

A Mixed Methods Evaluation of the Effects of an Innovative Art-Based Rehabilitation Program
for Youths with Stabilized Psychiatric Disorders

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ABSTRACT

Objective: Art-based interventions are promising strategies to improve the well-being and adjustment of youths suffering from mental disorders, but rigorous evaluations of these interventions are scarce and warranted. This study reports on a mixed methods evaluation of the effects of *All on Stage*, an innovative art-based group program aimed at fostering the rehabilitation of adolescents and young adults with recently stabilized psychiatric disorders.

Method: Fifteen participants took part in the program and were included in the evaluation. At pre-program, post-program, and three-month follow-up, participants completed measures of social comfort and competence and self-perception. At the same time points, clinicians who referred participants to the program assessed their global functioning using standardized measures. Semi-structured interviews were also conducted with participants and clinicians.

Results: Post-program and follow-up improvements in the general functioning of participants were observed with clinician-rated measures ($p < 0.01$) and were largely echoed in interview material. Improvements in self-perception and social comfort and competence were not observed quantitatively, but were reported in interviews by half of program participants and the large majority of clinicians who referred them.

Conclusions: Findings suggest that *All on Stage* can be successful at improving the global functioning of youths with stabilized psychiatric disorders, as well as the self-perception and the social comfort and competence of a fair proportion of them. This preliminary evaluation supports the relevance and potential efficacy of the program *All on Stage* and of similar initiatives as approaches to foster the rehabilitation of youths suffering from mental disorders.

Key Words: Art-based interventions, effects evaluation, mental disorders, mixed methods, rehabilitation, youths

The mental health of young people is concerning. International estimates of prevalence suggest that at least one in every five young people (15-24 years of age) in the general population suffers from a mental disorder (Belfer, 2008; Patel, Flisher, Hetrick, & McGorry, 2007). Compared to older adults, adolescents and young adults with psychiatric problems are also particularly at risk of psychosocial maladjustment (Gralinski-Bakker, Hauser, Billings, & Allen, 2005; Patel et al., 2007), including psychological distress, concurrent and subsequent functional impairments, exposure to stigma and discrimination, and risk of premature death (Gralinski-Bakker et al., 2005; Patel et al., 2007). Hence, effective interventions are required to support the adjustment of young people suffering from mental health problems (Gibb, Fergusson, & Horwood, 2010; McGorry, 2007; Patel et al., 2007; Vander Stoep et al., 2000).

Arts interventions raise a growing interest in the mental health sphere (Crawford & Patterson, 2007; Hacking, Secker, Spandler, Kent, & Shenton, 2008; Leckey, 2011). These interventions encompass a broad array of modalities, ranging from art therapy (i.e. psychotherapy in which people work with art therapists to express and elaborate thoughts and feelings via art media; Collie, Bottorff, Long, & Conati, 2006) to “arts in health” or “arts for health” initiatives (i.e. therapeutic art making, usually facilitated by non-therapist artists, in which engagement in the creative process *per se* is thought to have therapeutic value; Collie et al., 2006; Macnaughton, White, & Stacy, 2005). These interventions are relatively common among psychiatric rehabilitation settings and appear especially consistent with a personal recovery framework, which emphasizes the attainment of an autonomous and gratifying life despite psychiatric symptoms (Leckey, 2011; Patterson, Debate, Anju, Waller, & Crawford, 2011; Slade, 2010; Van Lith, Fenner, & Schofield, 2011). In fact, art-based interventions have been found to lead to increased socialization (Argyle & Bolton, 2005; Heenan, 2006; Stickley &

