

BMJ Open Process and outcomes evaluation of a pre-academic arts program for individuals with mental health conditions: a mixed methods study protocol

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ABSTRACT

Introduction The *Garage* is a multidisciplinary pre-academic arts school for people with artistic abilities who are coping with mental health conditions (MHC). The programme, supported by the National Insurance Institute and the Ministry of Health in Israel, is an innovative rehabilitation service designed to impart and enhance artistic-professional skills and socioemotional abilities to ultimately facilitate participants' integration into higher education and the job market.

Methods and analysis This mixed methods longitudinal study will include an embedded design in which the qualitative data are primary and the quantitative data are secondary, thus providing complementary information. The study will examine the contribution of the *Garage* to changes in participants' personal recovery, well-being, creative self-concept and community integration as well as possible mechanisms that may account for these changes. Qualitative data will be collected using focus groups with graduates and students (a total of ~60 participants). Quantitative data will be collected by self-report questionnaires only from students attending the programme (before, during and at the end of the academic year). Data on the graduates' integration into higher education and the job market after completing the programme will also be collected from the management team. The qualitative data will be analysed following the grounded theory approach and the quantitative data will be analysed with correlations, paired tests to examine pre–post changes and regression analyses. A merged data analysis will be conducted for data integration.

Ethics and dissemination The University's Human Research Ethics Committee approved the design and procedures of the study (approval #357–16). All participants will sign an informed consent form where it is clarified that participation in the study is on a voluntary basis, and anonymity and confidentiality are guaranteed. The results will be submitted for peer-reviewed journal publications, presented at conferences and disseminated to the funder and the programme's management team.

INTRODUCTION

Personal recovery and rehabilitation in the community

The Western mental health system has been dominated for many years by the medical approach that views people with mental

Strengths and limitations of this study

- This mixed methods study will provide information on whether and how pre-academic arts programmes can assist individuals with mental health conditions.
- The findings will inform policymakers and funding sources on the feasibility of implementing similar programs in additional locations and even expanding it to other fields of learning.
- Given the study's mixed methods design, the advantages of each method complement one another, and their shortcomings are considerably offset.
- A single-group pretest–posttest design will be used to collect the quantitative data due to the distinctive characteristics of the *Garage* programme participants and the unavailability of a control group.
- Despite the potential limitations of quantitative data generalisability due to the relatively small sample size and the limited geographical location, the in-depth qualitative descriptions and the triangulations will facilitate transferability of the findings to other contexts.

health conditions (MHC) as patients whose recovery is assessed in terms of symptom reduction (People with MHC is a widely used umbrella term for a range of psychiatric disorders; see, eg, the 2017 United Nations General Assembly report on Mental health and Human Rights¹).^{2–5} In recent decades, mental health rehabilitation policies have been influenced by the emergence of the recovery-oriented approach⁶ based on the person-centred principle, which focuses on improving quality of life; promoting community integration; restoring a sense of control, meaning and independence and instilling responsibility and hope while acknowledging the person's mental health 'symptoms' or disabilities.^{6–9}

The recovery-oriented approach has attracted worldwide attention. In Israel as

well, there has been a shift from a clinical orientation to a recovery orientation that encourages autonomy and choice, which has been reflected in a number of significant changes in the attitudes of the State and society towards individuals with MHC. One of the most important changes was the passing of the 2001 Rehabilitation in the Community of Persons with Mental Health Disabilities Law.¹⁰ This law enables adults (aged 18+ with at least 40% mental disability as determined by the National Insurance Institute (NII)) to be eligible for a set of rehabilitation services in the community. The NII determines the disability level from 0% to 100% under the provisions of clauses 33 or 34 of the appendix to the NII Regulations for Determining the Level of Disability. For instance, a 40% mental health disability refers to a person in a post-psychotic condition with significant signs of impairment, limitation of work capacity and significant disruption of behavioural, mental and social functioning. See, https://www.health.gov.il/English/Topics/Mental_Health/rehabilitation/Pages/sal.aspx. The law was formulated to enable these individuals to attain a maximum degree of functional independence and quality of life, while maintaining their dignity, in the spirit of the Basic Law of Human Dignity and Liberty.¹¹

