

## The evaluation of the impact of anti-stigma training led by ‘experts by experience’ on participants’ attitudes towards persons with mental illness

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### Summary

**Aim.** The purpose of this study was to evaluate the impact of anti-stigma training led by people who had previously experienced mental health crises (i.e., ‘experts by experience’) on various aspects of participants’ attitudes towards the people with mental illness.

**Method.** The three-hour workshops were attended by 185 people; the training was held in 17 groups, with 3–19 people in each (11 on average). Almost half of the participants (45.4%) were employees of the mental health care system. The participants were asked to fill out a set of questionnaires immediately before and after the training, which evaluated the following aspects of their attitudes: social distance, stigmatizing attributions, beliefs about self-determination/ability to attain important life goals by people with mental illness, and also beliefs about the social value of people with mental illness. The respondents were asked to complete the same set of questionnaires again online a month and six months after the training. The data were analyzed based on a piecewise latent trajectory model.

**Results.** Out of the 185 people who participated in the workshops, 115 (62.2%) filled out the questionnaires a month after, and 87 (47.0%) six months after the training. The analyses showed an improvement in all four measures of attitudes expressed directly after the training. In three out of the four examined aspects of attitudes (intensity of social distance, stigmatizing attributions and beliefs about self-determination of people with mental illness) the positive impact of the training continued after six months.

**Conclusions.** The results provide preliminary empirical evidence that the structured anti-stigma intervention under evaluation, using the elements of education and interpersonal contact can be an effective tool for improving social attitudes towards people with mental illness.

**Key words:** mental illness, stigmatization, experts by experience

## Introduction

People with mental illness often become an object of stigmatization (from the Greek word *stigma*), i.e., of negative stereotypes, prejudice and discrimination [1], which is a source of chronic stress, and a contributive factor in social exclusion, isolation and loneliness. Stigmatization also reduces patients' adherence to treatment, lowers their self-esteem and self-efficacy and leads to the exacerbation of psychopathological symptoms. It has a negative impact on the person's quality of life and even increases the risk of suicide [1–5]. As a consequence, therapeutic efforts often become less effective than they could be and the social and economic costs are high [6].

Unfortunately, however, despite the undisputable progress we have made in our understanding of the nature of mental disorders and availability of increasingly sophisticated and effective treatment methods, the trends in social attitudes towards people with mental illness are rather unfavorable. A systematic review of research carried out internationally on representative samples of general population by Schomerus et al. [7] showed that although over the past few decades the tendency to perceive mental disorders in biomedical categories increased, as did the approval of professional (medical, psychiatric) treatment methods, attitudes towards people with mental disorders did not change for the better, and in relation to patients with schizophrenia they deteriorated.

Poland is one of the relatively few countries in which the results of surveys conducted on nationally representative samples are published on a regular basis, in fact every few years [8–11]. These studies tell us that inadequate knowledge about mental illnesses often coincides with discouraging stereotypes, with a tendency to label and stigmatize persons with mental illness, and also to isolate them. Significantly, in one of the polls as many as 75% of respondents expressed the opinion that mental illness was a shameful problem that should be concealed [9]. In Poland, social stigma has been analyzed on a number of occasions also from the point of view of the people who receive psychiatric treatment [12–17]. These studies are a good reflection of the results of general public surveys. They demonstrated the fact that patients commonly concealed their illness as something shameful but also that they accepted and internalized the negative stereotypes about themselves, feared being rejected by others and worried that they would be viewed unfavorably if it came to light that they had the experience of mental illness. These fears can hardly be considered as unfounded. Many respondents actually experienced sometimes harsh rejection and discrimination in such areas as: relationships, employment or contacts with the judiciary [12, 13, 17].

Stigma is considered to be one of the most crucial contemporary challenges in the area of mental [18, 19] and public [20] health. Therefore, various programs are being developed to counteract its negative effects, at the local, national and global levels [18, 21–23]. In Poland, the highest coverage and publicity was given to the *Open the Doors* program, initiated in 2000, which was part of a global program under the auspices of the World Psychiatric Association [18, 21, 24]. In 2005, after the withdrawal by the pharmaceutical industry of their financial support, anti-stigma initiatives became more limited and local in character [21]. They are now often carried out through ad hoc actions and their effects are not necessarily subjected to careful empirical evaluation,

hence there is an urgent need for structured anti-stigma interventions and careful assessment of their effectiveness.

Based on a review of the social psychological literature, Corrigan and Penn [25, see also 26, 27] identified three main strategies for influencing stigmatizing social attitudes towards people with mental disorders: protest, education and contact. Protest is used in response to stigmatizing content appearing in adverts, films, news, press reports, and other public statements. Its goal is to stop the expression of negative attitudes in the public sphere by appealing to the sensitivity and morality of their audiences, and also to the sense of injustice associated with stigma. Next, education aims at modifying inaccurate stereotyped beliefs about people who receive psychiatric treatment, and replacing them with adequate, easy-to-understand knowledge conveyed in relatively simple terms. The third of these strategies consists in using contact with persons who have had an experience of mental illness. This is based on a general assumption that direct interaction with representatives of a stigmatized group is contributive to reducing prejudice.

