



Contents lists available at ScienceDirect

Schizophrenia Research

journal homepage: www.elsevier.com/locate/schres

Self-concept and Engagement in LiFe (SELF): A waitlist-controlled pilot study of a novel psychological intervention to target illness engulfment in enduring schizophrenia and related psychoses

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ARTICLE INFO

Article history:

Received 29 March 2020

Received in revised form 13 July 2020

Accepted 16 November 2020

Available online xxxxx

Keywords:

Psychosis

Self-concept

Self-identity

Cognitive-behaviour therapy

Narrative therapy

Recovery

ABSTRACT

Background: Illness engulfment, a process whereby one's self-concept becomes defined entirely by illness, is implicated in the association between insight and depressive symptomatology in schizophrenia. We examined the feasibility and acceptability of a brief intervention called Self-concept and Engagement in LiFe (SELF) that aims to reduce engulfment and enhance personal recovery.

Methods: Forty individuals diagnosed with schizophrenia spectrum disorders were assigned to SELF intervention or waitlist-control (treatment-as-usual). Outcome measures included the Modified Engulfment Scale and measures of depressive symptomatology, self-esteem, recovery style, quality of life, and self-stigma.

Results: Retention at post-therapy was 90% (18/20 completed SELF; 18/20 remained on waitlist). Eleven waitlist participants then completed SELF (73% overall retention). Participants reported high satisfaction with the intervention, and participation was associated with reduced engulfment ($ES = 0.48$), more adaptive recovery style ($ES = 0.37$), improved self-esteem ($ES = 0.35$), and reduced self-stigma ($ES = 0.25$). The treatment group had lower engulfment (adjusted mean = 91.9) compared to waitlist (adjusted mean = 100.0) post-therapy, $F(1,32) = 5.78, p = .02, \text{partial } \eta^2 = 0.15$.

Conclusions: The SELF intervention is highly acceptable to participants and can reduce engulfment and improve secondary outcomes. Future research should examine the efficacy of SELF in a larger randomized controlled trial.

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1. Introduction

In schizophrenia, good insight or awareness of various aspects of illness is paradoxically associated with positive outcomes such as better treatment adherence and improved community functioning, and with negative outcomes such as increased levels of depression and poorer self-reported quality of life (Lysaker et al., 2018). There is concern among clinicians that improving insight may lead to increased depressive symptomatology and suicidality. Guided by the interventionist causal model approach (Kendler and Campbell, 2009) which identifies a potential causal mechanism and establishes a theoretical model for the association between variables to guide the development of

interventions, we previously identified 'illness engulfment' as a mediating and moderating factor in the association between insight and depressive symptomatology (Konsztowicz and Lepage, 2019). Here, we examine the effects of an intervention that targets illness engulfment in a sample of individuals with enduring schizophrenia and related psychoses (henceforth referred to as 'enduring schizophrenia').

Illness engulfment is a process whereby an individual's self-concept becomes defined solely by illness, and the 'patient' role takes on a primary identity (Estroff, 1989; Lally, 1989; McCay and Seeman, 1998). Related terms for illness engulfment found in the literature are illness identity (Oris et al., 2016), illness intrusiveness (Devins, 1994), illness self-concept (Morea et al., 2008), and illness centrality (Helgeson and Novak, 2006). The concept of engulfment is particularly relevant to people with schizophrenia because of the high negative impact of the illness on self-concept (McCay and Seeman, 1998). Indeed, re-establishment of one's self-identity and the transition from 'patienthood' to 'personhood' have been identified as key components of the process of recovery and regaining functioning in schizophrenia (Roe, 2001; Shea, 2010). In schizophrenia, higher levels of engulfment as measured by the Modified

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Engulfment Scale (McCay and Seeman, 1998) are associated with a longer duration of illness and more frequent hospitalizations (McCay and Seeman, 1998), which suggests that individuals in an enduring phase of illness may be especially prone to engulfment. We presume a bi-directional effect, where higher engulfment is associated with poorer outcomes, and in turn, recurrent hospitalization feeds engulfment in the patient role. Illness engulfment is also associated with low self-esteem, poor self-efficacy, hopelessness, and depressive symptomatology (McCay and Seeman, 1998), as well as with better insight (Williams and Collins, 2002). The findings of our previous study suggest that in people with enduring schizophrenia, having greater awareness of illness and the need for treatment is associated with higher engulfment, which in turn is associated with increased depressive symptomatology (Konszowicz and Lepage, 2019).

Illness engulfment is related to but not synonymous with the concept of internalized stigma, or self-stigma. Self-stigma refers to the tendency to apply societally endorsed stigmatizing beliefs about mental illness to oneself (Corrigan, 2006; Ritsher et al., 2003). According to Williams (2008), acquiring insight involves taking on a new post-diagnosis identity that changes the way individuals see themselves, and this occurs in the context of a social environment with significant stigma towards schizophrenia. The author proposed an 'engulfed' post-diagnosis identity whereby role constriction is prompted by the interaction of insight and self-stigma: internalization of negative stereotypes about people with schizophrenia as damaged or deviant may fuel the belief that one cannot participate in society, thus limiting the range of social identities (Williams, 2008). This may lead to a loss of sense of self and purpose in life, which may engender feelings of hopelessness and demoralization. Thus, internalized stigma is seen as the link between the insight of an engulfed patient and their poor functioning (Williams, 2008).

