


Exploring the use of activity-based group therapy in increasing self-efficacy and subjective well-being in acute mental health

Hong Kong Journal of Occupational Therapy
2022, Vol. 35(1) 52–61
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DOI: 10.1177/15691861221075798
journals.sagepub.com/home/hjo


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Abstract

Background/Objectives: Self-efficacy is a key component in mental health recovery and improvement in well-being. Mental illness is often resultant of environmental stressors, highlighting the importance of coping skills. Occupational therapists commonly utilise activity-based group therapy to encourage use of activities as coping strategies. However, there has been little research concerning these groups and their role in enhancing self-efficacy in behavioural-based coping skills. This study aimed to explore factors that affect behavioural-based coping self-efficacy during activity-based group therapy in an acute mental health ward. It investigates the relationships between (1) behavioural-based coping self-efficacy with overall mental health self-efficacy and (2) mental health self-efficacy and subjective well-being. **Methods:** Immediately after the first group, participants completed a post-group questionnaire. Participation level was also rated. At discharge, the participants were asked to complete the UK Office of National Statistics subjective well-being tool and the Mental Health Self-Efficacy Scale. Descriptive statistics, independent sample t-tests and one-way analysis of variance were done to examine possible covariates and confounders of all outcome variables. General linear models were then conducted. **Results:** Post-group questionnaire reflected moderate-high self-efficacy ($M = 6.92$, $SD = 2.48$) and positive well-being with higher happiness scores ($M = 7.42$, $SD = 2.20$) and lower anxiety scores ($M = 3.79$, $SD = 2.85$). Coping self-efficacy significantly predicted overall mental health self-efficacy ($p = .014$), which in turn significantly predicted positive domains of well-being. **Conclusions:** Performing behavioural-based coping strategies in groups can enhance coping self-efficacy and positive well-being, with possible positive influence on mental health self-efficacy and well-being at discharge.

Keywords

activity-based, group therapy, acute psychiatry, self-efficacy, well-being, occupational therapy

Received 28 May 2021; accepted 9 January 2022

Introduction

In contemporary psychiatric literature, recovery in mental illness is described as an individualized journey of self-discovery and personal empowerment (Jacob, 2015). As such, it is common for recovery-oriented services to focus clients on their own recovery plans and coping strategies. However, it is critical to identify barriers and facilitators in actualizing their recovery plans, as individuals may not persist with their plans if they do not believe they can succeed.

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Self-efficacy is the belief that one can successfully carry out specific behaviour in situations that are novel or stressful (Bandura, 1997). This is one of the key factors in facilitating the recovery process (Brenninkmeijer et al., 2019). Higher levels of self-efficacy have also been associated with fewer depressive symptoms (Maciejewski et al., 2000), and less stress and anxiety (Benight & Bandura, 2004). Positive perceptions of individual self-efficacy can influence emotional reactions and associated biological systems that regulate well-being, further improving mental health (Bandura, 1986). Studies on mental health programmes also found intervening on self-efficacy improved subjective well-being (Carpinello et al., 1992; Rosenfield, 1992).

During a relapse, disengagement from pleasurable and challenging activities are common. Disengagement reduces the opportunity to persevere through and succeed in significant life situations, which are critical in maintaining a sense of self-efficacy (Miilanovic et al., 2018). Deteriorated self-efficacy further perpetuate disengagement from daily activities, and contribute to feelings of hopelessness and passivity, which have been reported to negatively influence one's sense of well-being (Rosenfield, 1992). Therefore, development of self-efficacy may be key, by enabling persons with mental illness to persist in challenging situations, utilising coping strategies and re-engaging in pleasurable and meaningful activities (Bandura, 1997).

Coping strategies are defined as cognitive and/or behavioural efforts to manage external and/or internal demands that are appraised as exceeding the resources of the person (Lazarus & Folkman, 1984). Cognitive coping strategies uses mental activity to manage thoughts or emotions associated with the stressful event, whereas behavioural coping strategies use overt physical or verbal activities. Learning and implementing coping strategies to manage stress can potentially decrease the risks of negative affective states and relapse episodes (Silverman, 2019). Each individual tends to cope in a variety of ways (Thompson et al., 2008), and it has been suggested that no single coping strategy is efficient across all situations for all people (Thoits, 1995). However, people with mental illness often need assistance to identify healthy coping strategies (Silverman, 2019). Regardless of specific coping strategies, interventions designed to increase coping behaviours have been found to be effective (Bradshaw, 1993).