Hui, 2012a; Twardzicki, 2008), improved social skills (Stacey & Stickley, 2010; Staricoff, 2004), heightened self-esteem and self-efficacy (Coholic, 2011; Hacking et al., 2008; Ruddy & Dent-Brown, 2007; Stickley, Hui, Morgan, & Bertram, 2007), as well as improved global functioning (Gold, Heldal, Dahle, & Wigram, 2005; Makin & Gask, 2012; Stickley & Hui, 2012b) in individuals suffering from various psychiatric disorders. Importantly, art-based programs appear to be especially valued and attended by service users (Crawford & Patterson, 2007; Lloyd, Wong, & Petchkovsky, 2007), who report appreciating their normalizing, pleasurable, relaxing and distracting qualities (Argyle & Bolton, 2005; Macnaughton et al., 2005; Makin & Gask, 2012; Webster, Clare, & Collier, 2005). However, current evidence remains largely based on anecdotal reports and exploratory studies (Leckey, 2011; Macnaughton et al., 2005; South, 2004). Systematic evaluations of these types of promising strategies are scarce (Daykin et al., 2008; South, 2004). Existing studies have typically assessed interventions without clear formulation of objectives and putative mechanisms of action (Everitt & Hamilton, 2003; Leckey, 2011; South, 2004), validated instruments (Hacking et al., 2008; Macnaughton et al., 2005), and explicit information regarding recruitment, data collection, and analyses (Hacking et al., 2008; Ruiz, 2004).

The present study aims to contribute to the extent literature by evaluating the effects of the program *All on Stage*¹, an innovative group-based “arts in health” rehabilitation program for youths with mental disorders. *All on Stage* is part of *Espace Transition*,² a family of art-based programs developed by a senior psychiatrist (P.G., fifth author) at Ste-Justine Hospital (Montreal, Canada), in collaboration with psychosocial practitioners and professional artists. Consistent with a recovery framework (Slade, 2010; Van Lith et al., 2011), *All on Stage* aims to

¹ Translation of the original French name: “Tous en scène”

² French for Transition Space

foster the rehabilitation of adolescents and young adults with recently stabilized psychiatric disorders, notably by improving their self-perception, social comfort and competence, and global functioning. Targeted participants are youths aged 14 to 25 years presenting with one or more psychiatric disorders (any except mental retardation and pervasive developmental disorders), for which they have received intensive clinical care and sufficient stabilization of acute symptoms has been reached to allow autonomous participation in an outside activity. The clinicians in charge of the program thoroughly assess its relevance and adequacy for each potential participant. Program groups generally include 12 to 15 youths, with approximately 2/3 of target participants and 1/3 of peers of similar age with no known mental health or adjustment problem. Such a unique composition is meant to allow target participants to take part in a group without being readily identified as suffering from mental illness, since no background clinical information is disclosed to the workshop instructors or to other group members by program managers. This distinctive group mix also intends to allow youths from the general population to spend time closely with peers presenting with mental disorders and thus to modify their perceptions and attitudes towards mental health issues. Program sessions consist of two hours-long drama and circus workshops offered biweekly during ten to twelve consecutive weeks. The workshops are mainly composed of individual and collective exercises centered on self-expression, creative and physical exploration, and the acquisition of theatre and acrobatic skills. Participants are encouraged to present a collectively created work to a public of their choice at the end of the session. In an effort to offer a non-clinical environment to participants, *All on Stage* workshops are conducted by non-therapist professional drama and circus artist-instructors and take place in community facilities. Constant clinical support is nonetheless provided by an on-site mental health practitioner and a psychiatrist available for consultation. Implementation

evaluation demonstrated that most program components were delivered as intended and that participants' attendance, quality of participation, and appreciation were high (see Archambault, 2014 for a detailed account of program implementation). The present study reports on the first independent evaluation of the effects of *All on Stage*. The evaluation assessed to what extent the program succeeded at reaching three of its core objectives, i.e. to improve 1) the self-perception, 2) the social comfort and competence, and 3) the global functioning of targeted participants.

METHODS

Participants

The present study focused on target participants (i.e., presenting with psychiatric disorders). Twenty-one participants were recruited via referral from their treating psychiatrist or other mental health practitioner at four hospitals in the Montreal area during two consecutive *All on Stage* sessions. Fifteen participants completed the program and were included in the evaluation. As Table 1 shows, youths who did not complete the program ($N=6$) reported significantly lower levels of social competence, social acceptance and interest, and self-assertion, as well as higher levels of fear of negative social evaluation at program entry. This suggests that non-completers were initially more severely impaired than those who remained in the program and its evaluation.

<Insert Table 1 about here>

The demographic and clinical data presented in Table 2 suggests that target participants matched the intended population in terms of age and psychiatric profile.