It is widely accepted that part of the rehabilitation process involves community integration and inclusion in education and work. Community integration refers to the opportunity to live in the community as would any other person, according to one's individual abilities and characteristics.¹² Integration into institutions of higher education and the labour market is a major goal for rehabilitation and community integration.¹³ The acquisition of higher education is considered essential for improving quality of life and for social and occupational mobility, because its underlying intellectual development contributes significantly to rehabilitation and escaping the cycle of illness.¹⁴ Integration into the labour market is of great value for the personal recovery of people with MHC because it encourages healing, gives meaning to their lives, helps to cope with psychiatric symptoms and provides economic benefits.^{15 16} Work can contribute to self-esteem through holding a socially valued role, providing a way to establish a personal identity, offering opportunities to feel a sense of achievement and facilitating social inclusion.¹⁷ Processes associated with social inclusion and citizenship are central to recovery. These comprise features related to the individual's social relationships and the ways in which social integration is affected by environmental conditions.^{9 18}

While educational attainment among people with MHC has been positively associated with higher employment status and salaries,^{19 20} this specific population is still under represented in education programmes and thus more vulnerable to poverty and diminished roles in society.¹ However, because preparatory training enables integration into institutions of higher education and the labour market, it is crucial to develop programmes that consider personal inclinations, needs and difficulties,

and by doing so help individuals advance towards their goals.²¹ This is especially important for emerging adults with MHC, who should have access to programmes designed to support their transition to adulthood, such as supported education and employment programmes.¹²

The Garage programme

The Garage is a multidisciplinary pre-academic arts school that was founded in Israel in 2014 by the Darom association, a nongovernmental organisation composed of artists and musicians with professional experience in the mental health field, some of whom have MHC. The programme, supported by the National Insurance Institute and by the Ministry of Health in Israel, was developed as an innovative rehabilitation service for people with artistic abilities who are coping with MHC. According to its founders and developers, the Garage programme aims to impart and enhance artistic-professional skills as well as socioemotional abilities to ultimately facilitate participants' integration into higher education and employment, which may help the participants become contributing and working members of society.

The Garage's 1 year curriculum consists of courses at a high professional level in one of three tracks: music, art and design, and media and writing. In the music track, the students learn the theory and practice of various musical genres (eg, classical, jazz and rock) as well as composition, performance, arrangement, sound and production. In the art and design track, the students learn the history of art, visual art skills, the basics of design and visual communication and the use of graphic design software packages. In the media and writing track, the students learn personal, dramatic and journalistic writing, as well as writing for the Internet, television and film. Studies include reading and analysing texts, developing the ability to understand texts and oral and written expression as a function of the text being studied. Additional areas included are documentary research, photography and video. The teachers in the programme are artists and musicians, who are experienced in their field and in teaching, some of whom also cope with MHC.

The duration of the course is 10 months (October to July, aligned to the academic year), 5 days a week, for a total of 25 hours a week. The admission process includes assessment of the candidates' artistic abilities in their chosen track of study. In line with the programme's aims, the arts studies and pedagogical content also contain behavioural and social components such as handling criticism and facing an audience. Over the course of the year, students acquire the necessary skills, and prepare their portfolios as required for admission to higher education programmes in the arts, design and music as well as film and media schools. Family members are invited to attend lectures, exhibitions and events. At the end of the programme, a certificate is issued to students who fulfil the requirements. There is a musical performance by the members enrolled in the music track and a final exhibition of the arts/design and media tracks in the Garage

art gallery. The performances and exhibitions are open to the general public. Programme graduates continue to receive personal guidance on the process of admission to institutions of higher education or employment (see, <https://www.hagarageart.org/english>).