To our knowledge, only one randomized clinical trial (RCT) for a clinical intervention that directly targets engulfment in people with psychotic disorders has been conducted. McCay et al. (2007) reported on a group intervention aimed at promoting healthy self-concepts and reducing engulfment and self-stigma in people with first-episode schizophrenia. The study compared 29 participants receiving a 12-week, 1.5 h per session, manualized group intervention with 18 participants receiving treatment-as-usual (TAU). The results showed significant improvements in measures of engulfment, hope, and quality of life in the treatment group compared to control immediately post-intervention. No effects were seen however for measures of self-concept, self-esteem, self-efficacy, and stigma. We identified some limitations with this rigorously designed RCT. Firstly, the authors did not examine indicators for the minimal clinically important difference (MCID), which reflects changes that are meaningful to the patient (Cook, 2008). Secondly, given the association between engulfment and indicators of illness chronicity (McCay and Seeman, 1998), engulfment may have greater implications in people with enduring schizophrenia, so it may be more relevant to target this sub-population. Finally, individual therapy may be a more suitable modality for exploring identity and self-concept than group therapy, since personal recovery is a uniquely individual experience whereas group therapy may focus more on support and relational or communicative skills (Yalom and Leszcz, 2005).

Thus, we aimed to explore whether a brief intervention that targets illness engulfment, in addition to standard care, leads to a reduction in engulfment and secondary outcomes in people with enduring schizophrenia who show signs of engulfment. We developed a novel, manualized intervention protocol, called Self-concept and Engagement in LiFe (SELF), and conducted a pilot study using a waitlist-controlled quasi-experimental design with the following objectives: a) to examine the feasibility and acceptability of the SELF intervention; b) to establish effect sizes for the purpose of planning a randomized-controlled trial; c) to explore the clinical meaningfulness of observed changes in illness engulfment; and d) to conduct exploratory analyses of efficacy. We

hypothesized that 1) the pilot study would have a high retention rate and positive responses to satisfaction questionnaires; 2) participation in the intervention would lead to a reduction in engulfment scores; 3) changes in engulfment would be clinically meaningful; and 4) changes in engulfment would translate into a shift in recovery style towards a more adaptive, integrative style (see Recovery Style Questionnaire below), increased self-esteem, reduced self-stigma, reduced depressive symptomatology, and improved self-reported quality of life.

2. Methods

2.1. Participants

Participants were recruited from the Center for Personalized Psychological Intervention for Psychosis (Ci3P) of the Douglas Institute in Montreal from April 2017 to July 2018. Individuals receiving services at Ci3P who showed signs of engulfment (i.e., predominant "patient" identity, preoccupation with illness, poor sense of self, etc.) were informed of the study by their treating clinician. Interested individuals were invited to complete a screening procedure for eligibility. Inclusion criteria were: a) diagnosis of schizophrenia spectrum or related psychotic disorder, b) age 18 and over, c) clinically stable, d) a minimum of two years of pharmacological treatment for psychosis, e) English or French-speaking, f) otherwise physically healthy, f) meeting our criterion score of 75 or above on the Modified Engulfment Scale (McCay and Seeman, 1998), which we determined previously from a large sample (Konszowicz and Lepage, 2019) is a cut-off that identifies individuals who experience a broad range of above-marginal levels of engulfment (see Supplementary Material).

Exclusion criteria included low IQ score (>2 standard deviations below group mean), history of medical or neurological condition that can affect cognition, family history of hereditary neurological disorders, or current severe substance use disorder. Written informed consent was obtained from all participants. Research protocols were approved by the Douglas Institute's Research Ethics Committee. We monitored unwanted events and adverse treatment reactions (Linden and Schermuly-Haupt, 2014), and followed the Jonsson et al. (2014) guidelines on reporting harms related to psychological interventions.

2.2. Assessment

Diagnosis was confirmed by the Structured Clinical Interview for DSM-5 which was administered by trained research personnel, in addition to medical chart review. Clinical data and medication information were collected using a semi-structured interview and medical chart review. The Scale for the Assessment of Positive Symptoms (SAPS) (Andreasen, 1984b) and the Scale for the Assessment of Negative Symptoms (SANS) (Andreasen, 1984a) were used to quantify the current severity of psychosis symptoms. Insight was assessed using an 8-item measure of the insight dimension of 'Awareness of Illness and Need for Treatment' (Konszowicz et al., 2018). The Wechsler Abbreviated Scale of Intelligence (WASI) was used to estimate IQ. Assessments were conducted by trained research assistants who previously achieved inter-rater reliability scores in the good to excellent range on the SAPS and SANS (Konszowicz et al., 2018).

Participants were pseudo-randomized via sequential assignment either to the SELF treatment group or the waitlist control group at the time of entry into the study. Participants assigned to the treatment group began the intervention within one week after the initial assessment. Participants assigned to the waitlist group received TAU for four weeks, then underwent a secondary assessment, and began the intervention at five weeks post-entry into the study. All participants had a follow-up evaluation within one week after completing the intervention. All participants received TAU at Ci3P throughout the course of the study. Enrollment took place on an ongoing basis until 40 participants were recruited.