In the study on the effect of stress, self-efficacy has been identified as a coping resource (Pearlin et al., 1981). As self-efficacy is a dynamic construct, it can be modified by interventions focused on the four sources of self-efficacy (Bandura, 1997). The first and most important is the experience of personal mastery, which means one's own experience in successful completion of tasks. The second is vicarious experience. When others like oneself successfully complete a task, they act as social models and reinforce one's

ability to do likewise. Third is verbal persuasion, when others encourage and reinforce one's ability. Fourth is physiological factors, when people interpret their ability based on their own physiological and affective states during performance. These factors reflect that self-efficacy can be determined by social factors (Anderson et al., 2014), and the importance of social contextual variables such as modelling and group support (Bandura, 1997) in improving self-efficacy.

In mental health settings, group therapy is often a core occupational therapy intervention. These are often activity-based groups (Lloyd et al., 2002), as occupational therapists recognise the therapeutic value of activities in improving overall function, performance, and psychological well-being (Creek, 2014), and found to be beneficial for people living with psychiatric illness (Kirsh, et al., 2019). A wide range of creative activities can be selected for these groups as comparison between different interventions indicate that none is more effective than the other (Kirsh et al., 2019). While the objectives of activity-based groups may vary according to the needs of patients, they often focus on facilitating participants to explore using activities as coping strategies in managing their mental health. These activities form behavioural coping strategies in recovery, leading to better psychosocial functioning. In a study involving music group therapy, inpatients in an acute care mental health ward tended to have more favourable coping self-efficacy as compared to the control group (Silverman, 2019). Eklund (1999) examined the effects of an occupational therapy intervention involving creative activities, and results showed that the intervention group experienced greater improvements in psychological, occupational functions and global mental health.

Although activity-based group therapy is commonly used in acute mental health wards, there has been little research concerning how this type of group interventions may influence coping. Furthermore, while the importance of nurturing self-efficacy in people with mental illness is well-recognised, few studies have investigated using activity-based groups to enhance self-efficacy in behavioural coping strategies.

A domain-specific construct (Bandura, 1994), self-efficacy in this context, termed as coping self-efficacy, is defined as the degree of confidence patients have in their ability to use specific activities performed in the group as coping strategies, in maintaining their mental health. Whereas, general self-efficacy, termed as mental health self-efficacy in our study, refers to confidence in one's general capacity to handle tasks (Bandura, 1994). Therefore, coping self-efficacy can be conceptualised as a subset of mental health self-efficacy.

Therefore, the purpose of this study was twofold. Firstly, we explore factors that affected coping self-efficacy during activity-based group therapy in an acute mental health ward. Secondly, we investigate the relationships between (a) coping

self-efficacy with mental health self-efficacy and (b) mental health self-efficacy and subjective well-being. We hypothesise that there is a positive association between (a) coping self-efficacy and mental health self-efficacy, and between (b) mental health self-efficacy and subjective well-being.

Methods

Study design and setting

This exploratory cross-sectional observational study was conducted at an acute psychiatric ward in a large tertiary hospital in Singapore. As part of the daily ward milieu, patients were referred for activity-based group therapy if they were able to participate in activities for at least 15 minutes, with minimal to moderate assistance and did not display persistent symptoms that were harmful or disruptive to their peers. Although patients were strongly encouraged to attend group therapy, participation was voluntary.

Activity-based group therapy sessions (Figure 1) were facilitated by an occupational therapist and therapy assistant for 1 hour, every weekday morning. The group format was open, where new participants may join or leave at any time, and the group was structured based on Cole's seven steps of group interventions, including introduction, main activity, sharing, processing, generalization, application and summary (Cole, 2017).

Participants

Fifty participants were recruited via convenience sampling at their first group therapy session. Participants were included if they were at least 21 years old, had a primary diagnosis of a psychiatric disorder, able to read and speak English and able to complete the questionnaires. Written informed consent was obtained from participants. Participants were compensated with a small token sum of cash vouchers for their participation in the study.

Ethical consideration

Ethics approval (number: 2017/00349) was obtained from the National Healthcare Group Domain Specific Research Board (NHG DSRB).

Instruments

Post-group questionnaire. The post-group self-report questionnaire was developed for the purpose of this study. It included a section on sociodemographic information and three questions to measure (1) coping self-efficacy, (2) mood and (3) anxiety after participation in each group

Physical activity	<ul style="list-style-type: none"> • Tai Chi • Yoga • Seated aerobics • Modified hockey
Art creation	<ul style="list-style-type: none"> • Origami • Water colour • Drawing, e.g. Zentangle • Festive crafts
Utilising technology games and apps	<ul style="list-style-type: none"> • Kinect games, e.g. sports • Learning to use apps, e.g. relaxation • Drawing with 3D pen
Meal preparation	<ul style="list-style-type: none"> • Baking cookies and cakes • Cooking soup desserts • Baking pizza • Cooking chicken curry
Music making	<ul style="list-style-type: none"> • Karaoke • Learning music instruments • Lyrics writing • Making music instruments, e.g. straw flute

Figure 1. Examples of activities during group therapy.