<Insert Table 2 about here>

Quantitative Measures

Quantitative measures were administered at pre-program (T1), post-program (T2), and three-month follow-up (T3). All participants filled out self-rated questionnaires and clinician-rated measures were completed for 11 of the 15 participants.

Self-perception was assessed using the *Rosenberg Self-Esteem Scale* (10-item scale; $\alpha=0.80$; Vallieres & Vallerand, 1990), which captures global perception of personal value. Social comfort and competence were assessed using the *social competence* scale (16 items; $\alpha=0.90$) and *acceptance and interest* scale (13 items; $\alpha=0.83$) of the *Évaluation sociale*

*de soi chez les jeunes adultes*³(Michaud, Bégin, & McDuff, 2006), which capture perceived personal competence across diverse social contexts, perceived social acceptance and popularity in love and friendship relationships, and importance and interest attributed to the social sphere. Social comfort and competence were further assessed using the *Fear of Negative Evaluation Scale* (12 items; alpha=0.78; Kéroack, Boisvert, & Prévost, 1987), which measures social-evaluative anxiety, and the *Rathus Assertion Schedule* (30 items; alpha=0.75; Bouchard, Valiquette, & Nantel, 1975), which captures perceived assertion capacities and tendencies. Global functioning was assessed by referring clinicians. The 90-point version of the *Global Assessment of Functioning (GAF*; Direction générale de la gestion de la santé, 2009) was used with the instruction to assess **current** functioning. In addition, the *Morningside Rehabilitation Status Scale (MRSS*; alpha=0.82; Affleck & McGuire, 1984) was used to assess past-month functioning in four areas relevant to rehabilitation: 1) dependency, 2) occupation and leisure activity, 3) social isolation, and 4) current symptoms.

Qualitative Interviews

Qualitative interviews were also conducted with participants and referring clinicians at pre-program, post-program and three-month follow-up to evaluate program effects. Interviews included open-ended questions regarding any perceived changes attributed to the program and direct questions to probe whether participation in the program influenced **current** level of self-esteem and/or self-confidence, social comfort and social competence. Interviews lasted on average 10 minutes ($SD=6.4$). They were tape recorded and subsequently transcribed into text. Interviews with referring clinicians could not be obtained for 2 participants.

³ Can be translated as : *Young Adults Social Self-Evaluation*

Analytic Strategy

Evaluation data were analyzed following a “triangulation-convergence” mixed-methods approach, which aims at converging different types of information in order to enrich the understanding of a given reality (Creswell & Clark, 2007). Thus, quantitative and qualitative data were first analyzed separately as described below. Then, results from parallel analyses were combined and contrasted at the moment of interpretation in order to strengthen or nuance the evaluation conclusions (Creswell & Clark, 2007; Rallis & Rossman, 2003). Although group composition and program length differed between the two sessions under evaluation (e.g. fall session lasted ten weeks while winter session lasted 12 weeks; Archambault, 2014), all participants were considered together in the present study based on preliminary analyses showing highly similar results when including and excluding first session participants (results not shown).

Quantitative analyses. Paired-samples t-tests were used to examine change in participants’ self-perception, social comfort and competence and global functioning between pre-program and both post-program and three-month follow-up. Similar results were obtained with repeated-measures ANOVAs instead of separate t-tests (not shown). The latter were thus presented since they allowed maximizing the number of subjects per comparison.

Qualitative analyses. Interview material was subjected to a rigorous thematic analysis using QDA Miner 3.2. (Provalis Research, 2009). Themes addressed in the corpus were systematically identified and analyzed (Denzin & Lincoln, 2000). Answers to open and direct questions regarding perceived program effects were considered jointly. The first author coded all relevant study material using a mainly inductive approach, yet geared by pre-determined research questions (Miles & Huberman, 1994). Co-authors shared in the coding process by providing regular feedback on intermediate versions of the code book until stabilization. Information

relevant to the three evaluation objectives was gathered under corresponding categories (meta codes) before being subdivided into three “effects” categories: 1) clear program-related improvements, 2) absence of improvement, and 3) limited or uncertain improvements. This coding step was replicated by a second independent researcher. Excellent inter-rater agreement was found (91.34%). All disagreements were discussed and settled consensually, with a tendency to err on the conservative side. The three “effects” categories were analyzed qualitatively, but were also quantified to facilitate the triangulation of quantitative and qualitative results.