2.3. Structure and content of SELF

Participants met individually with a therapist once a week for 50 min. On average, participants took 4.6 weeks to complete the intervention. The structured SELF intervention manual, available in English and French versions, consists of a series of four modules aimed at helping participants to consider their experience of having a mental health problem in a constructive way, to recognize and re-integrate an identity apart from having a mental health problem, and to develop a healthier self-concept. The intervention is grounded primarily in a cognitive-behavioural therapy (CBT) approach (Beck, 2011), but also draws on positive psychology (Seligman and Csikszentmihalyi, 2000) and narrative therapy (White and Epston, 1990). The main topics of the modules are: 1) recovery from psychosis and discussion about engulfment as a common way of coping with illness; 2) identity development and exploration of self-awareness; 3) personal narrative and the impact of mental health on identity; and 4) fostering a healthy self-concept and self-esteem. Each session follows a similar structure, including check-in, review of the previous session and at-home activity, discussion of a new topic, and outlining the at-home activity for the coming week. The weekly check-ins involve completing a general mood rating and specific tasks such as identifying a character strength that has helped one through the experience of having a mental health problem. The at-home activities include tasks such as generating a list of words to describe oneself or bringing in a photo of a meaningful memory from one's life. After each session, the therapists provided a handout which included a summary of the session and the activity to complete at home (see Supplementary Material for sample).

2.4. Outcome measures

All measures have established validity for the purpose of the current study. Some of the scales are available in French-validated published versions: SERS (Lecomte et al., 2006); ISMI (Boyd et al., 2014), and CDS (Reine et al., 2000). The remaining measures were translated following established guidelines (Tsang et al., 2017) involving an expert committee performing forward and backward translations.

Modified Engulfment Scale (MES): The MES (McCay and Seeman, 1998) is a 30-item self-report scale that measures the impact of schizophrenia on self-concept. Items are rated on a 5-point Likert scale from 1 (completely false) to 5 (completely true). A sample item is "Friends and family see me as just a 'mental patient'". The total score range is from 30 to 150, with higher scores indicating higher engulfment. The measure has good internal consistency reliability (coefficient alpha 0.91) and construct validity, and can be used to evaluate the outcome of therapeutic interventions (McCay and Seeman, 1998).

Recovery Style Questionnaire (RSQ): The RSQ (Drayton et al., 1998) is a 39-item self-report questionnaire that classifies individuals into one of two distinct styles of recovery: integration, an adaptive recovery style where individuals are curious about their psychotic experiences, use them as a source of information, see their mental activity as continuous from pre to post-psychosis, and have a flexible attitude towards illness; versus sealing over, a less adaptive recovery style where individuals tend to have a fixed, negative view of their illness, try to isolate their psychotic experience, and are not interested in trying to understand their symptoms. Thirteen subscales are scored and categorized as 'integration' or 'sealing over', and the percentage of subscales categorized as 'integration' classifies an individual's overall recovery style on a graded scale, from 1 (complete integration) to 6 (complete sealing over).

Self-Esteem Rating Scale (SERS): The SERS (Nugent and Thomas, 1993) is a self-report scale used to measure level of self-esteem. Forty items are rated on a 7-point Likert scale. Twenty items are negatively scored. The total score range is from -120 to +120, with positive scores indicating more positive self-esteem, and negative scores indicating more negative self-esteem.

Internalized Stigma of Mental Illness (ISMI) scale: The ISMI (Ritsher et al., 2003) is a self-report questionnaire used to measure the subjective experience of stigma among people with psychiatric disorders. Twenty-nine items are rated on a 4-point Likert scale. A total score is calculated by summing the answered items and dividing by the total number of answered items, with higher scores indicating higher internalized stigma.

Calgary Depression Scale (CDS): The CDS (Addington et al., 1990) is an interviewer-rated measure used to assess depressive symptoms in schizophrenia. Nine items are rated on a 4-point Likert scale. The total score range is from 0 to 27, with higher scores indicating higher depressive symptomatology.

Abbreviated Quality of Life Enjoyment and Satisfaction Questionnaire (Q-LES-Q-18): The Q-LES-Q-18 (Ritsner et al., 2005) is a self-report questionnaire used to assess quality of life outcomes among people with psychosis. Eighteen items are rated on a 5-point Likert scale. A general Quality of Life Index score is calculated by averaging the scores across all items, with higher scores indicating better satisfaction.

Satisfaction with Therapy Questionnaire (STQ): The STQ (Beck et al., 1993) is a measure of general satisfaction with CBT that has been adapted for use in clients with psychosis (Kuipers et al., 1997; Lawlor et al., 2017; Miles et al., 2007). Items are rated on a scale from 1 to 5, where higher scores indicate higher satisfaction. Participants may provide additional comments.

Client Satisfaction Questionnaire (CSQ): The CSQ was developed for this study and consists of 5 items rated on a 4-point Likert scale that ask participants to rate 1) their experience attending sessions; and whether 2) they would recommend the therapy to others; 3) it helped them feel more positively about themselves; 4) it helped them explore who they are as individuals; and 5) they would like to continue attending sessions if possible. Participants may provide comments and suggestions.

