

A Randomized Controlled Trial of a Peer-Run Antistigma Photovoice Intervention

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Objective: Psychiatric stigma is a major barrier to the recovery of persons with serious mental illnesses. This study tested the efficacy of an innovative peer-run photography-based intervention, called antistigma photovoice, which targets self-stigma and promotes proactive coping with public stigma.

Methods: A total of 82 individuals with serious mental illnesses enrolled at a university-based recovery center were randomly assigned to the antistigma photovoice program or to a wait-list control group. Mixed-effects regression models were used to examine the impact of photovoice on self-stigma, coping with stigma, empowerment, perceived recovery, self-efficacy, and depression. **Results:** Participation in the photovoice intervention was associated with significantly reduced self-stigma, greater use of proactive coping with societal stigma, greater increase in a sense of community activism, and perceived recovery and growth. **Conclusions:** The photovoice intervention demonstrated promise for reducing self-stigma and enhancing proactive

coping with prejudice and discrimination. (*Psychiatric Services* 65:242–246, 2014; doi: 10.1176/appi.ps.201200572)

Psychiatric stigma has been identified consistently as a major barrier to the treatment and recovery of persons with serious mental illnesses (1,2). Stigma is an overarching concept that includes cognitive (stereotypical knowledge structures), attitudinal (prejudice), and behavioral (discrimination) components with both public and personal dimensions (3). Self-stigma (or personal stigma) is the internalization of negative stereotypes about mental illness and results in a negative identity transformation (1,3). Some authors have expanded the concept of personal stigma to encompass perceived stigma, including both experienced and anticipated stigma (2). Both self-stigma and perceived stigma have a negative impact because they are associated with delay of seeking mental health services, have damaging effects on self-esteem and quality of life, and indirectly lead to marginalization across familial, community, and societal levels (1,2).

Interventions to reduce self-stigma or cope with perceived stigma have had mixed success (4). Randomized controlled trials of structured interventions have demonstrated inconsistent or limited results (5–7). Open clinical trials of other brief interventions targeting self-stigma have shown promising effects (4), but controlled

research has not been reported. All group interventions described above have been led by mental health professionals. However, peer-led groups may be more potent than professional-based groups in reducing self-stigma, given available evidence of the effectiveness of structured, peer-led interventions in increasing self-confidence, empowerment, and self-efficacy (8,9). Peer leaders may be particularly effective in challenging individuals' endorsement of mental illness stereotypes in that peers serve as counterexamples of such stereotypes, as well as being credible role models for teaching proactive ways to deal with perceived stigma.

To evaluate the benefits of a peer-based intervention for personal stigma reduction, we developed and pilot tested a ten-week program, antistigma photovoice. The program was based on photovoice, an ethnographic and anthropologic research approach designed to facilitate participatory action (10), particularly for disenfranchised groups. Photovoice encourages activism through the use of photography and guidance to develop narratives around personally meaningful visual images (10). We describe the results of a randomized controlled trial comparing a group that used antistigma photovoice and a control group. Our hypothesis was that individuals using the antistigma photovoice program would increase their use of proactive strategies to cope with stigma and would experience decreases in self-stigma. We also hypothesized that such changes would

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lead to increases in empowerment, self-efficacy, and perceived recovery and to reduced depression.

Methods

Study participants were recruited among service recipients in a university-based psychosocial rehabilitation program. Eligibility criteria included having an axis I or axis II *DSM-IV* diagnosis and marked functional impairment in social or occupational roles, determined on admission to the program, and being age 18 or older. A total of 82 individuals were enrolled in this study, of whom 40 were randomly assigned to the antistigma photovoice program. The study was approved by the Boston University Institutional Review Board, and informed consent was obtained from all study participants. Most participants were older than 40 ($N=56$, 68%), female ($N=56$, 68%), and white ($N=57$, 70%); participants from racial-ethnic minority groups included African Americans ($N=7$, 9%), Asians ($N=3$, 4%), Hispanics ($N=9$, 11%), and those from other groups ($N=6$, 7%). Most participants had never married ($N=52$, 63%), were unemployed ($N=69$, 84%), and had a bachelor's degree or higher ($N=36$, 44%). Psychiatric diagnoses were as follows: schizophrenia spectrum disorder ($N=28$, 34%), bipolar disorder ($N=27$, 33%), depressive disorder ($N=21$, 26%), and other diagnoses ($N=6$, 7%). There were no statistically significant differences between the experimental and control groups on any demographic or clinical variables at baseline.