It has now become clear that while protest may bring the desired effects in the behavioral sphere (e.g., withdrawal of offensive advertising or films or apologies from their authors or distributors), it is less effective in reducing prejudice and promoting positive attitudes [26, 27]. When it comes to education and contact, the meta-analysis by Corrigan et al. [28] shows that both strategies have a positive impact on attitudes towards people with mental illness, but that contact is more effective in the case of adults and education in the case of adolescents. The authors of the meta-analysis have also demonstrated that direct, face-to-face contact has been proven more productive than indirect contact via video recordings. Still, there are reasons to believe that the best effects may be achieved by combining the elements of contact and education in anti-stigma interventions [26, 29].

For example, anti-stigma training led by people with mental health disorder diagnoses as 'experts by experience' in the issues related to mental health and the stigma of mental illness – as opposed to 'experts by training', i.e., employees of psychiatric healthcare, is a particularly promising method, combining the strategies of education and contact. In fact, with their unique perspective and knowledge that cannot be acquired through formal education, in many countries 'experts by experience' play an increasingly important role in educating medical staff, running campaigns for the improvement of the quality of psychiatric services, actively defending the rights of people with mental illness, and promoting co-decisions and partnership in treatment [30, 31]. It is now believed that the active participation of people with experience of mental illness is a *conditio sine qua non* of the credibility and effectiveness of any anti-stigma campaign [32].

The objective of the study presented here was to assess the impact of anti-stigma training led by 'experts by experience' (i.e., a structured intervention based on education and interpersonal contact) on improving participants' attitudes towards people with mental illness, and on the following of their aspects in particular: social distance, stigmatizing attributions, beliefs about self-determination/ability to attain important life goals by people with mental illness and also beliefs about the social worth of people

with mental illness. The investigators also set out to examine the extent to which the effects of the training persisted over a period of half a year.

The following research hypotheses have been adopted:

- (1) the respondents' attitudes towards people with mental illness will improve immediately after the anti-stigma training;
- (2) the positive impact of the training will decrease in time but will stay at a statistically significant level after a six-month observation period.

## Material and methods

### Participants

The workshops, organized between February 2016 and March 2017, were attended by 185 people who worked in 17 groups, from 3 to 19 persons in each (11 on average). The respondents were recruited among employees of psychiatric healthcare at the Institute of Psychiatry and Neurology and the Wolski Hospital in Warsaw (6 groups, 77 people), students of the Medical University of Warsaw, University of Warsaw and the Academy of Special Education in Warsaw (4 groups, 42 people), employees of the Warsaw Employment Office (2 groups, 20 people), teaching and administration personnel from the Maria Curie-Skłodowska University in Lublin (2 groups, 21 people), and people who volunteered to participate in the open groups (3 groups, 25 people).

Most of the respondents were women ( $N = 141$ ; 76.2%), the mean age was 34.58 years old (standard deviation –  $SD = 11.30$ ; range = 19–68); most had higher education ( $N = 135$ ; 73.0%, followed by secondary –  $N = 42$ ; 22.7%, and vocational and primary education –  $N = 8$ ; 4.3%). The vast majority were professionally active, in full-time ( $N = 114$ ; 61.6%) or some form of part-time ( $N = 42$ ; 22.7%) employment. Almost half of the respondents ( $N = 84$ ; 45.4%) were doctors, psychologists, nurses, therapists and paramedics employed in the mental healthcare system.

### Instruments

The researchers used a set of self-report questionnaires: *the Social Distance Scale* developed by Bogna and Jacek Wciórka [8] and three other tools designed to measure stigmatizing or affirmative attitudes towards people with mental illness by Corrigan et al. [33], i.e., *the Attribution Questionnaire-9* (AQ-9), *Self-Determination Scale* (SDS) and *Empowerment Scale* (ES).

*The Social Distance Scale* consists of 14 questions about the degree of approval/disapproval of people with mental illness performing certain social roles, e.g., teacher, doctor, manager/supervisor, co-worker, babysitter, daughter-in-law/son-in-law or neighbor. Answers are given on a scale from 1 to 5, where 1 means “I would have no reservations at all” and 5 means “I would be definitely against it”. Higher total scores stand for a higher level of social distance (possible range: 14–70). The version of the scale used in the present study has been applied since 1996 in several opinion polls in Poland [8–11].