(Figure A1). The coping self-efficacy question was based on Bandura's (2006) recommendation, that there is no all-purpose self-efficacy scale, and scales should be tailored to the specific domain of interest. Questions on mood and anxiety were developed based on the Organisation for Economic Co-operation and Development (2013) recommendation that a minimum of two questions, with one of positive affect, and another of negative affect, should be used to measure subjective well-being. An 11-point Likert scale where 0 is 'not at all' and 10 is 'completely', was selected as it consistently demonstrated the smallest levels of missing data across multiple surveys in literature (Courser & Lavrakas, 2012). All items were analysed separately.

Pittsburgh rehabilitation participation scale. The Pittsburgh Rehabilitation Participation Scale (PRPS) is an observational clinician-rated measure of patient participation in inpatient rehabilitation sessions. It is a single item measure with a 6-point Likert-type scale (Lenze et al., 2004). The therapist assesses the intensity of participation from 1 to 6, where 1 is 'None' and 6 is 'Excellent'. PRPS is found to be a reliable and valid therapist-rated measure, with high inter-rater reliability (ICC = 0.91) for occupational therapists (Lenze et al., 2004).

UK office of national statistics subjective well-being tool
Office of National Statistics (ONS) is a self-report questionnaire which measures subjective well-being, based on the three concepts of well-being: life evaluation, affect and eudemonia. ONS has conducted a range of quantitative and qualitative testing on the measurement of subjective well-being and the four questions has gained National Statistics status (Office of National Statistics, 2015). The questionnaire contains four items that are answered on a scale of 0 to 10, where 0 is 'not at all' and 10 is 'completely'. For the Life Satisfaction, Worthwhile

and Happiness questions, scores are categorized as low (0 to 4), medium (5 to 6), high (7 to 8) and very high (9 to 10). For the Anxiety subscale, scores are categorized as very low (0 to 1), low (2 to 3), medium (4 to 5) and high (6 to 10). Scores may be analysed using these threshold categories or raw scores. Scales may be analysed separately.

Mental health self-efficacy scale. Mental Health Self-Efficacy Scale (MHSES) is a self-efficacy scale developed according to the Bandura's guidelines for constructing self-efficacy questionnaires, specifically for common mental health problems (Clarke et al., 2014). It is unidimensional, with acceptable internal reliability (Cronbach's $\alpha = .89$) and construct validity (Clarke et al., 2014). It has six items and answered on a 10-point Likert scale, with 1 being 'not at all confident' and 10 being 'totally confident'. Ratings across the six MHSES items for each participant were summed (scores range from 10 to 60) to obtain an overall measure of their mental health self-efficacy, with higher scores indicating greater self-efficacy.

Procedures

Immediately after the first group therapy session, participants were administered with a post-group questionnaire. Only a single session was selected as it is more congruent with the rapid turnover of patients typically found in the acute mental health ward. Instead of two measures at pre and postgroup, only a single measure at postgroup was utilised. This was designed to minimise measurement fatigue within the temporal parameters of a single group session. The therapist also rated participants' participation in the group session using PRPS. At discharge, participants were asked to complete the ONS subjective well-being tool and the MHSES.

Data analysis

All descriptive and inferential analysis were done using IBM SPSS Statistics (Version 26.0, IBM Corp.). Descriptive statistics, independent sample t-tests and one-way analysis of variance (ANOVA), were done to examine possible covariates and confounders of all outcome variables. To examine predictors of (1) coping self-efficacy after group therapy and (2) overall mental health self-efficacy at discharge, full linear regression models were conducted using Enter Method, including possible covariates and confounders. Subsequently, to test if mental health self-efficacy predicted subjective well-being, general linear models were conducted. For all models, final models only included significant interactions and covariates if they affected the dependent variable.

Results

Participants demographics

A majority of the sample were female (68%), Chinese (76%) and within an age range of 21–68 years old. The top three diagnosis were depression (36%), psychotic disorder (32%) and bipolar disorder (20%). Majority completed at least post-secondary education (74%), were single (64%) and employed (54%) (Table 1).

Group intervention and coping self-efficacy

Post-group questionnaires scores showed that patients rated themselves as having moderate to high self-efficacy ($M = 6.92$, $SD = 2.48$) to use the activity they participated in as a coping strategy. Overall, participants also experienced positive feelings with higher happiness scores ($M = 7.42$, $SD = 2.20$) and lower anxiety scores ($M = 3.79$, $SD = 2.85$). Therapists also rated patients as having a 'good' level of participation ($M = 4.47$, $SD = 1.00$), indicating that they finished most activities and followed directions.

After the group intervention, males were more likely to rate their coping self-efficacy and anxiety levels during group significantly higher than females (Table 2). Other sociodemographic variables were not related to post-group coping self-efficacy.