Arts, creativity and recovery

Recent studies indicate that the various fields of art (including music, writing, visual arts and drama) have a beneficial effect on the process of recovery and rehabilitation of people with MHC.^{22–28} Community art projects provide a meaningful occupation and routines, while enabling the acquisition of valued creative skills.²⁹ Creative and expressive art-making in rehabilitation programmes has been found to promote empowerment,³⁰ enhance self-confidence and self-esteem,³¹ contribute to mental health, increase well-being and relaxation, as well as improve social status, functioning, quality of life and the creative capabilities of individuals with MHC.^{24 32–34}

Creativity is typically viewed as an ability with considerable individual differences that covers various fields of human activity, including the arts and science.³⁵ This study will examine two creativity constructs that are fundamental to the Garage programme. The first is participants' *implicit theories of creativity*; in other words, the participants' belief systems about the nature of creativity.^{36 37} In this study, this refers to whether creativity is considered a fixed (stable, inborn) ability or a malleable (dynamic, learnable) ability that can change and develop. The second construct is participants' creative self-concept, which is composed of two distinct but related dimensions. *Creative self-efficacy* refers to participants' confidence in their ability to be creative, and *creative personal identity* refers to the role creativity plays in participants' identity and self-description.^{38–43} These characteristics have been studied intensively and research results show that creative self-concept variables are associated with creative potential and achievement.⁴³

Change process factors

Despite mounting evidence for the contribution of artistic engagement to psychiatric rehabilitation,^{22–28} there have been few evaluation studies, if any, which have examined the underlying core change processes of arts-based programmes and their association with rehabilitation outcomes. Whereas typical outcome studies inquire *whether* or not a programme leads to change, change process research inquires *how* or *why* this programme leads to change.⁴⁴ We theoretically conceptualised these factors as 'change process factors' to reflect participants' involvement and experiences during the programme itself. Hence, they may point to how or why a programme may lead to changes, when compared with outcome factors that reflect participants' own changes. This study aims to examine the processes and outcomes related to the Garage pre-academic arts programme. It will qualitatively examine participants' experiences in the programme using focus groups, and also quantitatively

measure outcomes and the three change process factors discussed next: basic psychological needs satisfaction, persistent attendance and engagement.

Basic psychological needs theory, which is a sub-theory of the self-determination theory of motivation,⁴⁵ posits that satisfaction of the needs for autonomy, relatedness and competence is crucial for motivation, optimal development, effective functioning and good health.⁴⁶ From a general non-domain-specific perspective, the need for autonomy refers to the need to experience one's behaviour as volitional and self-endorsed rather than as pressured or coerced by forces perceived to be alien to the self. The need for relatedness refers to the need to feel significant, connected to and cared for by important others rather than isolated or disconnected from others. The need for competence refers to the need to experience efficacy, mastery and skillfulness, rather than incompetence. The benefits of satisfaction of these needs are documented in research across nations, cultures and many life domains including education, work, the arts, healthcare, sports, parenting and close relationships.^{47–49} In this study, we will quantitatively examine the association between the satisfaction of basic psychological needs and the programme outcomes.

Persistent attendance is one of the most basic components of therapeutic change in psychotherapy.⁵⁰ Attendance rates have a significant impact on clinical and economic outcomes,⁵¹ and many interventions are targeted to increase attendance rates in mental health settings and services.⁵² Attendance is often cited in the context of engagement and is associated with positive treatment outcomes.^{53 54} This study will explore engagement in terms of vigour, dedication and absorption. These components refer to engagement in actual activities⁵⁵ and have been shown to be reciprocally associated with well-being.⁵⁶ Vigour refers to experiencing elevated levels of energy and mental resilience while involved in schoolwork. Dedication refers to an individual's being strongly involved in schoolwork and experiencing a sense of significance, enthusiasm, inspiration and challenge. Absorption refers to a flow-like experience, such as an individual's being fully concentrated and happily engrossed in schoolwork so that time passes quickly.^{57 58} In this study, we will quantitatively examine the associations between students' levels of both attendance and engagement and the programme outcomes.