All participants, and their parents if required, signed informed consent. Procedures were approved by the IRB of all four recruitment sites.

RESULTS

Quantitative Results

Tables 3 and 4 present the results of paired-samples t-tests comparing pre-program scores to post-program and follow-up scores on measures of program effects. A clear pattern of results emerged. On the one hand, no significant difference was observed on any of the self-rated questionnaires between pre-program and both post-program and three-month follow-up. Visual examination of data revealed considerable heterogeneity in individual patterns of response and no evidence that a group-level tendency may have been missed due to insufficient statistical power. On the other hand, significant differences between pre-program and the two subsequent time points were observed on all of the clinician-rated measures. These differences were large, effect size r_s ranging from .64 to .89.

<Insert Tables 3 and 4 about here>

Qualitative Results

Improvements in self-perception. Improvements in self-perception were among the most commonly reported program-related benefits by interviewed respondents. Some of them plainly asserted that participation in the program improved their own or their patient's self-esteem or self-confidence: *“Personally, my self-esteem was not very strong. But doing activities likes that (...), it gave me confidence in myself because I was often part of the first layer of the pyramids. So if I let go, everything would fall down and, in a way, it gave me confidence. People were counting on me”*⁴ (participant, post-program).

Others mentioned that the program brought about feelings of pride and accomplishment, the valorisation of positive aspects of oneself, the discovery or validation of capacities or talents, or a sense of being important to the group and appreciated by others, all impacts that were considered as close precursors or indirect indicators of improvements in self-perception: *“I discovered that I could be useful, that I wasn't “nothing”. Because if I hadn't been there, there are some things in the show that wouldn't have been the same (...). I had a place”* (participant, post-program).

Finally, the program was also viewed as a normalizing experience in the sense that it allowed participants to see themselves function in a natural environment without being constantly reminded of their mental health issues: *“In terms of what it may have brought him, I think it is to feel more normal, to get out of the hospital, to be able to do activities without always being under the impression that he was different or ill”* (referrer, post-program). Such a normalizing impact was also considered as a form of positive transformation of self-perception.

A proportion of respondents explicitly denied any program impact on participants' self-perception or reported limited improvements. Some of them spontaneously explained their

⁴ Since all of the interview material was originally in French, presented extracts are free translations.

response, either claiming that the observed improvements were modest, that their self-perception was already positive (“good”) prior to the program or that self-perception is difficult to change or depends on factors unrelated to intervention: *“My self-esteem, I don’t think that it is necessarily higher. It’s not something that can be changed overnight”* (participant, post-program).

Improvements in social comfort and competence. Improvements in the social sphere were also commonly attributed to the program. Among the specific improvements that respondents reported are increased relational comfort, openness to others and confidence in others: *“I am less shy, not less shy but more open than before. It made me feel more comfortable. If I hadn’t done the program, I would not be as open and I wouldn’t go towards people”* (participant, post-program).

Decreased feelings of shyness, shame or fear of others’ judgment in social situations were also reported by numerous participants and some referring clinicians as beneficial impacts of program participation: *“Enriching because when I got there, I had no self-confidence (...) Often, I wouldn’t do things in case I’d fail. In the end, doing the show and becoming less shy in front of people that I don’t know, it allowed me to realise that there is nothing to be afraid of. Even if I make a mistake or I fail, it’s not that bad, it’s life!”* (participant, post-program).

Finally, the improved mastery of certain social abilities, such as self-assertion and maintenance of an eye contact during social interactions, was attributed to the program: *“It helps me to look people in the eyes and not to put my head down (...)”* (participant, post-program).

Some respondents denied any program-related change in social comfort and competence or reported moderate or uncertain improvements. Adequate levels of social comfort and competence prior to program participation, the contribution of other factors than the program to social development, and the modest magnitude of the observed changes were offered as

explanations for negative or ambivalent answers: *“No, I was like that before. I would appreciate people whenever they would come and talk to me. I would accept them and respect them. It didn't change a lot.”* (participant, post-program). .

