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Factors influencing occupational engagement in day centers for people with psychiatric disabilities

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Abstract

Background: Occupational engagement is a vital factor in people's lives since it has been shown to be important for health and well-being. Community-based day centers (DCs), both meeting place-oriented and work-oriented ones, are common service alternatives in many western countries for enabling engagement in productive and leisure occupations among people with psychiatric disabilities. Little is, however, known about factors influencing occupational engagement in such settings.

Aims: We aimed to investigate how factors pertaining to day center attendance, socio-demographics, motivation, clinical and self-related characteristics were related to how day center attendees rated their occupational engagement in productive occupations.

Methods: These variables were assessed among day center attendees in meeting place-oriented (n=39) and work-oriented (n=54) DCs in Sweden through questionnaires and interviews.

Results: Logistic regression models showed that i) less general psychopathology and more time spent on day center occupations were indicators of belonging to the group with a high level of occupational engagement according to a median cut; ii) higher perceived self-mastery was the only important factor with respect to ratings of occupational engagement above the third quartile.

Conclusions: The models may be seen as creating a stepwise indication on which factors are important for reaching a medium level of occupational engagement (less severe general psychopathology and time spent at the day center) and for reaching a still higher level (a high level self-mastery), respectively, of occupational engagement. The findings may also be discussed in relation to different levels of engagement in a recovery process.

Key words: occupational engagement, day centers, self-mastery, community mental health, occupational therapy, psychiatric disabilities

Introduction

Community-based day centers (DCs) form a common alternative for people with psychiatric disabilities in order to break isolation due to mental illness and become more engaged in occupations (Bejerholm & Eklund, 2006; Bryant, 2009; Catty, Goddard, & Burns, 2005a). Studies have shown that people with psychiatric disabilities are frequently socially excluded and have a decreased level of occupational engagement (Bejerholm & Eklund, 2004; Shimitras, Fossey, & Harvey, 2003). The concept of *occupational engagement (OE)*, which in this study includes engagement in all kinds of everyday activities, has been derived from qualitative time-use studies (Bejerholm & Eklund, 2004, 2006) and concerns the extent to which a person; experiences a sense of meaning in occupations, has a range and variety of different occupations that create a daily rhythm, interacts with others and acts independently and initiates occupations. OE thus concerns commitment in a broader social context and during a recovery process, and in any rehabilitation context, a person can exhibit different levels that may vary along a continuum ranging from less engagement to full engagement in occupations (Bejerholm & Eklund, 2006; Sutton, Hocking, & Smythe, 2012). Previous research has shown that DCs tend to include activities with both high and low levels of occupational demands in productive occupations (Tjörnstrand, Bejerholm, & Eklund, 2011), and may consequently generate different levels of occupational engagement. DCs in Sweden are typically meeting place-oriented (drop-in facilities with a focus on leisure) or work-oriented (with a focus on productive occupations) (Socialstyrelsen, 2005). These orientations may provide different incentives to engage in DC and may have an impact on the participants' motivation. Satisfying one's occupational and social needs and one's personal interest have previously been described as the most motivating factors (Bryant, 2009; Eklund & Tjörnstrand, in press; Gahnström-Strandqvist, Liukko, & Tham, 2003;

Tjörnstrand et al., 2011). One can assume that a person who is more occupationally engaged will spend more time within the service and vice versa. Both motivation and an attendance factor such as time spent at the day center may thus be interesting factors to investigate in relation to a person's OE.

Socio-demographic characteristics, such as educational level, having a friend or not (Eklund & Sandlund, 2012) and age (Catty, Goddard, & Burns, 2005b) (Argentzell, Leufstadius, & Eklund, 2012), have been shown to be related to DC attendance. Furthermore, less severe psychiatric symptoms have shown to be of importance for a high level of OE (Bejerholm & Eklund, 2007), a beneficial daily rhythm and more time spent in work or work-like occupations (Leufstadius & Eklund, 2008). Psychiatric diagnosis *per se* has not been shown to be related to occupational engagement (Eklund, Hansson, & Ahlqvist, 2004), but a diagnosis of schizophrenia was shown to be more rare among people attending DCs than among people visiting outpatient psychosis units (Eklund & Sandlund, 2012).