2.5. Statistical analyses

We examined the study profile and examined participants' responses to the satisfaction questionnaires using quantitative and qualitative analyses. Using a per-protocol principle, standardized effect sizes were calculated for each outcome measure by subtracting baseline scores from post-intervention scores and dividing by the standard deviation of baseline scores. We set five a priori thresholds for the MCID on the MES scale. The RSQ and CDS were used as external anchors. These scales have validated cut-off scores that classify respondents into adjacent levels of the construct. The MCID is the difference between two adjacent levels of a scale that is used as the anchor (Copoly et al., 2007). We also used the standard error of measurement (SEM), the standard deviation (SD), and the effect size (ES) on the MES to determine the MCID using distribution-based approaches (see Supplementary Material for details). We set the MCID thresholds as: 1) the difference in mean baseline MES scores between participants who scored above versus below 3 points on the RSQ at baseline, which indicates 'sealing over' versus 'integration', respectively (Drayton et al., 1998); 2) the difference in mean baseline MES scores between participants who scored above versus below 6 points on the CDS at baseline, which indicates the presence versus absence of a depressive episode, respectively (Addington et al., 1993; Müller et al., 2006); 3) the value of 1 SEM of the baseline MES score; 4) the value of 0.5 SD of the mean baseline MES score; and 5) the value of 0.2 SD of the mean baseline MES score, which reflects a small effect size. Finally, analyses of covariance (ANCOVA) were conducted with baseline scores as a covariate and condition (treatment vs waitlist) as the independent between-group variable.

3. Results

Fig. 1 displays the CONSORT flow diagram for the study. At post-therapy, 18/20 patients completed the intervention and 18/20 patients

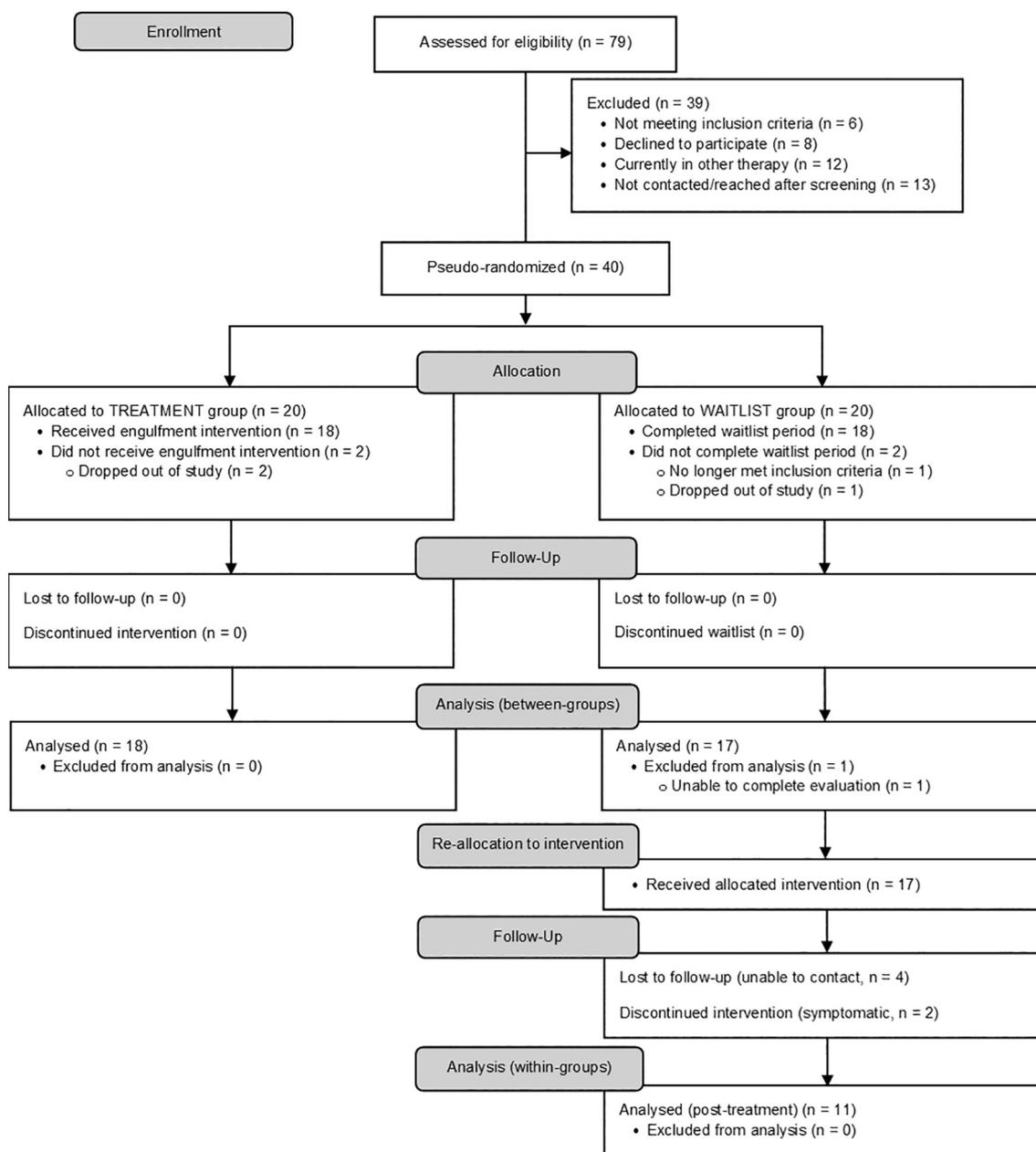


Fig. 1. CONSORT flow diagram of the study.

remained on the waitlist, providing a retention rate of 90%. Waitlist participants were subsequently offered the intervention and 11 completed it out of 17 (one participant was unable to complete the evaluation and was excluded). Hence, completion at follow-up was 73% ($n = 29$) of the original sample. We reported an unwanted event for one participant who had a psychotic relapse unrelated to the intervention and necessitated a brief hospitalization.