Improvements in global functioning. When openly questioned about their impressions with regards to program effects, participants reported that the program allowed them to meet new people, to make friendships and/or to feel a sense of belonging to a peer group: *“I got to meet good friends, who became good friends. They are highly appreciated persons”* (participant, post-program). Similarly, clinicians mentioned socialization opportunities as one of the main contributions of the program to the youths that they referred to it.

Participants also reported that their experience of the program helped them become more motivated and/or mobilized towards the pursuit of leisure, academic or professional activities: *“The desire to do circus (...). To do more circus and maybe to work on theatre more. To work more on my part to participate in such activities”* (participant, post-program). This was also echoed by clinicians, one of which raised the beneficial impact of the program on the professional orientation of a participant.

Moreover, respondents described the program as an opportunity or an incentive for its participants to go out of their home or residence, and to develop their ability and propensity to commit to an endeavor and to pursue it until the end: *“To shake her up I would say, to get her out of her home. She was living in morbid isolation”* (referrer, post-program).

Finally, beneficial impacts on participants' autonomy and individuality development were attributed to the program by respondents, as well as improvements in participants' relationship with family: *“She rapidly put herself in an autonomy seeking perspective. It allowed her to assert*

herself a lot towards her mother (...). What the mother concluded from the intervention is that it taught them how to fight” (referrer, post-program).

All of these reported program-related impacts were considered as improvements in global functioning as they relate to some of the dimensions that usually make up the definition of this broadly used psychiatric construct, especially the social isolation, inactivity, and dependency dimensions described in the *MRSS*.

Quantitative summary of qualitative results. Table 5 offers a quantitative summary of respondents’ opinions about program-related impacts with regards to the three objectives under evaluation. It presents the number of respondents who, according to their entire relevant interview verbatim, did or did not perceive improvements in each of the assessed dimensions following the program. The number of respondents who reported limited improvements or answered ambivalently (i.e. with marked nuance or hesitation), and that of those who did not provide any related answer are also presented for each program objective.

Table 5 indicates that, with regards to both self-perception and social comfort and competence, a slight majority of participants reported some kind of improvement at post-program, whereas less than half did at follow-up. Most referring clinicians reported improvements in these two dimensions at post-program. As for global functioning, Table 5 shows that, while a great majority of referring clinicians reported program-related improvements, only about a third (at post-program) to slightly less than half (at follow-up) of interviewed participants did so. The high number of respondents who did not provide any answer related to global functioning is due to the fact that no direct interview question was posed with regard to this dimension.

<Insert Table 5 about here>

DISCUSSION

The present study is the first evaluation of the art-based rehabilitation program *All on Stage*. The aim was to assess whether the program improved 1) the self-perception, 2) the social comfort and competence, and 3) the global functioning of participants with recently stabilized mental disorders.

Similar results emerged with regards to objectives 1 and 2. Quantitative analyses indicated little change on self-reported self-perception and social comfort and competence between pre-program, post-program, and three-month follow-up. On the other hand, qualitative analyses revealed that half of participants perceived improvements in self-perception and/or social comfort and competence after the program, and that around a third continued to report so three months later. Furthermore, clinicians reported qualitative improvements in these dimensions for most participants in post-program interviews. These findings suggest that *All on Stage* was successful at improving self-perception and social comfort and competence in some participants, although this was not captured by group-level quantitative analyses, possibly because of high heterogeneity in response tendencies. This promising finding resonates with results from previous studies on art-based interventions for individuals suffering from mental health issues, in which improvements in self-perception and various aspects of social functioning are among the most commonly reported impacts by participants and clinicians (Everitt & Hamilton, 2003; Ruddy & Dent-Brown, 2007; Staricoff, 2004).

