as a response to involuntary hospitalization.

Our results add to a large body of social psychological research on other minorities [26] as well as to initial findings among people with mental illness [28, 29] that the cognitive appraisal of stigma as a stressor influences how people with mental illness react to negative and potentially stigmatizing experiences. Consistent with stress-coping models [27], the personal cognitive appraisal of whether stigma is potentially harmful (primary appraisal) and of one's perceived resources to cope with stigma (secondary appraisal) determines whether stigma is perceived as a stressor. These appraisal processes leading to stigma stress may determine stigma's impact on individuals more than the level of perceived public stigma per se. This is plausible because as long as individuals feel they can handle stigmatizing reactions of their environment, even high levels of perceived stigma may not be seen as an unmanageable threat. Therefore, people with serious mental illness who experience involuntary hospitalizations should be supported in clinical [44] or self-help [45] settings to cope more successfully with stigma as a stressor, and the efficacy of such interventions on stigma stress appraisals in this population should be examined in future trials.

Consistent with our second hypothesis and previous research [18, 22], increased self-stigma and less empowerment strongly predicted poorer quality of life and self-esteem. The amount of variance explained by both predictors was lowest for psychological quality of life, possibly due to the low internal consistency of this quality of life domain subscale in our study. Our mediation analyses supported our third hypothesis such that the effects of shame, self-contempt and stigma stress on quality of life and self-esteem appear to have been mediated by self-stigma and empowerment. These results have to be considered with caution for two reasons. First, unlike the regression analyses in Tables 2 and 3, they were not controlled for clinical and sociodemographic variables; second, using cross-sectional data, we cannot draw firm conclusions on causality and mediation effects. For example, it is conceivable that higher levels of self-stigma could reversely lead to more shame about involuntary hospitalization. Therefore, future longitudinal studies should test the current model. Despite this limitation, our findings are consistent with the view that shame and self-contempt about coercive treatment as well as stigma stress may indirectly affect a range of broader outcomes beyond self-stigma and empowerment, further highlighting the relevance of emotional and cognitive reactions to involuntary hospitalization.

Further limitations of our study should be considered. First, our analyses are restricted to individuals with a history of recent involuntary inpatient treatment, and stigmatizing experiences may be less relevant among people receiving compulsory community treatment [46]. Finally, more detailed information on coercive measures in the hospital [47], on the therapeutic relationship [48] and on patients' retrospective views whether their admission was justified [43] should be included in future studies.

Our study builds on a large body of research that provides evidence for the negative impact of self-stigma, for example, reducing hope and self-esteem [18, 49, 50]. Self-stigma also influences whether insight into having a mental illness becomes helpful or harmful: Persons with schizophrenia who had both high levels of insight and either showed high self-stigma [51] or perceived high levels of public stigma [52] were worst off in terms of hope, self-esteem, quality of life and perceived meaning in life [53]. Self-stigma can act as a mediator and as moderator in the relationship between insight and negative outcomes such as demoralization [54]. Finally, shame reactions were associated with self-stigma [22], with accepting stigma as legitimate [55], and shame can mediate the relationship between insight and self-stigma [56]. The findings presented here, based on stigma-related and emotional appraisals in the context of coercion, are consistent with the results summarized above on self-stigma's general negative impact, unrelated to coercion. The role of insight for cognitive and emotional reactions to involuntary hospitalizations was not assessed in our study, but should be in future research. Vice versa, self-contempt and stigma stress appraisals might be included when testing other models of self-stigma and its impact on individuals with severe mental illness.

Shame and self-contempt about being involuntarily admitted may render individuals with mental illness more vulnerable to increased self-stigma and impaired

empowerment, reducing their quality of life and self-esteem independent of clinical variables and the number of past involuntary hospitalizations. Furthermore, the perception of stigma as a stressor that is beyond one's coping resources may have a strong negative impact on these individuals. Our findings have implications for clinical practice and interventions meant to reduce the negative impact of involuntary hospitalizations on people with mental illness. Clinicians should take shame, self-contempt and stigma-related stress into account when dealing with individuals during or after a compulsory admission. Interventions are needed to help people with mental illness cope not only with their symptoms during an acute crisis, but also with the difficult experience of being admitted involuntarily and with the associated shame, self-contempt and stigma.

Acknowledgments This work was supported by the Zürich Impulse Program for the Sustainable Development of Mental Health Services (www.zinep.ch). We are grateful to all participants.

Conflict of interest All authors declare that they have no conflict of interest.

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