Baseline sociodemographic and clinical data of the participants are presented in Table 1. Where a single item response was missing on a questionnaire, the mode was imputed (3 cases). Comparison of treatment and waitlist groups at baseline using Mann-Whitney U and chi-square tests suggested that the waitlist group had a longer duration of illness ($U = 74.0$, $z = -2.24$, $p = .025$), higher engulfment ($U = 79.5$, $z = -2.43$, $p = .02$), and higher level of depressive symptomatology ($U = 65.0$, $z = -2.92$, $p < .01$) than the treatment group. Participants who dropped out or were excluded were comparable to those who remained in the study.

Participants provided predominantly positive subjective ratings of the SELF intervention on the satisfaction questionnaires (see Table S1 in Supplementary Material). Additional comments were written on the STQ by 59% ($n = 17$) of participants and on the CSQ by 66% ($n = 19$) of participants. Table 2 presents selected quotes from participants. Suggestions for potential improvements to the SELF intervention were made by 41% ($n = 12$) of participants and related primarily to extending the therapy.

Fig. 2 shows the standardized effect sizes for changes in outcomes before and after the SELF intervention. Participation was associated with reduced engulfment, reduced tendency towards a maladaptive recovery style, increased self-esteem, and reduced internalized stigma, but was not associated with improvement in depressive symptomatology or quality of life. A sensitivity analysis conducted on a sub-sample of participants with baseline CDS scores >6 (established cut-off for the presence of depression) demonstrated a reduction in depressive symptomatology ($n = 12$).

Table 1
Sociodemographic and clinical characteristics of the sample at baseline.

Characteristic	Treatment (n = 18)			Waitlist (n = 17)		
	n (%)			n (%)		
Sex (F/M)	10 (55.6)/8 (44.4)			7 (41.2)/10 (58.8)		
Language (English/French)	8 (44.4)/10 (55.6)			9 (52.9)/8 (47.1)		
SES ^a						
Lower	9 (50.0)			7 (41.2)		
Middle	3 (16.7)			2 (11.8)		
Upper	6 (33.3)			5 (29.4)		
Unknown	0 (0.0)			3 (17.6)		
Diagnosis						
Schizophrenia	9 (50.0)			7 (41.2)		
Schizoaffective	5 (27.8)			6 (35.3)		
Other psychotic disorder ^b	4 (22.2)			4 (23.5)		
Hosp. status (In/Outpatient)	1(5.6)/17 (94.4)			1 (5.9)/16 (94.1)		
On antidepressant medication	8 (44.4)			10 (58.8)		
On mood stabilizing medication	7 (38.9)			6 (35.3)		
Receiving concomitant psychotherapy	8 (44.4)			8 (47.1)		
Characteristic	M	SD	Range	M	SD	Range
Age (years)	39.6	12.7	20–61	41.1	8.7	26–57
Education (years)	12.4	2.5	7–16	11.8	3.6	1–16
IQ ^c	96.2	15.0	69–131	99.1	13.4	74–120
Duration of illness (years)	13.3	9.9	2–43	20.2	9.3	5–37
# of hospitalizations	3.4	3.0	0–11	4.1	4.7	0–18
Dur. of hospitalizations (days) ^d	42.6	29.2	1–95	86.5	121.2	1–430
Chlorpromazine equivalent ^e	864.2	792.8	25–2958	824.2	556.1	125–2001
SAPS Total	19.2	13.9	0–44	25.8	16.8	5–55
SANS Total	24.6	11.6	6–49	27.2	8.1	13–45
Insight (AINT)	18.9	2.2	15–22	17.9	1.5	15–20
Engulfment (MES)	96.1	15.0	78–130	106.9	11.8	83–127
Recovery style (RSQ)	2.9	1.2	1–5	2.5	1.1	1–4
Self-esteem (SERS)	9.8	42.8	–106–61	–4.5	31.5	–69–61
Internalized stigma (ISMI)	2.2	0.5	1.5–3.3	2.4	0.5	1.3–3.3
Depressive symptomatology (CDS)	5.3	3.5	1–14	8.7	3.4	3–15
Quality of life (Q-LES-Q-18)	3.3	0.5	2.6–4.1	2.9	0.7	1.3–3.6

SAPS, Scale for the Assessment of Positive Symptoms total (composite) score was calculated by summing all items except for the global rating items; SANS, Scale for the Assessment of Negative Symptoms total (composite) score was calculated by summing all items except for the global rating items; AINT, Awareness of Illness and Need for Treatment measure of insight as per Konszowicz et al. (2018) where higher scores indicate better insight; MES, Modified Engulfment Scale; RSQ, Recovery Style Questionnaire; SERS, Self-Esteem Rating Scale; ISMI, Internalized Stigma of Mental Illness; CDS, Calgary Depression Scale; Q-LES-Q-18, Abbreviated Quality of Life Enjoyment and Satisfaction Questionnaire.