METHOD AND ANALYSIS

Study aims

The study will evaluate the Garage, a pre-academic arts school, and examine the possible mechanisms through which the programme may contribute to the personal recovery process, well-being and community integration of people with artistic abilities who are coping with MHC. Three main research questions will be addressed:

1. *Qualitative question:* How do the participants perceive the contribution of the programme in general, and

the artistic creative expression in particular, to their personal recovery process, well-being and community integration (higher education and work)?

2. *Quantitative question:* What is the association between process variables (attendance, level of engagement in the programme, basic psychological needs satisfaction) and the outcome variables (personal recovery, mental health, creative self-concept, integration in education and work)?
3. *Mixed methods question:* In what ways do the quantitative data regarding the process and outcome variables contribute to a better understanding of the qualitative data on participants' experience?

Participants

Participants in the Garage programme are young adults (in their 20s and 30s) with artistic abilities who are also coping with MHC (eg, psychotic and/or affective disorders), with at least a 40% disability, and who are thus eligible for Rehabilitation Basket services from the National Insurance Institute and the Ministry of Health. They are typically recruited to the programme by the Garage team and/or referred to the programme by the Rehabilitation Basket Committee.

Two types of participants will be recruited in this study: students attending the programme from two academic cohorts ($n \approx 40$) and graduates from one cohort ($n \approx 20$). For the primary qualitative part of this study, we will collect data from all students and graduates mentioned above, which is a suitable number of participants according to qualitative research standards for reaching theoretical saturation.^{59–63} For the complementary quantitative part of this study, we will collect data only from the above mentioned subgroup of ~ 40 students attending the programme (and not graduates) who will complete questionnaires at the beginning, during and end of their participation in the programme. For this quantitative part, to calculate the necessary sample size for a paired sample test, we conducted an a priori power analysis using the Gpower computer program.⁶⁴ The analysis indicated that a total sample size of 34 participants would be needed to detect a medium effect (defined by Cohen⁶⁵ as 0.50 of a population SD between the means), with 80% power and an alpha at the 0.05 level. Therefore, the expected sample for this study is above the required minimum, including a possible 15% attrition.

Additionally, for the purposes of control and triangulation, about 20 teachers in the programme will be invited to provide data on themselves and the students (described in the Quantitative data collection section).

Participants' recruitment

Students attending the Garage programme will be recruited at the beginning of each academic year. The first author will provide information about the study to all students in the Garage and will invite them to participate. The students, who agree to take part in the study, will sign an informed consent form that clarifies that participation

in the study is on a voluntary basis and anonymity and confidentiality are guaranteed as well as the right to discontinue participation at any time without penalty or loss of any benefits to which they are otherwise entitled. This form will also include information about the data collection procedures, including data from teachers and the management team regarding the students' progress in the programme and their integration into studies and/or work after the programme. *Programme graduates* will be invited to participate in the study by the programme's management team, who will reach them by phone. Graduates who agree to participate will meet the first author and will sign an informed consent form.

Study design and procedure

This mixed methods study combines qualitative and quantitative methods to strengthen the internal and external validity of the findings—a common practice in the behavioural and social sciences.^{66,67} In mixed methods research, the advantages of each method complement one another, and their shortcomings are considerably offset. In addition, the integration of the methods can provide a better response to the needs of decision-makers, since the qualitative components cover facets such as consideration of the context, the narrative and holism, whereas the quantitative components respond to the need for objectivity and valid measurements.

Specifically, the current study will include an *embedded research design* in which the qualitative data are primary and the quantitative data are secondary, thus providing complementary information.⁶⁶ Both the qualitative and the quantitative parts of the study will adhere to the change process research approach⁶⁸ that goes beyond outcomes to ask how or why a service leads to change.⁴⁴ This approach is considered to be a promising method for assessment of recovery-based intervention processes and outcomes in the mental health field.¹⁶ To collect the quantitative data, a single group pretest–posttest design will be used due to the distinctive characteristics of the Garage programme participants (ie, young adults with apparent artistic abilities who are also coping with MHC) and the unavailability of a matched control group with similar characteristics.