Full linear modelling was conducted to examine if participation, mood, and anxiety during group therapy predicted coping self-efficacy. Considering all covariates, mood and anxiety during group therapy were significant predictors of coping self-efficacy; however, participation during group therapy was not. A summary of the general linear models is found in Table 3.

Factors affecting mental health self-efficacy

There was a significant difference in mental health self-efficacy scores between gender, and between singles and married individuals (Table 2). Other sociodemographic variables were not significantly related to mental health self-efficacy.

Full linear modelling was conducted to examine if post-group coping self-efficacy predicted mental health self-efficacy. Controlling for covariates (age, marital status, gender and length of stay), coping self-efficacy significantly predicted overall mental health self-efficacy (Table 3).

Factors affecting subjective well-being

In ONS subjective well-being tool, scores indicated high life satisfaction ($M = 6.89$, $SD = 1.96$), worthwhile ($M = 7.04$, $SD = 1.51$) and happiness scores ($M = 7.09$, $SD = 2.07$) and low–medium anxiety ($M = 3.46$, $SD = 2.70$). There was a

significant difference in life satisfaction and happiness scores between males and females (Table 2). Full linear models were conducted for all aspects of well-being controlling for the covariates identified. While controlling for covariates, mental health self-efficacy significantly predicted life satisfaction, happiness and worthwhile domains of well-being but did not predict anxiety scores (Table 3).

Discussion

As predicted, participants after participation in their first activity-based group, tended to have high task-specific self-efficacy, indicating that participants felt confident in using the activity done during groups as a coping strategy. This resonates with existing research that regardless of specific coping strategies, interventions designed to increase coping behaviours have been found to be effective (Bradshaw, 1993).

There are numerous implications on how the group process can enhance self-efficacy. The social learning theory and four sources of self-efficacy – performance attainments, vicarious experience, verbal persuasion and physiologic arousal – could provide a basis for understanding (Bandura, 1997). Firstly, participants in an activity-based group had to complete an activity. As they worked to overcome obstacles to complete the activity, they gained information about their sense of efficacy. This was enhanced by the occupational therapist ensuring that activities given to participants were at the just-right challenge (Cole, 2017), enabling personal mastery and opportunity to develop skills and confidence. However, results from PRPS indicated that the art of participating alone is not sufficient in influencing self-efficacy. Developing competence through mastery experiences represents a key source of self-efficacy (Bandura, 1986). An individual who perceives a relationship between personal effort and success at an activity will then have a higher sense of task-specific self-efficacy (Carpinello et al., 2000).

Secondly, vicarious experience in a group setting enhances an individual's feelings of self-efficacy. Many studies support the notion that individuals' thoughts and actions are influenced by their observations of other people (Rosenthal & Bandura, 1978). The impact on self-efficacy is more evident when role models are similar to the individual (Carpinello et al., 2000). The role of vicarious experience may be an important and positive influence in activity-based groups, especially when group members observe other members with mental illness, put in efforts in participation and succeeding. This may be an advantage of group interventions over individual interventions, and reason behind various group interventions shown to improve self-efficacy and well-being (Kukla et al., 2017; Silverman, 2019).

Thirdly, verbal persuasion reinforces beliefs that individuals can perform and use the activity to cope with

Table 1. Demographic of participants (N = 50).

Variables	Mean	SD
Age	38.7	13.61
Length of stay (Days)	13.9	11.63
	N	%
Gender		
Male	16	32.0
Female	34	68.0
Ethnicity		
Chinese	38	76.0
Malay	3	6.0
Indian	7	14.0
Others	2	4.0
Education		
Primary School or less	3	6.0
Secondary School	10	20.0
Post-secondary School	22	44.0
Bachelor degree or above	15	30.0
Marital status		
Single ^a	32	64.0
Married	17	34.0
Divorced ^a	1	2.0
Employment status		
Full-time	19	38.0
Part-time	8	16.0
Unemployed	14	28.0
Other	9	18.0
Diagnosis		
Psychotic disorder	16	32.0
Depression	18	36.0
Bipolar disorder	10	20.0
Anxiety disorder ^a	1	2.0
Adjustment disorder ^a	4	8.0
Post-traumatic stress disorder ^a	1	2.0
Type of group attended		
Physical activity	11	22.4
Art	16	32.7
Technology	5	10.2
Meal preparation	6	12.2
Music	11	22.5

Note: Percentages reported take into account missing data.