^a Socioeconomic status was rated using the Hollingshead two-factor index of social position (Miller, 1991) with modification of the education scale for Quebec.

^b Participants in this category had diagnoses of major depressive episode with psychotic features (n = 1), bipolar disorder with psychotic features (n = 5), and unspecified schizophrenia spectrum and other psychotic disorder (n = 2).

^c IQ score estimated as per Wechsler Abbreviated Scale of Intelligence – Second Edition (WASI-II) two-subtest form (FSIQ-2).

^d Value refers to the grand mean of each participant's mean length of stay.

^e All participants were taking antipsychotic medications at the time of study, and antipsychotic chlorpromazine-equivalent dose was calculated according to Leucht et al. (2014).

The mean baseline MES score for participants scoring ≤3 on the RSQ (n = 25) was 100.9 (95% CI 94.6–107.1) and for participants scoring >3 (n = 10) was 102.5 (95% CI 93.2–111.8). We therefore estimated that MES scores needed to decrease by 1.6 units for average participants to move from the 'sealing over' category to the 'integration' category on the RSQ. The mean baseline MES score for participants scoring ≤6 on the CDS at baseline (n = 16) was 94.3 (95% CI 87.9–100.6) and for participants scoring >6 (n = 19) was 107.3 (95% CI 100.6–114.02). Therefore, MES scores needed to decrease by 13 units for average participants to move from the moderate/severe depression category to absent/mild on the CDS. The criteria for the distribution-based approaches using the standard error of measurement, standard deviation, and effect size were 2.4, 7.2, and 2.9, respectively. The mean change in MES score for participants who received the intervention (n = 29) was 6.7 units (95% CI 2.5–10.9). Therefore, the criteria for MCID using anchoring to the RSQ,

Table 2
Selected comments and suggestions pertaining to the SELF intervention provided by participants.

Theme	Participants' comments
Self-identity & self-awareness	"It was helpful to remember my other roles in life and to see the difference between my life before and my life now." [Translated from French] "...What I remember most is that I'm not just my illness. I have other roles in my life. There are celebrities who are mentally ill and who have successfully made a career, a life. The negative self-talk that I say to myself, I am realizing that it affects my self-esteem enormously. I have to work on that in the present and future." [Translated from French] "I was surprised that such a short amount of sessions could be very beneficial in better understanding the chaotic nature of hospitalization and how different I am as a person now." "One of the exercises asked me to highlight my strengths that I possess - such as my language skills, my roles as a brother, son, friend & my strong belief in God. All this helped me to shift my focus on more positive aspects of myself."
General satisfaction with therapy	"I would like to do the therapy again if possible. It helped me a lot." [Translated from French] "I appreciated the help they gave me." [Translated from French]
Helpful aspects of therapy	"Paying attention to the positive aspects of my life. Finding photos of me when I was well." "The self esteem session really helped me think outside the box. I now understand the person I am better."
Unhelpful aspects of therapy	"The therapist was very good, but it did not help me much to solve my problems." [Translated from French]
Suggestions to extend the therapy/alter content	"Maybe one or two more sessions, because I was getting a taste of it. I saw the changes that took place in me after 4 weeks." [Translated from French] "Focus less on the illness and leave more room for the rest. The therapy should last longer." [Translated from French]

the standard error of measurement, and effect size were met at the group level.

Baseline engulfment score was related to engulfment score at follow-up, $F(1, 32) = 29.75, p < .001, r = 0.69$. Table 3 shows an effect of group on engulfment score at post-treatment, after controlling for baseline score, where individuals who participated in the intervention had lower engulfment than those receiving TAU, $F(1, 32) = 5.78, p = .02, \text{partial } \eta^2 = 0.15$. There were no observed effects for the secondary outcome measures.

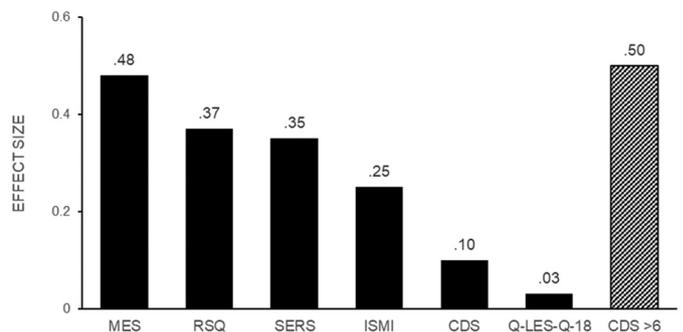


Fig. 2. Standardized effect sizes for changes in illness engulfment (MES), recovery style (RSQ), self-esteem (SERS), self-stigma (ISMI), depressive symptomatology (CDS) and quality of life (Q-LES-Q-18) for all participants who received the SELF intervention (n = 29). The effect size for change in depressive symptomatology among a sub-sample of participants (n = 12) who scored >6 on the CDS at baseline is also displayed.

Table 3
Exploratory analyses on the efficacy of the SELF intervention.