Self-related factors, such as perceived self-mastery, have frequently been found to be associated with occupational factors (Bejerholm & Eklund, 2007; Eklund & Leufstadius, 2007). Another self-related factor is self-esteem, shown to be strongly linked with satisfaction with daily occupations (Eklund & Leufstadius, 2007; Torrey, Mueser, McHugo, & Drake, 2000) and seen as an outcome of engagement in occupations (Legault & Rebeiro, 2001)

Many of the aforementioned factors appear not to have been investigated in relation to occupational engagement in the day center context. Knowledge about such relationships would be important, however, to further the understanding of mechanisms that promote engagement among people with psychiatric disabilities and obtain a basis for how to further improve day

center services. The aim of this study was thus to investigate how factors pertaining to day center attendance (day center orientation and hours spent at the day center), motivation, socio-demographics, and clinical and self-related factors were related to how day center attendees perceived their OE.

Method, Selection Procedure, Participants and Instruments

Two work-oriented and three meeting place-oriented DCs were invited. One was organized in two sub-units, one from each orientation. The inclusion criteria when selecting participants were: having had a psychiatric disability for at least two years and having attended the DC for at least one month, four hours or more per week, and being between 18 and 65 years of age. Those who agreed to take part in the study gave written informed consent. Of a total of 196 eligible participants, 93 provided written consent. The study was approved by the Regional Ethical Review Board, Lund University, Sweden (Dnr 303/2006).

The data collection was conducted in private rooms at the DCs and concerned the DC participants' OE and another six sets of data, described below.

Occupational engagement was evaluated using the Profile of Occupational Engagement in people with Severe mental illness – Productive occupations (POES-P), which generates self-reported information about an individual's productive, work-related engagement. It is structured in two parts, the first being a time-use diary (information from the latest visit to the day center) and the second an eight-item rating of OE based on the time-use diary. Psychometric testing of the POES-P, based on the present sample, has shown satisfactory properties in terms of internal consistency ($\alpha=0.85$) and discriminant and convergent validity (Tjörnstrand, Bejerholm, & Eklund, 2013b).

Motivation for attending the day center was assessed by four items, described to have basic psychometric properties in terms of face validity and discriminant validity (Eklund & Tjörnstrand, in press). The items concern motivation for attending the DC, setting clear goal for what to in the DC, preferring to spend time on one's own and preferring to have a paid job. The response format is a 100 mm VAS scale. The motivation items were not considered a scale but form different facets of the participants' motivation.

A *background questionnaire* included questions concerning socio-demographic data, such as gender, age, educational level, and time spent at the day center. The DCs did not keep a register of the attendees' psychiatric diagnoses. However, a question addressed self-reported diagnosis, which was coded by a trained psychiatrist according to the ICD-10 classification (WHO, 1993). The diagnoses were then grouped into four categories for further analyses; Schizophrenia and other psychoses, Mood disorders, Anxiety, Phobia and stress disorders and Other disorders.

The 18-item version of the *Brief Psychiatric Rating Scale* (BPRS) (Overall & Gorham, 1962) was used to assess psychiatric symptoms. For the analysis, the items were grouped into sub-scales of positive, negative and depressive symptoms and general psychopathology. BPRS has been shown to be reliable and valid (Andersen et al., 1986), especially when a structured interview guide (Crippa, Sanches, Hallak, Loureiro, & Zuardi, 2001) and interviewer training is used, as in the present study. A test of inter-rater reliability calculated on the present sample resulted in coefficients of 0.80 or more and Cronbach's alpha was 0.74.

The *Swedish version of the Pearlin Mastery Scale* (Mastery-S), used in this study, has been found to provide valid and reliable data (Eklund, Erlandsson, & Hagell, 2012). The original scale has shown satisfactory psychometric proprieties and good internal consistency in several studies

(Majer, Jason, & Olson, 2004; Marshall & Lang, 1990). The Cronbach's alpha for the present study was satisfactory at 0.75.