^aDue to small sample size, these subgroups were grouped together respectively for further analyses.

stressful events. That is, self-efficacy improves when one is exposed to sustained and genuine encouragement from respected others (Bandura, 1986). This applies to both verbal support from therapists and fellow participants. Qualities of therapists are commonly considered essential to a good therapeutic relationship, and facilitative therapist attitudes and behaviours are universally applicable (Bachelor & Horvath, 1999). Effective professionals had been described in terms of their ability to develop positive relationships through active listening, understanding,

Table 2. T-test results of gender and marital status to outcome variables.

			T	Df	p
Gender	Post group	Coping self-efficacy ^a	2.11	46	.040*
		Mood ^b	1.25	46	.219
		Anxiety ^b	2.05	46	.046*
	Pre-discharge	Participation ^c	-.46	47	.651
		MHSES ^d	2.16	47	.036*
		ONS Satisfaction ^e	2.48	44	.046*
		ONS Worthwhile ^e	1.79	44	.081
		ONS Happiness ^e	2.34	44	.024*
		ONS Anxiety ^e	-.68	44	.501
Marital status	Post group	Coping self-efficacy ^a	-.53	45	.596
		Mood ^b	.02	45	.984
		Anxiety ^b	-.77	45	.447
	Pre-discharge	Participation ^c	-.78	46	.439
		MHSES ^d	-2.59	46	.013*
		ONS Satisfaction ^e	-1.81	43	.078
		ONS Worthwhile ^e	-.92	43	.360
		ONS Happiness ^e	-1.46	43	.151
		ONS Anxiety ^e	1.52	43	.135

*p < .05.

^aCoping self-efficacy measured by behavioural coping self-efficacy question in Post-Group Questionnaire.

^bMood and Anxiety measured by subjective well-being questions (one of positive affect, another of negative affect) in Post-Group Questionnaire.

^cParticipation measured by Pittsburg Rehabilitation Participation Scale (PRPS).

^dMental health self-efficacy measured by Mental Health Self-Efficacy Scale (MHSES).

^eQuestions measuring subjective well-being in UK Office of National Statistics (ONS) Subjective Well-Being Tool.

support and warmth (Mancini, 2007). Similarly, connection with others in social relationships has been identified as a key factor promoting recovery and improved mental health (Tew et al., 2012). This may be why being married, which suggest the presence of a supportive significant other, appear to be important in determining perceived mental health self-efficacy. In addition, supportive social environment in group settings have been identified by several studies to be one of the key therapeutic factors of groups (Carpinello et al., 1992; Eklund, 1997; Rebeiro & Cook, 1999).

Lastly, physiologic arousal indicates that approaches that help individuals to interpret emotional reactions positively may enhance coping efficacy and improve performance (Bandura, 1997). Consequently, when participants enjoy the activities that they are doing in the group, they are more likely to interpret their emotional and physiological states positively. They may also experience flow, defined as the mental state when one is totally involved in an activity (Csikszentmihalyi, 1975). This includes the focussing of attention on a clear goal, a loss of self-consciousness, and a sense that the activity in itself is rewarding (Emerson, 1998), enhancing an individual’s sense of well-being and self-efficacy. The results support that the emotional experience during the group activity appeared to be stronger predictors than completion of the task itself.

Therefore, self-efficacy in using specific activities performed in the group as coping strategies may be

enhanced through appropriate support in an activity-based group. Previous research indicates health outcomes can be improved and sustained when self-efficacy is involved in behavioural change strategies (O’Hare & Shen, 2013). This affirms that behavioural coping strategies which play an important role in mental health recovery can be reinforced via activity-based group therapy. Improvement of self-efficacy could be an explicit goal in mental health recovery groups and intervention strategies.

In relation to the second objective, our results suggested that higher self-efficacy in using specific activities as coping strategies postgroup, has a strong positive relationship with general mental health self-efficacy, which in turn contributes to overall well-being. These findings are in accordance with existing literature on self-efficacy. For example, Suzuki et al. (2011) found that individuals with high general self-efficacy are likely to score high on specific self-efficacy, and that self-efficacy can be important to subjective well-being (Anderson et al., 2014; Carpinello et al., 1992; Rosenfield, 1992). Carpinello et al. (1992) also found that improvement in well-being may occur by increasing one’s sense of self-efficacy.

Participants in our study who had higher specific coping self-efficacy during their first group had higher mental health self-efficacy at discharge. This lends support to evidence that regardless of the specific coping skill, coping

Table 3. Summary of general linear regression models.