The antistigma photovoice program is a ten-week manualized (workbook and leader's guide) peer-led intervention delivered in 90-minute group sessions. The program was designed to integrate photovoice methodology (10) with psychoeducation about stigma and experiential exercises designed to reduce endorsement of stereotypes about mental illness. Photovoice methodology involves a process in which individuals use cameras to photograph objects or events in their daily lives that concern them and generate narratives for these pictures through a group discussion using facilitator-guided questions (10). The photovoice methodology is embedded in all ten antistigma photovoice sessions and includes an

overview of the photovoice process, use of the camera, ethical issues of photojournalism, capturing images relevant to stigma, group discussion of selected photographs, writing corresponding narratives, preparation of photovoice pieces for public display, and discussion of relevant audiences. Each participant creates at least one photovoice piece that combines a photograph and narrative relevant to encountering or coping with psychiatric stigma.

The psychoeducational components blended into the photovoice process include information about the meaning of stigma, prejudice, and discrimination; the nature and impact of prejudicial stereotypes; and strategies to cope proactively with stigma. Reduction of stereotype endorsement is facilitated by three group exercises created specifically for the antistigma photovoice program entitled "Homo Stigmatus" (identifying weaknesses related to mental illness perceived by self or others), "Homo Luminous" (identifying strengths), and "Homo Harmonious" (integrating strengths and weaknesses), which represent identity transformation from "spoiled identity" (11) to an enlightened and balanced sense of self that includes both positive and negative aspects. Psychoeducational components and stereotype reduction exercises parallel the photovoice process with ongoing group discussions to enhance proactive coping with perceived stigma and the reduction of self-stigma. [An appendix, available online as a data supplement to this report, provides additional information about the antistigma photovoice intervention plus examples.]

The intervention was developed, refined, and standardized with major contributions from peer leaders and consumers of the university recovery center through an iterative process of seven rounds of antistigma photovoice delivery. We also developed an instrument to assess the content and process fidelity to the antistigma photovoice manual with four to six specific content items per session and 13 process items. Scores for content fidelity over the course of the study averaged 3.78 and scores for process fidelity averaged 3.64, both on a 4-point scale ranging from 1, low fidelity, to 4, high fidelity.

We administered the following measures at baseline, postintervention, and a three-month postintervention follow-up: Approaches to Coping With Stigma scales (7), a 27-item measure of five strategies to cope with psychiatric stigma (challenging, distancing, and educating others; secrecy; and withdrawal); Internalized Stigma of Mental Illness Scale (12), a 29-item scale assessing self-stigma through five subscales (alienation, stereotype endorsement, discriminatory experiences, social withdrawal, and stigma resistance); the Center for Epidemiological Studies Depression Scale (CES-D) (13), a widely used 20-item measure of depression; the Empowerment Scale (14), a 28-item measure of empowerment with five subscales (self-esteem/self-efficacy, power/powerlessness, community activism and autonomy, hopefulness, and righteous anger); and the Generalized Perceived Self-Efficacy Scale (15), a ten-item scale measuring a person's sense of mastery in his or her life.

In addition, we used the Personal Growth and Recovery Scale (PGRS), a 25-item 4-point Likert scale developed for this study to more closely evaluate the impact of antistigma photovoice on participants' perceived recovery and growth. Preliminary psychometric characteristics of the PGRS were very promising: internal consistency coefficient $\alpha=.94$, test-retest reliability intraclass correlation coefficient of .79, a moderate positive correlation with empowerment ($r=.51$), and moderate negative correlations with depression ($r=.59$) and internalized stigma ($r=-.40$). We selected these measures of self-stigma, coping, empowerment, and depression because we view these constructs as related but not totally overlapping, and given the exploratory nature of the study, we wished to determine the intervention's impact across a range of potential outcomes.

At the conclusion of the baseline assessment, participants were randomly assigned to the antistigma photovoice program or to the wait-list, treatment-as-usual control group with the use of a computer-generated program that stratified on gender and racial-ethnic minority status. The 82 participants were enrolled and randomly assigned in four waves from 2009 to 2011; 75

Table 1

Results of mixed-model linear regression analysis for 82 mental health recovery center clients assigned to antistigma photovoice training or to a wait-list control group