*The Attribution Questionnaire-9* [33] was constructed based on the attribution model of the stigma of mental illness [34, 35], according to which attributions about the causes of mental illness and an individual's ability to control them affect our beliefs about the degree of personal responsibility for the illness which, in turn, affect our emotional responses and, consequently, our tendency towards positive or negative behavioral responses. The respondents are first asked to get acquainted with a hypothetical vignette about a young man with mental illness: "Marek is a 30-year-old single man with mental illness. Sometimes he hears voices and becomes upset. He lives alone in an apartment and works as a clerk at a large law firm. He has been hospitalized six times because of his illness"<sup>1</sup>. Based on this description, the respondents are asked to answer nine questions specifying, on a scale from 1 to 9, to what degree the man introduced in the description is only himself to blame for being ill, and arousing fear, anger or pity; to what extent would the respondents be willing to help him or keep away from him etc. Higher scores indicate a higher intensity of stigmatizing attributions towards people with mental illness (possible range: 9–81).

*The Self-Determination Scale* [33] consists of 14 items designed to assess the extent to which the respondents believe that a person with mental illness ('Marek' as described in the vignette above) will be able to attain his life goals in such areas as employment, education, intimate relationships, parenthood or recreation and to what extent he can benefit from different forms of treatment, e.g., pharmacotherapy, psychotherapy. Answers are given on a 9-point scale. The higher the score the more negative attitudes are expressed towards the ability of persons with mental illness to self-determine (possible range: 14–126).

*The Empowerment Scale* [33] contains three items designed to assess the extent to which people with mental illness are perceived by respondents as fully valuable members of society (e.g., "I feel people with mental illness are persons of worth, at least on an equal basis with others"). Respondents give their answers using a 9-point scale (1 – "I strongly agree", 9 – "I strongly disagree"). The higher total score stands for more negative attitudes about the social worth of people with mental illness (possible range: 3–27).

## Intervention

The anti-stigma workshops were developed by the eFkropka Foundation<sup>2</sup> – the organization involved in preventing the stigmatization of people who have experienced a mental health crisis. eFkropka associates mental healthcare specialists and 'experts by experience'. The theoretical background of the workshops is rooted in such books as *A road back from schizophrenia. A memoir* by Arnhild Lauveng [36] and *Personal*

<sup>1</sup> In the original version the description regarded a man with schizophrenia called Harry. In the present study, in addition to using the Polish name 'Marek' the investigators also decided to modify the statement and turn him into a person "with mental illness" rather than "with schizophrenia" because in this particular case the anti-stigma intervention was of more general character and did not focus solely on schizophrenia.

<sup>2</sup> [www.ef.org.pl](http://www.ef.org.pl).

*assistance in community existence: A recovery guide* by Laurie Ahern and Daniel Fisher [37]. The intervention was set up in stages; initially six focus groups led by professionals were held at eFkropka with ‘experts by experience’ in order to create the content and structure of anti-stigma courses. Their preliminary version was then reviewed by one of the co-founders of the foundation, who is a psychiatrist and the coordinator of the *Together Against Stereotypes* project. The next stage was to hold six seminars with stigmatization experts on the theme of contemporary social stigma theories and anti-stigmatization methods. Next, the people with personal experience of mental illness who were to become educators as part of the project were trained by a team of professional trainers in the skills of effective knowledge sharing and maintaining dialogue in various settings. The two-day (seven hour a day) training was attended by 15 people and six of them decided to lead the anti-stigma training.

Finally, it was decided that the anti-stigma workshops would take the form of three-hour training sessions, including a talk on *My illness and recovery* and four interactive exercises (“Famous people with mental illness”, “Discrimination”, “A conversation with ...”, and “Useful/pleasant”). The talk took approximately 30–40 minutes and consisted of several parts: the presentation of basic facts on mental illness, personal testimony of the experience of mental crisis, related experiences in the family, society and healthcare system, and the discussion of the personal recovery process. The exercises, each taking approximately 25–30 minutes, consisted in discussing stigmatization and discrimination in the broadest context and the comparison of stigma of people with mental illness with that experienced by other minorities (“Discrimination”), making the group aware that mental illness does not have to deprive one of creativity or stand on their way to success (“Famous people with mental illness”), playing the role of a person with mental illness in contact with an official, employer or a doctor, as played by the educators (“A conversation with...”). The last exercise focused on the analysis of the previous interactions to see which of them were affirmative and which were depreciating to the participant as a person and as a citizen (“Useful/pleasant”). Depending on the number of participants, the workshops were run by two or three educators supported by a mental healthcare specialist who helped when required.