Coping Self-Efficacy ^a	Sum of Squares	df	Mean Square	F	R ²	Adj. R2
Corrected model	235.71	8	29.46	21.30**	.81	.78
Age	1.16	1	1.16	.84		
Diagnostic group	18.36	3	6.12	4.42**		
Gender	.002	1	.002	.001		
Mood ^b	150.55	1	150.55	108.83**		
(During group)						
Anxiety ^b	8.09	1	8.09	5.85*		
(During group)						
Participation ^c	.03	1	.03	.02		
(During group)						
MHSES ^d						
Corrected model	1843.44	6	307.241	4.33**	.39	.30
Age	.69	1	.686	.01		
Marital status	205.15	2	102.576	1.44		
Gender	104.59	1	104.593	1.47		
Length of stay	467.53	1	467.527	6.58 ^a		
Coping self-efficacy	781.94	1	781.941	11.01**		
ONS Satisfaction ^e						
Corrected model	117.36	3	39.12	29.82**	.68	.66
Age	.018	1	.018	.01		
Gender	2.85	1	2.85	2.18		
MHSES	94.41	1	94.41	71.97**		
ONS Worthwhile ^e						
Corrected model	42.357	2	21.179	15.291**	.51	.47
Age	.501	1	.501	.362		
MHSES	37.987	1	37.987	27.427**		
ONS Happiness ^e						
Corrected model	79.562 ^a	3	26.521	9.76**	.41	.37
Age	.842	1	.842	.31		
Gender	6.231	1	6.231	2.29		
MHSES	58.148	1	58.148	21.41**		
ONS Anxiety ^e						
Corrected model	.24	2	.118	.02	.001	-.05
Age	.004	1	.004	.001		
MHSES	.234	1	.234	.03		

* $p < .05$. ** $p < .01$.

^aCoping self-efficacy measured by behavioural coping self-efficacy question in Post-Group Questionnaire.

^bMood and Anxiety measured by subjective well-being questions (one of positive affect, another of negative affect) in Post-Group Questionnaire.

^cParticipation measured by Pittsburg Rehabilitation Participation Scale (PRPS).

^dMental health self-efficacy measured by Mental Health Self-Efficacy Scale (MHSES).

^eQuestions measuring subjective well-being in UK Office of National Statistics (ONS) Subjective Well-Being Tool.

is an essential component of recovery in mental health (Silverman, 2019). It also suggests the importance of this personal resource as it was found to be related to other positive outcomes both in our study and past studies.

Limitations in the studies' design include, firstly, a small sample size affecting the strength of the results. Nevertheless, it is a pilot exploratory study to examine possible relationships of important variables, within the context of activity-based group therapy in acute mental health ward. As self-efficacy was not measured at baseline in our study,

this may also have had a significant influence in predicting outcomes for people with mental illness, given the significance of self-efficacy on recovery. It would be necessary to replicate this study to confirm whether the relationships observed are also found in larger samples and explore the inclusion of further outcomes.

Secondly, all participants in our study could also attend a variety of group and/or individual therapy conducted by other healthcare professionals as part of their usual routine care, determined by the treating physician. These treatments may

have impacted on patient's mental health self-efficacy and subjective well-being at discharge. Because of a cross-sectional design, no causal relationships can be inferred. Longitudinal studies and broader investigations into the factors related to coping self-efficacy are needed to understand how best to enhance it. Future studies need to also examine the differences between general mental health self-efficacy and self-efficacy specific to behavioural-based coping.

Conclusion

This study suggests that performing behavioural coping strategies in groups has positive associations with behavioural coping self-efficacy and positive well-being postgroup. In addition, it was strongly associated to high mental health self-efficacy at discharge. Overall, the results support the use of activity-based group therapy by occupational therapists in an acute mental health ward, and self-efficacy should be a key element in interventions to elicit a process of empowerment that may improve recovery and well-being.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