An important question is why a proportion of participants reported no change on questionnaires and during the interviews with regards to self-perception and social comfort and competence. The explanations provided by many of them offer interpretative hypotheses for these negative results. Some respondents reported that concepts such as self-perception and

social comfort and competence are subjected to the influence of personal and other factors unrelated to intervention and are difficult to modify substantially. This comment is consistent with the suggested stability (or *trait-like* nature) of these constructs (Burt, Obradovic, Long, & Masten, 2008; Trzesniewski, Donnellan, & Robins, 2003). Other respondents claimed that their self-perception or social comfort and competence were already at satisfactory levels before program onset, suggesting a possible ceiling effect. While the examination of pre-program results on self-rated psychosocial measures did not suggest a typical ceiling pattern, their comparison with those of previous studies revealed that they did not differ significantly from results obtained from normative populations (results not shown), indicating that, as a group and according to their own self-reports, the participants who were reached by the program *All on Stage* during the evaluation year appeared much less impaired in the self-perception and social comfort and competence domains than hypothesized by program promoters. Taken together, the explanations provided by respondents thus appear to challenge the sensitivity and relevance of objectives 1 and 2 for a portion of participants more than program efficacy *per se*.

Quantitative and qualitative results concerning improvements in global functioning (objective 3) showed a fair degree of convergence. Clinicians reported large and significant improvements in global functioning on questionnaire measures between pre-program and both post-program and three-month follow up. They also reported improvements in different aspects of global functioning in a large majority of participants during the interviews. Moreover, one third of participants reported improvements in their global functioning at post-program and around half did at follow-up, even though they were not directly questioned on this possible outcome. Taken together, these findings indicate that *All on Stage* was successful at improving participants' global functioning. This finding is consistent with recent studies of the impact of

art-based interventions for people suffering from psychiatric disorders, which have described participant- and clinician-reported improvements in aspects of global functioning such as autonomy, motivation, and social inclusion (Makin & Gask, 2012; Stickley & Hui, 2012b). The fact that this conclusion relies on both standardized scales and interview results solidifies its validity and adds to the existing knowledge-base on arts interventions, as very few previous studies have shown improvements in global functioning using quantitative measures.

The degree to which reported improvements in global functioning reflect generalized and long-term impacts on adjustment, as opposed to mere participation in the program remains a relatively open question. Regular participation in the program may have in itself justified improved global functioning ratings since, regardless of the extent to which participants otherwise profited from it, the very fact that they attended the program appeared to be synonym, in many cases, with increased activity level and socialization opportunities. The fact that improved global functioning scores were also recorded three months after program completion and the nature of some of the specific improvements reported during the interviews (e.g. motivation to pursue other meaningful activities) suggest that at least not all of the observed changes in global functioning were limited to current program participation. Nevertheless, whether such improvements are likely to carry over substantially in time and generalize to participants' daily living remains to be verified.

A noteworthy finding of this study is that clinicians consistently reported more favorable outcomes than participants themselves. This tendency can be understood in light of many hypotheses. First, referring clinicians may have held a greater favorable bias towards the program and its efficacy. Indeed, the fact that they were the very ones who referred participants to the program renders likely that their optimism towards it was substantial, as well as their

desire –more or less conscious- to support its efficacy. Second, their greater language mastery as well as professionally trained observation, analytic and reflexive skills, may have allowed them to both detect and report more subtle program-related improvements. Third, it may also be that some types of changes in psychological, social and global functioning are easier to observe from an external point of view and need consistency in time and proper retroaction in order to become perceptible to concerned individuals and for them to be able to reflect upon them. This may especially apply to young people, who have been found to have less insight than older adults (Harter, 1999; Pfeifer, Lieberman, & Dapretto, 2007; Sebastian, Burnett, & Blakemore, 2008) and also to individuals suffering from mental health problems, in which deficits in self-monitoring and mentalization may prevent the realisation of improvements despite objective cues (Kupper & Tschacher, 2008). This tendency for mental health practitioners to observe improvements in their patients' condition well before the latter become aware of them and capable or willing to recognize them is well known to clinicians and has been somewhat documented in the literature (Kazdin, 2003; Kupper & Tschacher, 2008).