### Procedure

The study was approved by the Bioethics Committee at the Institute of Psychiatry and Neurology in Warsaw. The trainees were recruited by members of the research team in person or through an advertisement placed on the eFkropka Foundation Facebook page<sup>3</sup>. In order to apply the respondents had to register. No exclusion criteria were adopted. The workshops took place after working hours or classes in the institutions from which the participants were recruited. Having received detailed information about the objectives, content and confidentiality of the study, the participants were asked to fill out a set of self-report questionnaires assessing the different aspects of attitudes towards people with mental illness (pencil-and-paper version) immediately

<sup>3</sup> <https://web.facebook.com/fundacjaefkropka>.

before (T0) and after the training (T1). Then again, a month (T2) and six months (T3) after completing the training they were asked to fill out the same set of questionnaires online, using the CAWI (Computer-Assisted Web Interview) method.

### Statistical analyses

Basic descriptive statistics were used to characterize the variables, such as: numbers, percentages, arithmetic means, standard deviations, and minimum and maximum values. The internal consistency of the questionnaires was assessed with Cronbach's  $\alpha$ . In order to assess whether the people who participated in the successive phases of the study and those who did not participate differed in terms of socio-demographic characteristics, the  $\chi^2$  test (for nominal variables) and the  $t$ -test for independent samples (in case of continuous variables) were used.

The main analyses were based on the latent trajectory model [38–40]. Its starting point is the estimation of individual changes in the level of a phenomenon as a function of time, and then the average (mean) of their trajectories. The basic parameters of the model are the constant/initial state (intercept) and the trend/rate of change (slope). The intercept is the mean level of the analyzed feature/variable in the first examined period – the mean inter-individual initial state. The slope is the mean change in the level of the characteristic between the measurements.

Latent trajectory models can be used to study linear trends (when there are at least three longitudinal measurements). These can be easily extended and enabled to recognize quadratic or hexagonal trends. Their limitation, however, is the estimation of smoothed trajectories that assume that a possible change occurs gradually over a period of time. In other words, these models usually do not take into account the possibility of sudden changes that are routinely expected in clinical trials [41–43].

When certain specific transition points are expected to occur, e.g., changes under the influence of experimental stimuli or interventions, the so-called piecewise latent trajectory model can be successfully applied [44]. In piecewise models, non-linearity is modeled by including two (or more) related slopes reflecting the trajectories before and after the selected point (and therefore within specific pieces). The piecewise model also gives us the opportunity to examine the impact of independent variables both on the initial state and the rate of changes in the phenomenon of interest to us (within the identified pieces). In this study, this option was used by introducing the following variables as control variables (covariates): gender, age, education, and employment in mental healthcare.

In our analyses, the observation time was divided into two pieces at point T1, therefore the first piece included measurements at points T0 and T1, i.e., the change between the measurements taken immediately before and immediately after the training (S1 – change within the first piece). The second piece included measurements at points T1, T2 and T3, i.e., the change between the measurement taken immediately after the intervention and the subsequent measurement points, a month and six months after the intervention (S2 – mean change within the second piece). The information about the changes within the pieces allows us to establish the direct effect of the training (the

first piece) and durability of the achieved effect (the second piece). It should be noted that for all measures used, a linear growth curve (i.e., assuming one growth process) was compared to a piecewise model (i.e., assuming two growth processes to capture the potentially non-linear changes).

The statistical analyses were performed using the Mplus 8.1 software [45] and a Bayes estimator [46]. Bayesian statistics were used because they are suitable for the analysis of relatively small samples and are resistant to the variables not being normally distributed [47]. In order to assess the goodness of fit of the model to data, the posterior predictive p-value (PPP) [48] and the deviance information criterion (DIC) [49, 50] were calculated. The ideal PPP value is 0.5, and the values approaching 0.05 or below indicate a poor fit, whereas DIC is a useful measure in comparing models. Models with lower DIC values are preferred.

Missing data were supplemented using multiple imputation [51]. Twenty imputed data sets have been used for model estimation. In all analyses, the statistical significance level was set at 0.05.

## Results

The 185 people who took part in the first phase of the research filled out a set of questionnaires immediately before (T0) and after (T1) the training. A month later (T2) online questionnaires were filled out again by 115 people (62.2%) and six months later by 87 (47.0%). The  $\chi^2$  test and *t*-test for independent samples did not show any significant differences within any of the socio-demographic variables between the people who participated in the study and those who did not (all *p*-values > 0.05).

In all phases of the study the instruments used demonstrated satisfactory internal consistency: Cronbach's  $\alpha$  values were from 0.94 to 0.95 for *the Social Distance Scale*, from 0.74 to 0.81 for *the Attribution Questionnaire-9*, from 0.85 to 0.89 for *the Self-Determination Scale*, and from 0.82 to 0.88 for *the Empowerment Scale*.

Table 1 presents the results of the piecewise latent trajectory model for all measures of social attitudes toward people with mental illness considered in the present study.