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References

- Anderson, L. M. C., Moore, C. D., Hensing, G., Krantz, G., & Staland-Nyman, C. (2014). General self-efficacy and its relationship to self-reported mental illness and barriers to care: A general population study. *Community Mental Health Journal, 50*(6), 721–728. <https://doi.org/10.1007/s10597-014-9722-y>
- Bachelor, A., & Horvath, A. (1999). The therapeutic relationship. In M. A. Hubble, B. L. Duncan, & S. D. Miller (Eds.), *The heart and soul of change: What works in therapy* (pp. 133–177). American Psychological Association. <https://doi.org/10.1037/11132-004>
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall.
- Bandura, A. (1994). Self-efficacy. In V. S. Ramachandran (Ed.), *Encyclopedia of human behaviour* (Vol.4, pp.71–81). Academic Press.(reprinted in H. Friedman (Ed.), *Encyclopedia of mental health*. Academic Press, 1998).
- Bandura, A. (1997). *Self-efficacy in changing societies*. Cambridge University.
- Bandura, A. (2006). Guide for constructing self-efficacy scales. In F. Pajares, & T. Urdan (Eds.), *Self-efficacy beliefs of adolescents* (Vol.5, pp.307–337). Greenwich, CT: Information Age Publishing.
- Benight, C. C., & Bandura, A. (2004). Social cognitive theory of posttraumatic recovery: The role of perceived self-efficacy. *Behaviour Research and Therapy, 42*(10), 1129–1148. <https://doi.org/10.1007/s10896-007-9138-310.1016/j.brat.2003.08.008>
- Bradshaw, W. H. (1993). Coping-skills training versus a problem-solving approach with schizophrenic patients. *Hospital and Community Psychiatry, 44*(11), 1102–1104. <https://doi.org/10.1176/ps.44.11.1102>
- Brennkmeijer, V., Lagerveld, S. E., Blonk, R. W. B., Schaufeli, W. B., & Wijngaards-de Meij, L. D. N. V. (2019). Predicting the effectiveness of work-focused CBT for common mental disorders: The influence of baseline self-efficacy, depression and anxiety. *Journal of Occupational Rehabilitation, 29*(1), 31–41. <https://doi.org/10.1007/s10926-018-9760-3>
- Carpinello, S. E., Knight, E. L., & Jatulis, L. L. (1992). A study of the meaning of self-help, self-help group processes and outcomes In Proceeding of the Third Annual Conference on State Mental Health Agency Services Research and Program Evaluation, Alexandria, VA, National Association of State Mental Health Program Directors Research Institute, Inc.
- Carpinello, S. E., Knight, E. L., Markowitz, F. E., & Pease, E. A. (2000). The development of the mental health confidence scale: A measure of self-efficacy in individuals diagnosed with mental disorders. *Psychiatric Rehabilitation Journal, 23*(3), 236–243. <https://doi.org/10.1037/h0095162>
- Clarke, J., Proudfoot, J., Birch, M. R., Whitton, A. E., Parker, G., Manicavasagar, V., Harrison, V., Christensen, H., & Hadzi-Pavlovic, D. (2014). Effects of mental health self-efficacy on outcomes of a mobile phone and web intervention for mild-to-moderate depression, anxiety and stress: Secondary analysis of a randomised controlled trial. *BMC Psychiatry, 14*, 272. <https://doi.org/10.1186/s12888-014-0272-1>
- Cole, M. B. (2017). *Group dynamics in occupational therapy: The Theoretical basis and Practice application of group intervention*. Slack Incorporated.
- Courser, M. W., & Lavrakas, P. J. (2012). Item-Nonresponse and the 10-point response scale in telephone surveys. *Survey Practice, 5*(4), 1–5. <https://doi.org/10.29115/sp-2012-0021>
- Creek, J. (2014). Approaches to Practice. In J. Creek, L. Lougher, W. Bryant, J. Fieldhouse, & K. Bannigan (Eds.), *Creek's occupational therapy and mental health* (5th ed., pp. 50–71). Churchill Livingstone Elsevier.
- Csikszentmihalyi, M. (1975). *Beyond boredom and anxiety*. Jossey-Bass Publishers.
- Eklund, M. (1997). Therapeutic factors in occupational group therapy identified by patients discharged from a psychiatric day centre and their significant others. *Occupational Therapy International, 4*(3), 200–214. <https://doi.org/10.1002/oti.56>
- Eklund, M. (1999). Outcome of occupational therapy in a psychiatric day care unit for long-term mentally ill patients.