Qualitative data collection

The qualitative data will be collected from students attending the Garage programme and from graduates of the programme. To enable a larger number of participants to share their experiences, and to capture the groups' shared meaning-making, focus groups will be conducted with the students (at the end of the programme, immediately after completion of the quantitative data collection from the students, described below) and with the graduates (a year after they have graduated from the programme). Focus groups are considered to motivate the participants to discuss their thoughts, emotions and views in a nonjudgemental and open atmosphere⁶³ that helps to air a variety of opinions and perspectives on a

given topic.⁶⁹ As recommended in the focus groups methodological literature for reaching theoretical saturation,^{62 63} a total of six focus groups will be conducted by the first author: four with students and two with graduates. Each group will bring together 8–12 participants, because smaller groups may be dominated by one or two members and larger groups are difficult to manage and inhibit participation by all members of the group.⁷⁰ The interview guide for the focus groups is composed of 12 questions that were developed according to guidelines in the focus groups methodological literature.^{63 70} Accordingly, the questions will be ordered from the more general (eg, ‘What do you think about the programme?’) to the more specific (eg, ‘How and why might your participation in the programme influence (or not) your integration into institutions of higher education and/or the labour market?’). All the qualitative data from the focus groups will be audiorecorded and fully transcribed before analysis. Additionally, supplementary qualitative data will be collected at the beginning of the academic year from students attending the programme on their expectations from the programme using open-ended questions in the online questionnaire described next.

Quantitative data collection: outcome variables

As no control group can be formed, a single-group pretest–posttest design will be implemented to collect the quantitative data of outcome variables at the beginning and end of the programme year from two cohorts of students attending the Garage programme, with additional mid-test data collection for the process variables. These quantitative data will be collected by the research team with an online software (Qualtrics) in a computer classroom at the programme’s building in Tel-Aviv. In order to merge qualitative and quantitative data, we will administer quantitative questionnaires that are congruent with the qualitative questions in the focus group interview guide. The quantitative data are expected to complement the qualitative findings related to the participants’ experiences in the programme, and particularly the link between process and outcome, as recommended in the mixed methods methodological literature.⁷¹ Students will also complete a background questionnaire on sociodemographic data at the beginning of the programme.

For the current study, all of the following validated questionnaires were translated from English to Hebrew. The three researchers independently translated the questionnaires through the back-translation method. All discrepancies were discussed until a consensus was attained for a final Hebrew version. The following questionnaires will serve as the outcome, process, control and triangulation measures.

Mental health status

The 12-item version of the widely used General Health Questionnaire (GHQ) will serve as a self-report measure of the severity of psychological distress experienced by participants with MHC within the previous few weeks.⁷²

The GHQ consists of six positively worded items (eg, ‘felt capable of making decisions about things’), and six negatively worded items (eg, ‘lost much sleep over worry’). Participants indicate whether they experienced each symptom in the previous month on a Likert scale ranging from 0 (*never*) to 3 (*always*). Positively worded items are recoded so that high scores represent worse health. The scale has good internal consistency reliability (Cronbach’s alpha 0.82–0.86), and validity was demonstrated by significant correlations with many health and well-being measures.⁷² Preliminary analysis on baseline data from the current sample yielded excellent internal consistency reliability for the Hebrew version of the GHQ ($\alpha=0.93$).

Loneliness

Loneliness will be measured by summing responses on the three-item Revised UCLA Loneliness Scale.⁷³ This scale asks participants to rate the following three items: ‘How often do you feel you lack companionship?’, ‘How often do you feel left out?’ and ‘How often do you feel isolated from others?’ Participants indicate whether they experienced each item in the previous month on a scale ranging from 0 (*never*) to 3 (*always*), where higher scores indicate greater loneliness. The scale was found to have acceptable internal reliability (Cronbach’s alpha 0.79). Preliminary analysis on baseline data from the current sample yielded good internal consistency reliability for the Hebrew version of the scale ($\alpha=0.81$).