Variable	Between groups comparisons (ANCOVA) ^a (n = 35)			
	F	df	p	η_p^2
MES	5.78	(1, 32)	0.02*	0.15
RSQ	0.79	(1, 32)	0.38	0.02
SERS	1.88	(1, 32)	0.18	0.06
ISMI	1.23	(1, 31)	0.28	0.04
CDS	0.96	(1, 32)	0.33	0.03
Q-LES-Q-18	0.49	(1, 32)	0.49	0.02

MES, Modified Engulfment Scale; RSQ, Recovery Style Questionnaire; SERS, Self-Esteem Rating Scale; ISMI, Internalized Stigma of Mental Illness; CDS, Calgary Depression Scale; Q-LES-Q-18, Abbreviated Quality of Life Enjoyment and Satisfaction Questionnaire; η_p^2 , partial eta squared.

^a Analysis of covariance was conducted with follow-up score as the dependent variable, baseline score as the covariate, and group (treatment vs waitlist) as the independent variable.

* Significant at the $p < .05$ level.

4. Discussion

4.1. General discussion

This pilot study examined the feasibility and acceptability of a four-session, one-on-one psychological intervention to reduce illness engulfment among individuals with enduring schizophrenia. The SELF intervention had an excellent retention rate, was highly acceptable to participants, and led to a clinically meaningful reduction in level of engulfment.

The broad concept of illness engulfment appears to be relevant to many people with enduring schizophrenia, as demonstrated by good recruitment rates and relatively high levels of engulfment among participants in our sample. Higher levels of engulfment in this study sample may be attributed to the fact that recruitment efforts were geared towards individuals in an enduring phase of illness who showed signs of engulfment observable to their treating clinician, and the fact that we excluded participants with lower levels of engulfment. Negative ratings of the SELF intervention pertained mostly to gaining skills and knowledge in CBT, which was not a targeted goal of this intervention. The most common suggestion for improvement was to increase the number of sessions; however, the manualized SELF intervention was designed as a brief and focused therapy that can be used as an add-on to other treatment interventions. Adding more sessions could decrease recruitment or increase dropout rates. Finally, at least two therapists verbally reported that the intervention manual is user-friendly, and the content is appropriate and interesting.

The various components of the SELF intervention were selected specifically to target the theoretical underpinnings of the concept of engulfment, including self-concept, self-esteem, self-efficacy, hopelessness, and depressive symptomatology (McCay and Seeman, 1998; Vining and Robinson, 2016). Our observed effect size on the MES (0.48) is similar to that derived from the RCT by McCay et al. (2007), but with a much shorter intervention. However, we did not see evidence for the expected changes in depressive symptomatology or quality of life after the intervention. This may be explained by the relative brevity of the intervention (4 weeks). We hypothesize that participation in the SELF intervention may lead to immediate changes in engagement with life roles beyond the patient role and level of engulfment; whereas continued engagement over time may lead to changes in depressive symptomatology and quality of life via downstream processes that may take effect more slowly after the intervention is completed. The immediate effects of reduced engulfment on mood may be better captured by a measure of subjective well-being. The limited effect on depressive symptomatology may be further explained by the fact that this study did not specifically recruit participants with clinical levels of depression. As demonstrated in the sensitivity analysis, there was a moderate effect

size for reduction in depressive symptomatology among individuals who scored above the clinical cut-off for depression on the CDS (>6) at baseline. The finding that reducing engulfment improves depressive symptomatology reiterates the mediating role of engulfment between insight and depression in schizophrenia as proposed in our earlier work (Konszowicz and Lepage, 2019).

This is the first study of which we are aware to characterize and target illness engulfment in people with enduring schizophrenia. This is also the first study to report MCID values for the Modified Engulfment Scale. The SELF intervention consists of components that respond to the need for interventions that increase well-being and promote recovery, including cognitive behavioural therapy, narrative psychology and positive psychotherapy (Slade, 2010). The intervention is safe and non-confrontational, and it is not problem-focused. It aims to help people reconstruct a sense of self and regain agency, especially through the narrative component, which Roe and Davidson (2005) argue is fundamental to recovery. Notably, the results of this pilot study demonstrated an important effect on recovery style, wherein participation in the SELF intervention was associated with an increasingly adaptive recovery style. In other words, participants tended to move away from having a fixed, negative view of their illness with little interest in trying to understand their symptoms, and towards being curious about their psychotic experiences and having a flexible attitude towards illness. The promising results of the SELF intervention may also extend beyond the context of psychosis to other chronic health conditions that impact identity, such as chronic kidney disease (Beanlands et al., 2006; Charmaz, 1983). There has been a recent push for health and mental health services to promote well-being and recovery rather than simply treating illness (Slade, 2010; World Health Organization, 2001). These facts highlight a global need for interventions aimed at reducing engulfment and enhancing personal recovery in the context of chronic illnesses.