The Rosenberg Self-Esteem Scale (RSES) (Rosenberg, 1965) is a self-report instrument, frequently used worldwide. The ten items were answered by yes and no, as recommended by Oliver, Huxley, Priebe and Kaiser (1997). The final score indicates the balance between positive (end score of 1) and negative (end score of -1) self-esteem. The scale has been shown to be psychometrically sound across many cultures and languages (Schmitt & Allik, 2005; Wongpakaran & Wongpakaran, 2012) and has demonstrated good internal consistency and good test-retest reliability (Torrey et al., 2000). When tested on the present sample, the Cronbach's alpha was satisfactory for the positive aspect of self-esteem ($\alpha=0.75$) and acceptable for the negative aspect ($\alpha=0.65$).

Data analysis

Nonparametric statistics were used as the data were on ordinal scales and not normally distributed. Firstly, a calculation of relationships between the variables was performed using Spearman's rank correlation test. To explore group differences, the Mann-Whitney U-test was used for comparison between two groups and the Kruskal-Wallis test when the comparison concerned more than two groups. This formed the descriptive part of the investigation of occupational engagement in DCs. Three participants had not completed the POES-P part two, and the comparisons in the study were thus based on 90 participants.

Secondly, a logistic regression was performed in order to explore the importance of the factors showing a relationship with OE. The included independent variables were those with a correlation at $p < 0.10$ with OE, namely self-mastery, the motivation aspects of "motivated to

attend the day center” and “set clear goals”, self-esteem, time spent at the day center, negative symptoms, depressive symptoms and general psychopathology.

Since there is no recommended final breakpoint for the dependent variable, OE, we chose to explore two alternatives for dichotomizing the variable, a 50% and a 75% cut. This decision was based on the need to know which factors were important for differentiating the respondents whose self-assessment was above and below the median level and also for determining which factors distinguished the group with the highest OE at the DCs, in this case those above the 75th percentile. The analysis was based on a forward stepwise (conditional) model and analyzed with the SPSS software version 18.0.

Results

This study included 39 persons from the meeting place-oriented and 54 persons from the work-oriented DCs. The age of the respondents ranged from 22 to 63 years, with a mean age of 46, and 59 % were men and 41 % women. Eighty-one percent were single and 19% were married or had a partnership. Only few of the participants, 6 %, had not completed elementary school; 40% had completed elementary school, 47 % had completed high school and 7 % had completed college. According to the classification of the self-reported diagnosis, 44 % had schizophrenia or other psychosis, 22 % a mood disorder, 19 % anxiety, phobia or a stress disorder, and 15 % other disorders. The participants' mean score regarding OE was 32.5 (SD=5.49). There were no differences between the two groups representing the different DC orientations regarding OE ($p=0.357$). The attendees spent a mean of 13 hours per day (SD 8) at their DC, and a statistically significant correlation ($p > .001$) was found between the time spent at the DC and OE ($r_s=0.413$). The more time spent there the greater the level of OE was reported. However, age and OE did not correlate ($p=0.447$) and there were no statistically significant differences in OE scores

between men and women ($p=0.758$), or groups representing married/single ($p=0.293$), different educational levels ($p=0.166$) or having a close friend or not ($p=0.914$). Furthermore, no significant differences ($p=0.138$) were found between the groups based on self-reported diagnosis. However, less depressive symptoms ($r_s=-0.335$, $p < 0.001$) and less general psychopathology ($r_s=-0.404$, $p < 0.001$) were associated with more OE, whereas positive symptoms ($p=0.147$) and negative symptoms ($p=0.063$) were not.

Self-esteem ($p=0.005$) and self-mastery ($p<0.001$) were both statistically significantly associated with OE. With respect to motivation, the ratings concerning motivation for going to the DC ($p<0.001$) and setting clear goals ($p=0.003$) for what to do were both significantly correlated with OE at the DCs. The motivation for preferring to have a job to go to ($p=0.717$) and preferring to spend time alone ($p=0.486$) were, however, features not associated with OC at a DC.