This evaluation is not without limitations. First, given the small pool of available participants, no comparison group could be designed, limiting the capacity to attribute observed changes to the program. Second, corresponding quantitative and qualitative measures were not available for all outcomes and respondents (e.g., quantitative measures of global functioning were only completed by referring clinicians). Third, recruited participants who did not complete the program differed from completers and their exclusion precludes the generalization of study conclusions to all potential participants. Despite these limitations, this evaluation benefited from several strengths, including a naturalistic design, which allowed to directly assess the program *All on Stage* in its "real world" context, thus increasing the ecological validity of findings

(McGorry, Edwards, Mihalopoulos, Harrigan, & Jackson, 1996). The evaluation also followed a utilization-focused approach (Patton, 2008), which enhanced the relevance and applicability of results, and implemented strong triangulation of methods and sources, which optimized the validity of conclusions and counter-balanced the lack of a control group.

Future evaluations are required to replicate these findings on larger cohorts of participants to the program, ideally using a control group design and intent-to-treat analyses in case of program dropout. Longer-term follow-up should be implemented to better distinguish sustained changes in functioning from more temporary effects related to program participation. Given heterogeneity in the present findings, moderation analyses may be helpful to better document the program's differential impact on participants of varying profiles and initial levels of functioning.

In sum, this evaluation provided initial empirical evidence supporting the efficacy of the art-based rehabilitation program *All on Stage* in improving the psychosocial adjustment of youths suffering from stabilized psychiatric disorders. These promising results are consistent with findings from previous studies on art-based interventions (Everitt & Hamilton, 2003; Makin & Gask, 2012; Ruddy & Dent-Brown, 2007; Staricoff, 2004; Stickley & Hui, 2012b) and suggest that *All on Stage* and related initiatives may represent a valuable adjunct to therapeutic interventions in a global strategy to foster psychiatric rehabilitation.

ABBREVIATIONS

GAF Global Assessment of Functioning

MRSS Morningside Rehabilitation Status Scale

CONFLICT OF INTEREST

My co-authors, Isabelle Archambault, Sarah Dufour, Frédéric N. Brière, and Patricia Garel, and I have no conflicts of interest to disclose, including financial and biomedical interests or relationships and affiliations other than those listed on the title page of the manuscript. We had full access to the data and are responsible for its integrity and accuracy of analysis. This work was supported by private and corporate donations administered through the Ste-Justine Hospital Foundation, as well as doctoral grants from the University of Montreal. The content is the sole responsibility of the authors and was not influenced by the views of the funders.

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TABLES

Table 1.

Comparison of Pre-program Demographics and Mean Scores on Self-rated Psychosocial Measures Between Program Completers and Non-completers

Measured constructs	Mean (SD) or % completers (N=15)	Mean (SD) or % non completers (N=6)	Statistical test	Sig. (bilateral)
Gender (1=female)	47	50	χ^2 (n=21) = 0.019	0.890
Age	17.0 (2.8)	20.0 (5.0)	t(19) = 1.78	0.092
Social competence	4.6 (0.9)	3.7 (0.9)	t(19) = -2.24	0.037
Social acceptance/Interest	3.6 (0.5)	2.8 (0.5)	t(19) = -3.41	0.003
Fear of negative social evaluation	2.7 (0.8)	3.8 (0.9)	t(19) = 2.69	0.014
Self-assertion	0.5 (0.8)	-0.8 (1.0)	t(18)* = -3.01	0.008
Self-esteem	2.8 (0.7)	2,3 (0.8)	t(19) = -1,60	0.127

*One participant was taken out of the analysis on the self-assertion measure because of incomplete questionnaire rating.

Table 2.

*Target Participant's Demographic and Clinical Characteristics at Program Entry
(N=15)*

Characteristics	
Age	
Range	13-23
Mean (<i>SD</i>)	17.0 (2.8)
Gender	
Male	8 (53%)
Female	7 (47%)
Primary psychiatric diagnosis	
Anxiety disorder	4 (27%)
Mood disorder	5 (33%)
ADHD	1 (7%)
Eating disorder	1 (7%)
Psychotic disorder	2 (13%)
Relational and/or behavioral problems	2 (13%)
Other services received	
Psychotropic medication	14 (93%)
Hospitalization	2 (13%)
Intensive external psychiatric services (at least weekly; including day hospital)	2 (13%)
Regular external psychiatric services (from bi-monthly to bi-annually)	11 (73%)
Primary residential status	
Autonomous	1 (7%)
With family	9 (60%)
Youth protection residential facility (group home or rehabilitation center)	3 (20%)
Hospital unit	2 (13%)
Primary occupation	
Studies (regular school)	4 (27%)
Studies (special school)	6 (40%)
Paid work	2 (13%)
None	3 (20%)

Table 3.