Personal recovery

The 15-item Questionnaire of the Process of Recovery⁷⁴ is a service user-rated measure of personal recovery. The total score for the scale has demonstrated excellent internal consistency reliability ($\alpha=0.89$), test–retest reliability (ICC=0.74) and adequate convergent validity with a recovery scale ($r=0.73$) and a mental well-being scale ($r=0.47$). Preliminary analysis on baseline data from the current sample yielded excellent internal consistency reliability for the Hebrew version of the scale ($\alpha=0.94$). Participants rate items on a scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), where a high score reflects a deeper sense of recovery. An item for example is ‘I can take charge of my life’.

Creative self-concept

This 11-item self-report measure of creative self-concept comprises a 6-item scale measuring creative self-efficacy (eg, ‘I trust my creative abilities’) and a 5-item scale measuring creative personal identity (eg, ‘I think I am a creative person’).^{75 76} Exploratory and confirmatory factor analyses have suggested that the two subscales are correlated but measure distinct constructs. The internal consistency reliability was 0.89 for creative self-efficacy and 0.86 for creative personal identity. Validity was demonstrated by positive correlations with creative abilities and self-report originality.^{75 76} Preliminary analysis on baseline data from the current sample yielded good internal consistency reliability for the Hebrew version of the creative

self-efficacy ($\alpha=0.86$) and for creative personal identity ($\alpha=0.81$). For each subscale, participants rate items on a scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), with a higher score reflecting high creative self-efficacy and high creative personal identity.

Integration in higher education and work

In addition to the above measures, the programme management team will provide numerical data regarding students' integration into higher education and work after graduation from the programme.

Quantitative data collection: process variables

Perceived needs satisfaction in the programme

The Basic Psychological Needs at School scale was developed based on self-determination theory.⁷⁷ This self-report scale consists of 15 items, 5 items for each subscale. For the present study, the reference 'at school' will be replaced with 'in the programme'; for example, need for autonomy (eg, 'I am free to arrange my studies and extracurricular activities in the programme'), need for relatedness (eg, 'I get along well with my teachers and classmates in the programme') and need for competence (eg, 'I have been recently able to learn interesting new skills in the programme'). Participants will rate items on a scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Previous results provide good support for the validity and reliability of the scale.⁷⁷ Preliminary analysis on baseline data from the current sample yielded good internal consistency reliability for the Hebrew version of the scale: autonomy ($\alpha=0.78$), relatedness ($\alpha=0.86$), competence ($\alpha=0.80$) and total score ($\alpha=0.91$). Higher scores represent greater perceived satisfaction of basic psychological needs. This scale will be administered only in the middle of the programme (midtest).

Engagement in the programme

The short version of the Utrecht Work Engagement Scale is a nine-item self-report measure of absorption, vigour and dedication at work.⁵⁸ For the purposes of the present study, the scale will be slightly adjusted in that the words 'at work' will be replaced by the words 'in the Garage programme'; for example: 'In the Garage programme, I feel bursting with energy'. Students will rate statements regarding their learning experiences on a five-point frequency scale ranging from 0 (*never*) to 4 (*always, every day*). As recommended by the scale developers, the total scale score will be used as an overall measure of engagement. In previous studies, the Cronbach's alpha for the total nine-item scale was between 0.85 and 0.92, and test-retest reliability was 64 and 73 in two different samples (see Schaufeli *et al*⁵⁸). Preliminary analysis on baseline data from the current sample yielded excellent internal consistency reliability for the Hebrew version of the scale ($\alpha=0.94$). This scale will be administered only in the middle of the programme (midtest).

Persistent attendance

This will be measured each week by collecting data from the management team regarding the presence of each

student in the programme (number of days out of 5 days a week).

Quantitative data collection: control and triangulation

Medications

At the beginning and at the end of the year, students will indicate whether they are taking psychiatric medication (1) or not (0), to control for its effect.