Instrument	α	Baseline (N=82)		Postintervention (N=75)		3-month follow-up (N=78)		p	Effect size (Cohen's d)
		M	SD	M	SD	M	SD		
Internalized Stigma of Mental Illness Scale ^a	.89								
Overall									
Photovoice		2.17	.37	2.04	.42	2.01	.41	.03*	.55
Control		2.17	.44	2.13	.47	2.10	.45		
Alienation									
Photovoice		2.46	.52	2.25	.57	2.20	.55	.12	.40
Control		2.39	.80	2.33	.73	2.27	.65		
Stereotype endorsement									
Photovoice		1.79	.50	1.66	.54	1.63	.47	.05*	.55
Control		1.74	.46	1.76	.46	1.72	.48		
Discriminatory experiences									
Photovoice		2.29	.48	2.23	.57	2.27	.59	.79	.08
Control		2.45	.58	2.36	.58	2.37	.63		
Social withdrawal									
Photovoice		2.35	.60	2.23	.56	2.20	.59	.23	.30
Control		2.24	.63	2.22	.68	2.16	.65		
Stigma resistance									
Photovoice		2.01	.44	1.89	.41	1.82	.40	.01*	.67
Control		2.14	.57	2.08	.51	2.08	.41		
Approaches to Coping With Stigma scales ^a									
Challenging others	.64								
Photovoice		2.93	.45	3.09	.40	3.07	.39	.04*	.66
Control		2.72	.60	2.87	.56	2.80	.55		
Distancing	.68								
Photovoice		2.41	.53	2.28	.59	2.44	.59	.63	.12
Control		2.37	.73	2.33	.67	2.32	.61		
Educating others	.48								
Photovoice		2.85	.51	2.93	.44	2.97	.48	.01*	.65
Control		2.73	.59	2.71	.63	2.60	.63		
Secrecy	.84								
Photovoice		2.44	.48	2.44	.40	2.41	.42	.53	.13
Control		2.51	.57	2.53	.62	2.47	.55		
Withdrawal	.56								
Photovoice		2.78	.32	2.78	.40	2.73	.40	.24	.31
Control		2.65	.40	2.61	.38	2.58	.34		
Personal Growth and Recovery Scale ^b	.94								
Photovoice		3.11	.54	3.20	.54	3.33	.51	.04*	.71
Control		3.01	.63	3.08	.63	3.12	.59		
Empowerment Scale ^a	.85								
Overall									
Photovoice		2.82	.32	2.89	.32	2.89	.35	.14	.42
Control		2.86	.31	2.84	.29	2.88	.33		
Self-esteem/self-efficacy									
Photovoice		2.77	.49	2.89	.49	2.89	.51	.21	.39
Control		2.88	.50	2.86	.44	2.91	.40		
Power/powerlessness									
Photovoice		2.71	.39	2.73	.53	2.78	.46	.58	.15
Control		2.65	.46	2.71	.39	2.66	.45		
Community activism and autonomy									
Photovoice		3.24	.30	3.33	.46	3.36	.47	.02*	.68
Control		3.30	.41	3.18	.36	3.24	.42		
Hopefulness									
Photovoice		2.75	.50	2.79	.43	2.71	.58	.93	.02
Control		2.80	.51	2.70	.50	2.90	.44		
Righteous anger									
Photovoice		2.69	.52	2.73	.61	2.71	.61	.78	.06
Control		2.66	.47	2.71	.51	2.76	.55		

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Table 1

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Instrument	α	Baseline (N=82)		Postintervention (N=75)		3-month follow-up (N=78)		p	Effect size (Cohen's d)
		M	SD	M	SD	M	SD		
Center for Epidemiological Studies Depression Scale ^c	.92								
Photovoice		23.23	13.24	21.59	12.65	22.60	12.16	.90	.03
Control		23.85	12.86	22.29	14.55	21.52	14.77		
Generalized Perceived Self-Efficacy Scale ^d	.91								
Photovoice		2.96	.65	3.07	.60	3.04	.65	.09	.41
Control		2.95	.57	2.92	.52	2.97	.62		

^a Items are rated on a scale from 1, "strongly disagree" to 4, "strongly agree," where positive endorsement indicates higher internalized stigma, higher likelihood of strategy use, or a greater sense of empowerment, respectively.

^b Items are rated on a scale from 1, "disagree" to 4, "agree," where positive endorsement indicates a higher level of perceived personal growth and recovery.

^c Items assess frequency of designated depressive experiences in the week preceding administration and range from 0, "rarely or none of the time," to 3, "most or all of the time"; results report sums of those frequencies. A score of 16 or higher indicates the presence of depression.

^d Items are rated on a scale from 1, "not at all true," to 4, "exactly," where positive endorsement of items indicates higher level of general perceived self-efficacy.