- Occupational Therapy in Mental Health*, 14(4), 21–45. https://doi.org/10.1300/j004v14n04_02
- Emerson, H. (1998). Flow and occupation: A review of the literature. *Canadian Journal of Occupational Therapy*, 65(1), 37–44. <https://doi.org/10.1177/000841749806500105>
- Jacob, K. S. (2015, Apr–Jun). Recovery model of mental illness: A complementary approach to psychiatric care. *Indian Journal of Psychological Medicine*, 37(2), 117–119. <https://doi.org/10.4103/0253-7176.155605>
- Kirsh, B., Martin, L., Hultqvist, J., & Eklund, M. (2019). Occupational therapy interventions in mental health: A literature review in search of evidence. *Occupational Therapy in Mental Health*, 35(2), 109–156. <https://doi.org/10.1080/0164212X.2019.1588832>
- Kukla, M., Strasburger, A. M., Salyers, M. P., Rattray, N. A., & Lysaker, P. H. (2017). Subjective experiences of the benefits and key elements of a cognitive behavioural intervention focused on community work outcomes in persons with mental illness. *The Journal of Nervous and Mental Disease*, 205(1), 66–73. <https://doi.org/10.1097/NMD.0000000000000601>
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal and coping*. Springer Publishing Company.
- Lenze, E. J., Munin, M. C., Quear, T., Dew, M. A., Rogers, J. C., Begley, A. E., & Reynolds, C. F. (2004). The pittsburgh rehabilitation participation scale: Reliability and validity of a clinician rated measure of participation in acute rehabilitation. *Archives of Physical Medicine and Rehabilitation*, 85(3), 380–384. <http://dx.doi.org/10.1016/j.apmr.2003.06.001>
- Lloyd, C., King, R., & Bassett, H. (2002). A survey of Australian mental health occupational therapists. *British Journal of Occupational Therapy*, 65(2), 88–96. <https://doi.org/10.1177/030802260206500207>
- Maciejewski, P. K., Prigerson, H. G., & Mazure, C. M. (2000). Self-efficacy as a mediator between stressful life events and depressive symptoms. Differences based on history of prior depression. *British Journal of Psychiatry*, 176, 373–378. <https://doi.org/10.1192/bjp.176.4.373>
- Mancini, M. A. (2007). The role of self-efficacy in recovery from serious psychiatric disabilities: A qualitative study with fifteen psychiatric survivors. *Qualitative Social Work*, 6(1), 49–74. <https://doi.org/10.1177/1473325007074166>
- Miilanovic, M., Ayukawa, E., Usyatynsky, A., Holshusen, K., & Bowie, C. R. (2018). Self efficacy in depression: Bridging the gap between competence and real world functioning. *The Journal of Nervous and Mental Disease*, 206(5), 350–355. <https://doi.org/10.1097/NMD.0000000000000804>
- Office for National Statistics (2015). *Measuring national well-being: Personal well-being in the UK, 2014–2015*. <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/bulletins/measuringnationalwellbeing/2015-09-23#methodology>
- O’Hare, T., & Shen, C. (2013). Abstinence self-efficacy in people with severe mental illness. *Journal of Substance Abuse Treatment*, 45(1), 76–82. <https://doi.org/10.1016/j.jsat.2012.12.014>
- Organisation for Economic Co-operation and Development (2013). *OECD Guidelines on measuring subjective well-being*. OECD Publishing. <http://dx.doi.org/10.1787/9789264191655-en>
- Pearlin, L. I., Lieberman, M. A., Menaghan, E. G., & Mullan, J. T. (1981). The stress process. *Journal of Health and Social Behaviour*, 22(4), 337–356. <https://doi.org/10.2307/2136676>
- Rebeiro, K. L., & Cook, J. V. (1999). Opportunity, not prescription: An exploratory study of the experience of occupational engagement. *Canadian Journal of Occupational Therapy*, 66(4), 176–187. <https://doi.org/10.1177/000841749906600405>
- Rosenfield, S. (1992). Factors contributing to the subjective quality of life of the chronically mentally ill. *Journal of Health and Social Behaviour*, 33(4), 299–315. <https://doi.org/10.2307/2137310>
- Rosenthal, T. L., & Bandura, A. (1978). Psychological modelling: Theory and practice. In S. L. Garfield, & A. E. Bergin (Eds.), *Handbook of psychotherapy and behaviour change: An empirical analysis* (2nd ed). Wiley.
- Silverman, M. J. (2019). Music therapy for coping self-efficacy in an acute mental health setting: A randomized pilot study. *Community Mental Health Journal*, 55(4), 615–623. <https://doi.org/10.1007/s10597-018-0319-8>
- Suzuki, M., Amagai, M., Shibata, F., & Tsai, J. (2011). Factors related to self-efficacy for social participation of people with mental illness. *Archives of Psychiatry Nursing*, 25(5), 359–365. <https://doi.org/10.1016/j.apnu.2011.03.004>
- Tew, J., Ramon, S., Slade, M., Bird, V., Melton, J., & Le Boutillier, C. (2012). Social factors and recovery from mental health difficulties: A review of the evidence. *The British Journal of Social Work*, 42(3), 443–460. <https://doi.org/10.1093/bjsw/bcr076>
- Thoits, P. A. (1995). Stress, coping, and social support processes: Where are we? What next? *Journal of Health and Social Behavior*, 35, 53–79. <https://doi.org/10.2307/2626957>
- Thompson, N. C., Hunter, E. E., Murray, L., Ninci, L., Rolf, E. M., & Pallikkathayil, L. (2008). The experience of living with a chronic mental illness: A photovoice study. *Perspectives in Psychiatric Care*, 44(1), 14–24. <https://doi.org/10.1111/j.1744-6163.2008.00143.x>

Appendix I

Please answer the following questions on a scale of 0 to 10, 0 being 'not at all' and 10 is 'completely'.

1. I am confident that I can use _____ (activity of the group) to reduce how much my stress, anxiety or depression affects my everyday life.											
Not at all	0	1	2	3	4	5	6	7	8	9	10 Completely

2. Overall, how happy did you feel for the last one hour?											
Not at all	0	1	2	3	4	5	6	7	8	9	10 Completely

3. Overall, how anxious did you feel for the last one hour?											
Not at all	0	1	2	3	4	5	6	7	8	9	10 Completely

Figure A1. Post group questionnaire.