Implicit theories of creativity

To explore the participants' perceived nature of creativity, a three-item measure of implicit personal theories³⁶ was adapted: general terminology about implicit theories regarding the person as a whole was changed to address creativity. For example: 'Everyone is creative on a certain level and there is not much that can be done to really change that'. At the end of the year (posttest), students and (about 20) teachers will rate these items on a scale ranging from 1 (*very strongly disagree*) to 5 (*very strongly agree*). Preliminary analysis on baseline data from the current sample yielded good internal consistency reliability for the Hebrew version of the scale ($\alpha=0.81$). This measure will be collected from students attending the programme and their teachers. It will be used as a control for the potential effect of implicit theories of creativity on students' creative self-concept and teacher-rated students' creativity as well as for triangulation with creativity scores.

Teachers' ratings of students' creativity

Teachers will rate changes in students' creative abilities at the end of the year (posttest), with the following instructions: 'Creative means art-making that is both original and appropriate for the task. Compared to the beginning of the year, please rate the extent to which this student's creative expression improved using a 3-point scale with responses ranging from 1 (*did not improve at all*), 2 (*somewhat improved*), and 3 (*improved very much*)'. Teachers will also rate each student's creativity using other students in the class as a comparison, with the following instructions: 'Creative means art-making that is both original and appropriate for the task. Compared to other students in this class, please rate the level of this student's creative expression in *art/music/media* classes using a 5-point scale (1=*extremely low*, 2=*low*, 3=*average*, 4=*high*, 5=*extremely high*)'.⁷⁸ Beghetto *et al*⁷⁸ found a high correlation ($r=0.66$, $p<0.001$) between two ratings of students' creativity that were thus combined to form a mean score. Therefore, in this study, teachers will rate the students' creativity only once. These two measures will serve as triangulation and will be collected from teachers by phone. Two main teachers will be asked to evaluate each student (a total of six teachers from the different tracks: art/music/media).

Data analysis

Qualitative analysis

To investigate the participants' experiences related to the first research question, a qualitative analysis will be conducted, following the guidelines of the grounded

theory approach.^{61 79} This will involve repeated readings of the transcripts to gain familiarity with the content of each focus group interview. The data will be coded to identify recurring, similar and contrasting patterns of content. Constant comparison and categorisation of codes will be conducted across and within the different focus groups. Similar codes in terms of their characteristics and nature will be aggregated into themes and subthemes. Then, theory development will take place. According to the grounded theory approach, inductive processes are employed to move from the specifics in the data to the more generic and larger-scale concepts supported by the raw data. Finally, a member-checking procedure will be used to validate the findings by the participants.⁸⁰

Quantitative analysis

The second research question focuses on a within-subject analysis of differences between pretest and posttest as well as the relationships between process variables (attendance, level of engagement in the programme, basic psychological needs satisfaction) and outcome variables (personal recovery, mental health, creative self-concept and integration in education and work). In the first phase of the analysis, the normality of the scores will be evaluated using the Kolmogorov-Smirnoff test. Accordingly, evaluation of within-subject differences between pretest and posttest will be performed using a paired t-test or Wilcoxon signed-rank tests. In the second phase of the analysis, change scores reflecting the difference between the baseline scores at the beginning of the programme and the scores at termination (T2 minus T1) will be calculated for the outcome variables (except for integration in education and work that will be measured only once). Then, analysis of the relationships between process variables (predictors) and outcome variables will be performed. This will include analysis of the relationships of the outcome and process variables with sociodemographic variables, the abovementioned control variables (psychiatric medication consumption and implicit theories of creativity) and with teacher ratings of student creativity for triangulation. These analyses will be performed using Pearson correlation coefficients, two-sample t-tests, Mann-Whitney and/or X^2 tests, as applicable. In the third phase of the analysis, multivariate linear regression will be applied to identify the significant independent predictors on change scores by considering candidate variables that had p values of <0.05 in the univariate phase. A backward stepwise selection procedure will be used to establish a final multivariate model. A p value of 0.05 will be considered significant.