Table 1. Piecewise latent trajectory models of the four measures used in the study

	Social Distance Scale				Attribution Questionnaire-9				Self-Determination Scale				Empowerment Scale			
	Est	SD	95% CI		Est	SD	95% CI		Est	SD	95% CI		Est	SD	95% CI	
			Lower 2.5%	Upper 2.5%			Lower 2.5%	Upper 2.5%			Lower 2.5%	Upper 2.5%			Lower 2.5%	Upper 2.5%
Means																
I	31.70'	0.88	29.97	33.43	27.04'	0.70	25.66	28.43	46.09'	1.22	43.70	48.48	6.29'	0.31	5.69	6.89
S1	-3.29'	0.54	-4.34	-2.24	-3.99'	0.55	-5.06	-2.91	-9.27'	0.80	-10.84	-7.71	-1.50'	0.27	-2.02	-0.98
S2	0.69	0.44	-0.16	1.56	0.71	0.38	-0.02	1.45	0.87	0.73	-0.53	2.31	0.46'	0.22	0.02	0.89
Variances																

table continued on the next page

I	130.62'	17.34	98.86	167.14	77.09'	12.81	53.33	102.91	238.14'	37.29	168.39	313.75	13.72'	2.76	8.38	19.01
S1	16.42'	8.24	2.83	34.05	19.23'	10.32	2.88	41.33	43.28'	26.16	6.16	102.65	5.67'	2.58	1.37	11.05
S2	10.73'	3.90	4.61	19.73	4.70'	3.06	0.75	12.23	38.36'	11.81	16.57	63.42	1.14'	0.83	0.20	3.34
Correlations																
I and S1	-0.40	0.20	-0.66	0.15	-0.41	0.22	-0.70	0.17	-0.34	0.25	-0.69	0.34	-0.78'	0.12	-0.94	-0.49
I and S2	-0.40'	0.13	-0.65	-0.13	0.19	0.23	-0.25	0.67	-0.16	0.13	-0.41	0.09	0.35	0.26	-0.15	0.88
S1 and S2	0.49	0.31	-0.18	0.94	-0.41	0.36	-0.91	0.50	-0.25	0.35	-0.81	0.64	-0.50	0.31	-0.93	0.23

The table does not include models with covariates.

Est – estimated parameter; SD – standard deviation; 95% CI – 95% confidence interval; I – intercept; S1 – change within the first piece (between T0 and T1); S2 – average change within the second piece (between T1 and T3).

\* $p < 0.05$

The estimated changes of results in each of the scales in subsequent stages of the study are illustrated in Figure 1.

### The impact of the intervention on the results in *the Social Distance Scale*

In case of *the Social Distance Scale*, the linear model (PPP < 0.01; 95% CI [confidence interval for the differences between the observed and replicated  $\chi^2$  values]: 24.87 to 55.98; DIC = 4027.15) showed worse fit to the data than the piecewise model (PPP = 0.44; 95% CI: -13.84 to 16.55; DIC = 3987.17), which indicates the non-linear nature of the changes. The change within the first piece, i.e., between T0 and T1, amounted to -3.29 (SD = 0.54) and was statistically significant ( $p < 0.05$ ). However, no significant differences ( $p > 0.05$ ) were noted in the level of social distance within the second piece – the mean change between T1 and T3 was only 0.69 (SD = 0.44). In turn, between T0 and T3 the change in the scope of social distance amounted to -1.90 (SD = 0.93) and was significantly different from zero ( $p < 0.05$ ). Thus, social distance was reduced under the influence of the intervention and the effect continued for at least six months after it first occurred.

The introduction of covariates did not significantly affect the parameters of the change. Similarly as was the case with the model not including covariates, the level of social distance at first (between T0 and T1) dropped significantly (S1 = -6.23; SD = 2.08;  $p < 0.05$ ), and then (between T1 and T3) it stabilized (S2 = -2.27; SD = 1.73;  $p > 0.05$ )<sup>4</sup>.

<sup>4</sup> Interestingly, belonging to the group of employees of psychiatric healthcare did not show statistically significant impact on the initial level or later changes in the intensity of social distance. Moreover, a similar situation occurred in the case of all measures of attitudes used in the study. Due to editorial limitations, detailed data on the impact of individual covariates on social distance and other dependent variables have been omitted from the text. Please contact the first author for more information.

The impact of the intervention on the results in *the Attribution Questionnaire-9*