Comparison of the Mean Results to the Different Quantitative Measures Used to Assess Program Effects Between Pre-program and Post-program

Measured dimensions	Mean (<i>SD</i>) at pre-program (T1)	Mean (<i>SD</i>) at post-program (T2)	t	Sig. (bilateral)	r
Self-rated (<i>N</i> =15)					
Self-esteem	2.6 (0.7)	2.8 (0.8)	0.491	0.631	
Social competence	4.6 (0.9)	4.6 (1.0)	0.096	0.925	
Social acceptance / interest	3.6 (0.5)	3.6 (0.6)	0.291	0.775	
Fear of negative judgement	2.7 (0.8)	2.8 (1.0)	-1.121	0.281	
Self-assertion	0.5 (0.8)	0.4 (0.8)	1.133	0.276	
Clinician-rated (<i>N</i> =11)					
Dependency	3.6 (2.0)	2.6 (1.6)	2.782	0.019	0.66
Inactivity	3.4 (1.8)	2.0 (1.6)	5.590	< 0.001	0.87
Social isolation	3.0 (1.3)	1.8 (1.1)	3.993	0.003	0.78
Current symptoms	3.5 (2.0)	2.6 (1.3)	2.650	0.024	0.64
Global functioning (MRSS)	3.4 (1.6)	2.2 (1.3)	4.847	0.001	0.84
Global functioning (GAF)	50.6 (15.6)	63.6 (15.1)	-6.049	< 0.001	0.89

Table 4.

Comparison of the Mean Results to the Different Quantitative Measures Used to Assess Program Effects Between Pre-program and Follow-up

Measures	Mean (SD) at pre-program (T1)	Mean (SD) at follow-up (T3)	t	Sig. (bilateral)	r
Self-rated (<i>N</i> =13)					
Self-esteem	3.0 (0.6)	3.2 (0.5)	-1.705	0.114	
Social competence	4.6 (1.0)	4.8 (1.0)	-0.794	0.443	
Social acceptance / interest	3.7 (0.5)	3.6 (0.6)	0.351	0.732	
Fear of negative judgement	2.5 (0.8)	2.7 (0.8)	-0.734	0.477	
Self-assertion	0.6 (0.8)	0.5 (0.7)	0.468	0.648	
Clinician-rated (<i>N</i> = 7)					
Dependency	4.3 (1.5)	2.0 (0.8)	3.771	0.009	0.84
Inactivity	4.0 (1.7)	1.3 (1.0)	5.203	0.002	0.90
Social isolation	3.4 (1.0)	1.6 (1.0)	4.600	0.004	0.88
Current symptoms	4.3 (1.8)	2.1 (0.9)	4.215	0.006	0.86
Global functioning (MRSS)	4.0 (1.3)	1.8 (0.7)	5.460	0.002	0.91
Global functioning (GAF)	48.0 (15.3)	65.7 (11.4)	-4.353	0.005	0.87

Note. The numbers of subjects per analysis are smaller due to loss at follow-up.

Table 5.

Total Number of Respondents per Category of Answers Pertaining to Program-Related Improvements in the Three Assessed Dimensions

	Participants		Referring clinicians
	Post- program	Follow-up	Post-program
	N=15	N=13	N=13
Self-perception			
Improvement	8	4	11
No improvement (explicit)	6	3	1
Limited/uncertain improvement	1	2	-
No related answer	-	4	1
Social comfort and/or competence			
Improvement	8	5	8
No improvement (explicit)	5	3	2
Limited/uncertain improvement	1	2	2
No related answer	1	3	1
Global functioning			
Improvement	5	6	10
No improvement (explicit)	-	-	-
Limited/uncertain improvement	-	-	-
No related answer	10	7	3