Mixed methods analysis

For data integration related to the third research question, a merged data analysis will be conducted based on a side-by-side comparison^{66 81} to assess for confirmation, expansion or discordance between the datasets, as well as to draw meta-inferences.^{71 82} Confirmation will occur if the findings from both types of data reinforce the results

from the other. Expansion will occur if the findings from the two datasets diverge and will expand insights by addressing different or complementary aspects of the participants' experiences. Discordance will occur if the qualitative and the quantitative results are inconsistent or contradictory.^{71 83} Meta-inferences will include the overall conclusions, interpretations, explanations or knowledge gained from the integration of the two data sets.⁸³ This procedure will help to assess the extent to which the quantitative data provide for a more complete understanding of participants' experiences and views in an attempt to construct a theoretical model. Integration at the reporting level will occur through joint displays of the findings.^{71 82}

Patient and public involvement

Graduates of the Garage programme (who do not participate in this study) were involved in the design of the study. They provided suggestions as to the recruitment process, the qualitative and quantitative data collection methods, questions and measures. The study will include a member-checking procedure in which study participants will be invited to comment on the extent to which the results reflect their experiences during and after graduation. The results of the study will be disseminated in a report in Hebrew as well as in academic publication in English.

DISCUSSION

The engagement of people with MHC in rehabilitation programmes remains a worldwide challenge^{84 85} partly because of difficulties involved in meeting the specific needs, goals and skills of each individual^{86 87} and providing personally meaningful services.⁸⁸ Thus, to fill this gap, it is important to examine innovative rehabilitation programmes like the Garage that meet these components. Furthermore, according to the 2017 United Nations General Assembly report on mental health and human rights, mental health conditions are associated with economic hardships, social isolation and segregation.¹ This association is partly due to a failure to adopt policies that promote the rights of these individuals to education and work. The report states that fundamental changes in policies are necessary and that governments should develop and implement rights-based strategies and rehabilitation programmes.

Consistent with these recommendations, the Garage pre-academic programme strives to endow participants with MHC with the skills required for their integration in both academic studies and work, and thereby promote their human rights to be included in a community and live independently. The Garage programme is also congruent with the recovery approach that focuses on personal development, rebuilding of identity and meaning in life, as well as community integration.^{6 7}

This study will not only examine a unique rehabilitation programme for people with MHC, but will also expand

knowledge in the areas of arts-related mental health services. Specifically, the findings will help better understand the ways and the extent to which arts training and artistic creative expression may contribute to the personal recovery process, well-being and community integration of people coping with MHC. This can then inform practices and policies regarding the implementation of activities in art and/or music with similar components in other rehabilitation and treatment programmes.

Furthermore, the findings can provide a scientific basis for promoting the implementation of rehabilitation programmes similar to the Garage in other locations in Israel and abroad, and even expanding it to other fields of learning. This study will also examine the ways in which empowering elements in the programme are associated with its outcomes. To do so, the study will focus on identifying and examining the factors that may promote the process itself, and their relationship to changes in mental well-being, recovery and academic and employment achievement. This should provide vital knowledge to mental health professionals, programme developers as well as to existing programme operators. The findings should offer directions for improving the effectiveness of such programmes by highlighting participants' experience and the relationship between processes and outcomes, as well as by providing a wealth of information to programme funding bodies and policymakers.

Study status

The study is ongoing. We have begun to collect the data, but have not commenced data cleaning or analyses. Data collection on the integration of the participants into higher education and work will continue throughout 2019.

Ethics and dissemination

All participants will sign an informed consent form where it is clarified that participation in the study is on a voluntary basis, and anonymity and confidentiality are guaranteed as well as the right to discontinue participation at any time without penalty or loss of any benefits to which they are otherwise entitled. The Garage team is available for the participants to share their experiences, if necessary. The results will be submitted for peer-reviewed journal publications, presented at conferences and disseminated to the funder and the programme's management team.

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Patient consent for publication Obtained.

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