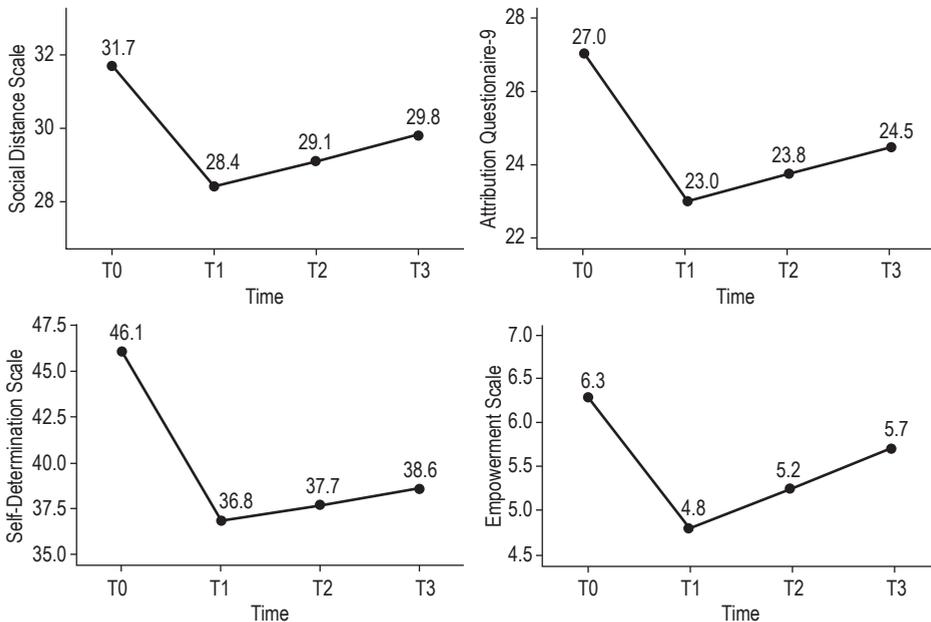


Figure 1. The estimated changes of results in each of the scales throughout the successive stages of the research

Higher scores stand for more negative attitudes towards people with mental illness in the case of all four questionnaires. The figure does not take into account the influence of covariates.

T0 – measurement immediately before the training; T1 – measurement immediately after the training; T2 – measurement a month after the training; T3 – measurement six months after the training.

Also, for the results in *the Attribution Questionnaire-9*, the piecewise model (PPP = 0.36; 95% CI: -12.74 to 18.25; DIC = 3878.34) showed a better fit to the data than the linear model (PPP < 0.01; 95% CI: 440.68 to 474.05; DIC = 4334.17). Between T0 and T1 there was a significant ( $p < 0.05$ ) decrease in the intensity of negative attributions of -3.99 ( $SD = 0.55$ ). However, no significant changes ( $p > 0.05$ ) were found within the second piece. The mean change between T1 and T3 was only 0.71 ( $SD = 0.38$ ). The estimated drop in the intensity of the stigmatizing attributions between T0 and T3 was, in total, -2.56 ( $SD = 0.72$ ) and differed significantly from zero ( $p < 0.05$ ). Thus, there was a significant and persistent decline in the negative attributions related to mental illness under the influence of the training.

The introduction of control variables to the model did not result in significant differences in the estimation of the parameters of the changes to which the attributions were subjected. Similarly to the model without covariates, a significant positive change

was found between T0 and T1 ( $S1 = -5.20$ ;  $SD = 2.04$ ;  $p < 0.05$ ), yet the changes in the post-training period, i.e., between T1 and T3 ( $S2 = 2.26$ ;  $SD = 1.52$ ;  $p > 0.05$ ), were found to be insignificant.

#### The impact of the interventions on the results in *the Self-Determination Scale*

As far as *the Self-determination Scale* is concerned, the piecewise model (PPP = 0.49; 95% CI: -14.76 to 15.20; DIC = 4504.59) also showed a better fit to the data than the linear model (PPP < 0.01; 95% CI: 84.65 to 117.30; DIC = 4607.16). There was a statistically significant decrease in the scores in *the Self-Determination Scale* (indicating an improvement in attitudes towards the ability of a person who received psychiatric treatment to self-determine/attain their life goals) after the intervention, i.e., between T0 and T1 ( $S1 = -9.27$ ;  $SD = 0.80$ ;  $p < 0.05$ ). The changes occurring between T1, T2 and T3 turned out to be statistically insignificant ( $S2 = 0.87$ ;  $SD = 0.73$ ;  $p > 0.05$ ). In other words, the results of *the Self-Determination Scale* dropped initially (after the intervention) and then they remained at a similar level. Importantly, between T0 and T3 there was a significant ( $p < 0.05$ ) drop of  $-7.52$  ( $SD = 1.43$ ) in the results of *the Self-Determination Scale*, which means that the anti-stigma intervention under investigation was effective.

The introduction of covariates to the model left the estimates of the analyzed changes almost unaffected. There was still a significant decrease in *the Self-Determination Scale* results between T0 and T1 ( $S1 = -7.49$ ;  $SD = 3.02$ ;  $p < 0.05$ ) and no significant changes in the period between T1 and T3 ( $S2 = 0.08$ ;  $SD = 2.83$ ;  $p > 0.05$ ).