While few interventions to target engulfment have been developed thus far, there have been similar efforts to develop interventions aimed at the related concept of self-stigma and the recovery of personal identity in the broader literature (Best et al., 2018; Morrison et al., 2016; Wood et al., 2018; Yanos et al., 2015; Yanos et al., 2011; Young, 2018). Most notably, Yanos et al. (2011) developed a group-based intervention called Narrative Enhancement and Cognitive Therapy (NECT) that was designed to decrease self-stigma and help individuals to construct a richer self-identity via psychoeducation, cognitive restructuring, and narrative enhancement. This work was grounded in Yanos et al.' (2010) theoretical model of the impact of illness identity on recovery from mental illness, which proposed that the effect of accepting a definition of oneself as mentally ill on outcome and functioning is moderated by the meaning that a person attaches to the illness. Studies examining the NECT intervention have demonstrated some improvement in measures of self-stigma and insight (Yanos et al., 2012), effectiveness in improving self-stigma, self-esteem, quality of life, and hope (Roe et al., 2014) and effectiveness in improving self-stigma and self-esteem post-intervention and at 6-month follow up (Hansson et al., 2017).

The NECT and SELF interventions share a similar goal of enriching self-identity and improving outcome in people with schizophrenia via CBT-based and narrative therapy-informed approaches. In addition to the group vs. individual format and the duration of the treatment, there are several other prominent differences between these interventions. The NECT intervention focuses on decreasing self-stigma as a means to increase opportunities to engage in other roles and enrich self-identity. This is achieved via psychoeducation around stigma, learning to challenging negative beliefs about the self, and working to re-frame themes of internalized stigma in one's narrative. Meanwhile, the SELF intervention focuses on exploring the self outside of the 'patient' role and enriching self-identity via self-awareness exercises, engagement in roles beyond the mental health service user, and re-authoring the personal narrative in the context of a broader sense of self. Importantly, the results of the current pilot study show that

participation in the SELF intervention may in fact reduce self-stigma, which suggests that exploring and engaging in roles beyond the 'patient' role may confer a protective factor against self-stigmatization and provide another means to challenge negative beliefs about mental illness that one may apply to oneself. Thus, the NECT and SELF interventions offer differing routes by which participants may arrive at a less self-stigmatized and enriched sense of self, which we anticipate will translate broadly into improved functioning and outcome for these individuals. This approach is in line with the experimental therapeutics framework for the construction of novel interventions, which requires that: 1) a specific and treatable target faulty mechanism is identified; 2) the target faulty mechanism can be modified and is amenable to a psychological intervention, and 3) the engagement of the target mechanism by an experimental intervention is clinically effective (Insel and Gogtay, 2014; Lewandowski et al., 2018).

4.2. Limitations

This pilot study has some limitations that warrant attention. Participants were pseudo-randomized to treatment and waitlist groups using sequential assignment for the purpose of therapist availability and convenience. A proper randomized controlled trial is needed. Furthermore, while we understand illness engulfment to be a complex theoretical construct that has many attributes and indicators (Vining and Robinson, 2016), we cannot discern the active ingredient of the intervention. Similar to the multicomponent NECT intervention (Yanos et al., 2011) that combines psychoeducation, cognitive restructuring, and narrative enhancement, we assume that the various components of the engulfment intervention work together to create a synergistic effect. A future study that measures engulfment level at more regular intervals throughout the intervention and counterbalances the order of sessions could better determine whether a specific session or therapeutic technique is a catalyst for change. Finally, this study did not include a measure of fidelity to ensure that the SELF intervention was provided in accordance with the detailed guidelines provided in the therapy manual. Thus, future studies would benefit from use of a fidelity scale and monitoring to ensure quality control.

4.3. Conclusions and future directions

The brief SELF intervention can reduce illness engulfment among persons with enduring schizophrenia. The positive results of this pilot study warrant further investigation in a large-scale randomized controlled trial with a longer-term follow-up to examine consequent changes depressive symptomatology and quality of life. Investigators could consider the development of a computerized or peer-delivered version to optimize dissemination. Finally, consideration could be made to adapt the SELF intervention for other clinical populations that may benefit from it.

CRediT authorship contribution statement

Susanna Konsztowicz formulated the research question and designed the experiment in collaboration with Norbert Schmitz and Martin Lepage. Together with Martin Lepage, Susanna Konsztowicz developed and wrote the therapy intervention manual for use with participants and applied for ethical approval of the study. Casandra Roy Gelencser and Catherine Otis contributed to revising and editing the therapy manual. Recruitment and assessment of participants and data entry were conducted by members of the Martin Lepage laboratory. The intervention protocol was provided to participants by Casandra Roy Gelencser, Catherine Otis, and psychology trainees under the supervision of Martin Lepage. Susanna Konsztowicz conducted all analyses and wrote the manuscript. Casandra Roy Gelencser, Catherine Otis, Norbert Schmitz, and Martin Lepage assisted with interpretation of the data and provided feedback on earlier versions of the manuscript.

Declaration of competing interest

None.

Acknowledgment

We thank the members of our lab for their help with recruitment and conducting the evaluations. We are grateful to all of the people who participated in the study. This study was supported by the Canadian Institutes of Health Research (#106434). Martin Lepage holds a James McGill professorship from McGill University and a Research Chair from the Fonds de Recherche Québec – Santé. Dr. Lepage reports personal fees from Otsuka Canada, personal fees from Lundbeck Canada, grants and personal fees from Janssen, personal fees from MedAvante-Prophase, outside the submitted work. Susanna Konsztowicz is supported by a Vanier Canada Graduate Scholarship.

Role of the funding source

None.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.schres.2020.11.028>.

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