* $p < .05$

(92%) participants completed the posttest and 78 (95%) completed the three-month follow-up.

Intent-to-treat analyses were conducted to test the antistigma photovoice program by using all available data regardless of extent of participation in antistigma photovoice. We used mixed-effects linear regression analyses, with the postintervention and follow-up assessment of each measure as the repeated dependent variables, the baseline score as a covariate, and group (that is, antistigma photovoice or control) as the independent variable. A random intercept term was included to account for clustering of observations within individuals. With these analyses, the main effect for group tested whether the antistigma photovoice group differed from the control group at the post-treatment and follow-up assessments, with controls for baseline values. Preliminary analyses included the group-by-time interaction, but none of the interactions were significant, indicating that posttreatment and follow-up scores for participants in the two groups did not differ as a function of time. Thus the interaction term was dropped from the final analyses. All analyses were conducted with Stata, version 11.

Results

The mean \pm SD number of antistigma photovoice sessions attended was

6.93 ± 2.65 , with 75% of participants (N=30) attending six or more classes. Compared with the control group, antistigma photovoice participants reported significantly greater decreases in the overall internalized stigma score and in the corresponding stereotype endorsement and the stigma resistance subscales, and they were more likely to report using proactive strategies, such as challenging or educating others, to cope with perceived stigma (Table 1). Antistigma photovoice participants also reported significantly greater increases in their sense of community activism, indicated on the Empowerment Scale, and in their overall level of perceived recovery and growth, indicated on the PGRS. There were no differences between groups in regard to depression, self-efficacy, and other subscales of the internalized stigma, coping with stigma, and empowerment measures.

Discussion

Participation in the antistigma photovoice program was associated with significantly greater reductions in self-stigma and with greater increases in proactive coping with perceived stigma and in the person's sense of community activism. Furthermore, antistigma photovoice participants reported significantly more improvement than the control group over the intervention and follow-up periods in perceived

recovery and growth. Recent interventions have targeted self-stigma in groups led by mental health professionals (4–6). The antistigma photovoice program differed from these programs both in the role of peers as group leaders and the focus on integrating self-stigma reduction and enhancement of proactive strategies.

Consistent with the focus on strategies for changing common stigmatizing beliefs about mental illness, participants in the photovoice intervention were more likely to report educating and challenging others who demonstrate prejudicial attitudes and discriminatory behaviors. In addition, the subscale on the Empowerment Scale that improved significantly more for the photovoice group was community activism and autonomy. On the Internalized Stigma of Mental Illness Scale, the two subscales that showed the greatest improvement for antistigma photovoice were stigma resistance, or the ability to counteract the effects of psychiatric stigma (12), and stereotype endorsement. This pattern of increased coping responses to stigmatizing attitudes of others may be critical to the observed reduction in self-stigma. It is possible that the construction of a personal narrative regarding the individual's experience with stigma through the photovoice methodology, combined with teaching

behavioral strategies for addressing negative stereotypes about mental illness, led to more robust changes in participants' ability to handle social situations involving stigma than if the intervention had focused on self-stigma alone.

In addition to changes in self-stigma and coping with perceived stigma, antistigma photovoice participants reported significantly greater improvements in personal recovery on the PGRS. These findings suggest that the antistigma photovoice program may be especially potent in helping participants move beyond the confines of conventional, stigmatizing beliefs and to continue their personal growth as individuals.

This study had several noteworthy limitations. First, the findings may have limited generalizability because participants were not recruited from community-based mental health programs, although most were receiving mental health treatment services in the community. Second, data were collected via self-report measures. Furthermore, we did not include or exclude individuals on the basis of their psychiatric diagnosis, which resulted in a variety of diagnostic criteria that could have confounded our findings. Third, the new PGRS measure, which showed the largest effect size for positive change among our measures, was still in early stages of psychometric testing. Fourth, participants in the control group were exposed to other recovery-oriented curricula offered at the recovery center, which may have reduced any impact the antistigma photovoice program had on broader outcomes, such as self-efficacy, empowerment,

and reduction of depressed mood. Finally, a longer follow-up period may have revealed different longitudinal outcomes.

Conclusions

The antistigma photovoice program is a promising peer-led group intervention for enhancing growing public health efforts to reduce self-stigma and empower individuals with serious mental illnesses to proactively confront public prejudice and discrimination. Further testing in different settings with different clinical populations is needed to replicate and extend these initial findings.

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