#### The impact of the intervention on the results in *the Empowerment Scale*

The changes observed in the results of *the Empowerment Scale* were also non-linear, as testified to by the better fit to the data of the piecewise (PPP = 0.38; 95% CI: -13.11 to 18.06; DIC = 3004.54) rather than linear model (PPP < 0.01; 95% CI: 18.74 to 50.31; DIC = 3035.71). In the first of the pieces, i.e., between T0 and T1, there was a significant ( $p < 0.05$ ) drop in *the Empowerment Scale* scores amounting to  $-1.50$  ( $SD = 0.27$ ) (meaning an improvement in the attitudes towards the social worth of persons with mental illness). Thus, an analogous, positive trend was observed, as was the case with all the measures of attitudes analyzed so far. However, unlike in the case of *the Social Distance Scale*, *Attribution Questionnaire-9* or *Self-Determination Scale*, in the case of *the Empowerment Scale* the change coefficient in the second segment, which covered the half-year period after the completion of the training, turned out to be significant ( $p < 0.05$ ) and reached the value of  $0.46$  ( $SD = 0.22$ ). The positive value of the estimated parameter indicates that in the analyzed period (from T1 to T3) the results in *the Empowerment Scale* increased gradually. The intervention resulted then in an improvement in this aspect of the attitudes under consideration, but once it was over there was a gradual deterioration. As a result, the total change between T0 and T3 turned out to be statistically insignificant ( $p > 0.05$ ), amounting to only  $0.58$  ( $SD = 0.43$ ), which indicates the lack of long-lasting positive effects of participation in the training.

After considering covariates in the model, only the decrease in the results of the *Empowerment Scale* in the first piece turned out to be significant ( $S1 = -3.17$ ;  $SD = 0.96$ ;  $p < 0.05$ ), but no significant changes were found within the second piece ( $S2 = 1.09$ ;  $SD = 0.91$ ;  $p > 0.05$ ). At the same time, in such a model the total change between T0 and T3 was 0.98 ( $SD = 1.74$ ) and was, similarly to the model without covariates, statistically insignificant ( $p > 0.05$ ).

## Discussion

The objective of the study presented here was to assess the influence of a structured anti-stigma intervention, which took the form of three-hour workshops led by 'experts by experience', on the various aspects of participants' attitudes towards people with mental illness. As anticipated, our analysis showed an improvement in all measures of the attitudes under consideration (i.e., the *Social Distance Scale*, *Attribution Questionnaire-9*, *Self-Determination Scale*, and *Empowerment Scale*) immediately after the training. The improvement in social distance, stigmatizing attributions and beliefs about self-determination (i.e., whether people who receive psychiatric treatment can attain their significant life goals) decreased with time, but it was still statistically significant after the six-month observation period. The only positive effect of the training which disappeared after six months was related to beliefs about the social worth of people with mental illness, as measured by the *Empowerment Scale*.

On the whole, these results speak for the effectiveness of anti-stigma training led by people who have experienced mental illness and they provide further support to the data from the literature on the positive effects of interventions that combine elements of education and contact [26, 29]. Still, the answer to the question why the *Empowerment Scale* yielded results which differed from the rest in terms of the lasting beneficial effects of the intervention is unclear. Perhaps this can be partially explained by the fact that, unlike the other scales used in the study, which are more extensive and refer to specific beliefs and feelings of the respondents as well as their declared behaviors in precisely described situations, the *Empowerment Scale* contains only three statements that speak more generally about the extent to which people with mental illness are believed to be fully valuable members of the society. It is just possible that such general beliefs are deeply ingrained and less susceptible to change. The analysis of the sensitivity of the *Empowerment Scale* to change, conducted by Corrigan et al. [52], produced mixed results, which indicates the need for further research on the psychometric properties of this tool.

The investigators consider the results of the study to be promising and relevant, particularly as stigma is believed to be one of the main obstacles in the development of mental healthcare and in the improvement in the quality of life of people with mental illness and their relatives [18, 21]. Beldie et al. [21], who carried out a review of anti-stigma programs implemented in Europe, concluded that although they are plentiful and varied, their fundamental weakness is a lack of thorough evaluation. The authors mentioned some reasons behind this, among them methodological difficulties, shortage of appropriate resources, reluctance of some organizers to use complicated evaluation

methods and the lack of tradition of program evaluation in healthcare in general, and in particular in the area of stigma.

The importance of the evaluation of anti-stigma programs is evidenced by the fact that some of them, for example those that are based on education presenting biological or genetic explanations for the causes of mental illness, proved to be counterproductive [53]. The initial empirical confirmation of the positive effects of the anti-stigma intervention, as assessed in the present study, may be an incentive to introduce it on a larger scale, particularly as the intervention is structured and implemented on the basis of the detailed scenario. After the prescribed training it can be used by people who are not directly related to its development. The documented effectiveness of anti-stigma training can be also a useful argument for finding resources for their dissemination, improvement and the continuation of research on their impact on social attitudes in various groups.

Although the examined intervention is to a significant degree based on the data from international literature and experience gathered in other countries, it is an original idea developed by Polish stigma experts. Even though the stigma of mental illness is a universal phenomenon, its specific manifestations depend to a large extent on local factors and the specific cultural context [54]. The fact that people who had experienced a mental health crisis contributed significantly to the development of the content and led these workshops is also relevant; as 'experts by experience' they intimately knew the problems they discussed. Schulze [32] points out that reserving the role of experts in stigma for psychiatrists may even reinforce negative stereotypes, suggesting that people with mental illness cannot have their own say about the problem by which they are most immediately affected, or that what they have to say is irrelevant. Schulze also indicates that research results demonstrate that anti-stigma interventions created only on the basis of knowledge and experience of mental healthcare specialists may have a positive impact on mental health literacy but are likely to be less effective in reducing negative stereotypes and diminishing social distance. In this context, it should be noted that the workshop discussed here, led by people with the experience of mental health crises, has contributed to the improvement of attitudes in the respondents, almost half of whom were employed by the mental healthcare system. Interestingly, the participants' employment in mental healthcare had no effect on the level of attitude change. The results of the study may therefore contribute to the discussion on a broader use of 'experts by experience' in the education of medical personnel, particularly mental healthcare professionals. The experience gained internationally shows that this may stimulate positive changes in attitudes towards people with mental illness, raise empathy and improve our understanding of patients' experiences, which may consequently result in the use of less professional jargon in clinical practice and a more holistic patient-focused approach to psychiatric care [30].

An important advantage of the research presented here is the comprehensive measurement of social attitudes with instruments that are well recognized and tested in numerous previous studies, which include cognitive aspects of attitudes (e.g., stereotypical beliefs that people with mental illness are dangerous, personally responsible for their illness, unable to self-determine or attain their life goals) but also emotions

(e.g., fear, anger, pity) and behavioral intentions (e.g., tendency to help, enter close relationships, distancing or isolating). Moreover, the study was not limited to the assessment of the immediate effects of the intervention, but also observed the dynamics of changes in the attitudes of respondents for six months. Finally, advanced statistical models that took into consideration the potentially non-linear nature of the changes were used to analyze the data.

However, apart from these strengths, the research also has its limitations, the most serious of them being the lack of a control group, which makes it difficult to assess the extent to which the changes in the respondents' attitudes demonstrated the effectiveness of the tested anti-stigma intervention and to what degree they were perhaps the result of the influence of external or non-specific factors related to participation in the workshop. The results should therefore be treated as preliminary and requiring confirmation in a randomized study, preferably with the use of an active control group. Also, the observation time was relatively short, so it is difficult to say how sustainable the effects are in the long run. Also, a high percentage of workshop participants failed to fill out the questionnaire a month or, particularly, six months after the workshop. Besides, the study took advantage of self-report questionnaires which may involve the effect of social desirability and measure the various aspects of the declared attitudes, which may or may not be related to the behavior of the respondents in contact with people with mental illness. In any case, this is a significant weakness of the vast majority of previous studies on the effectiveness of anti-stigma undertakings [28, 53]. The assessment of the impact of such interventions on the actual behavior of participants gives rise to many methodological challenges and certainly requires greater financial input, though it would then allow for the drawing of much stronger conclusions than the evaluation based on self-assessment scales. Additionally, the respondents were mostly women and mostly people with higher education so a more balanced distribution of socio-demographic variables among workshop participants would be advisable for the purposes of the future studies. It would also be valuable to compare the effects of the intervention in various professional groups whose attitudes may have a considerable impact on people with mental illness and to whom a stereotype – and prejudice-free attitude towards patients is an important aspect of professional aptitude. This applies especially to individuals working in psychiatric and non-psychiatric healthcare, officials, teachers and lecturers, employers, clerics, police officers, and representatives of the judiciary

## Conclusions

In spite of these limitations, our analyses suggest that the kind of intervention under consideration may prove to be useful in improving social attitudes towards people who receive psychiatric treatment and in counteracting the harmful effects of the related stigma. If the effectiveness of the method is confirmed in subsequent, methodologically more rigorous studies (including randomization and control groups), it may be used on a broader scale and become an integral element of training for professionals who are in regular contact with people with mental illness. The results also provide

a robust argument for including people who have undergone a mental crisis as 'experts by experience' in the process of educating medical professionals.

### **Acknowledgements**

*The authors wish to thank the volunteers involved in the eFkropka Foundation who participated in developing the workshops and worked as educators within the project. Our special thanks go to Anna Patkowska, Katarzyna Parzuchowska, Ewa Piskorska, Anna Morawska, Maciej Matraszek, and Piotr Żrebic. We also wish to express our gratitude to the Szkoła Trenerów – Grupa TROP company for the free training they provided to the eFkropka Foundation educators as part of the preparation for the project, and also for their support for its further development.*

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