For *model 1* OE was dichotomized according to the median value and for *model 2* the dichotomization was made at the 75th percentile, and both models reached $p<0.001$, indicating that both models were able to distinguish between respondents belonging to a group rating high levels of OE and those in a group rating lower levels. The Hosmer-Lemeshow test supported both models and was non-significant at p -values of 0.623 (model 1) and 0.924 (model 2), respectively.

Model 1 explained 25.7 % (Nagelkerke R Square) of the variance in OE, and correctly classified 64.4 % of the cases. The strongest predictor variable, with an odds ratio of 0.26, was general psychopathology ($B=-1.34$, $Wald=5.847$, $p<0.000$, $CI=0.088 - 0.775$). This odds ratio indicated that increased psychopathology reduced the chance of belonging to the group with a higher level

of OE, and for every scale step from less severe symptoms (1) to severe symptoms (7) the likelihood to belong to this group was reduced by 26 % compared to the previous step. The second predictor variable that remained in the equation was time spent at the DC, and the odds ratio was 1.08 ($B=0.074$, $Wald=4.665$, $p<0.001$, $CI=1.007 - 1.153$). This indicates that those respondents who spent more hours at the DC were more likely to report OE during their productive hours of the day and for each additional hour spent at the DC the likelihood to belong to the group with a higher level of OE increased by 8 %.

Model 2 explained 20.5 % (Nagelkerke R Square) of the variance in OE, and correctly classified 75.9 % of the respondents. The only predictor in model 2, with an odds ratio of 1.27, was self-mastery ($B=0.241$, $p<0.001$, $CI=1.101 - 1.470$). This indicated an increased probability of 27 % for each scale step of self-mastery (scored 1 – 4) for being in the higher level of OE.

Discussion

Self-mastery, general psychopathology and time spent at the day center were essential factors, which corresponds well to the factors assumed to be important in a recovery process, as maintained by Davidson and Roe when reviewing the literature on personal recovery (2007). They argue that recovery *in* mental illness means learning how to live despite illness, and recovery *from* mental illness implies living a fuller and more satisfying life, which may in turn contribute to the reduction of symptoms. In the present study, occupational engagement may be seen as reflecting living life more fully despite illness. Self-mastery was the only factor that showed to be important for an occupational engagement score beyond the 75th percentile. This is in line with other studies on people with psychiatric disabilities (Bejerholm & Eklund, 2007; Eklund, 2007) and the relationship indicates that in order to become more occupationally engaged, supporting people's self-mastery may help the participants and vice versa.

The level of *general psychopathology* was the prominent factor when OE was dichotomized at the median. This relationship corresponds well to the review by Davidson and Roe (2007), concluding that a satisfying life may contribute to the reduction of symptoms, and also to earlier studies (Bejerholm & Eklund, 2007; Leufstadius & Eklund, 2008) indicating a need to focus on routines and social occupations to lessen psychiatric symptom. Moreover, becoming involved in doing has been argued to prevent relapse and readmission (Bryant, Craik, & McKay, 2005; Inadomi et al., 2005). This suggests that DCs can promote health when individuals are meaningfully engaged.

More time spent in the DC was shown to be related to OE in logistic regression model 1. The time spent in extrinsically motivated but still individually meaningful occupations may theoretically impact the attendee's intrinsic motivation over time (Deci & Ryan, 2008; Kielhofner, 2008). This reasoning is in agreement with qualitative studies, showing that doing triggers more engagement, which then leads to a spin-off effect in terms of further activity (Leufstadius, Eklund, & Erlandsson, 2009; Rebeiro & Cook, 1999) and intrinsic motivation (Mee & Sumsion, 2001). In the present study, setting own individual goals was highlighted as important for OE. This is in line with Dawes and Larson (2011), showing that integrating the personal goals with goals of the program initiated a process of changed behavior and enhanced motivation.

The findings indicate that the attendees' motivation to seek paid employment was not related to their OE in the DC. They may have been in a too "disengaged mode" (Sutton et al., 2012) in their recovery process, not seeing work as a possible option, or their social needs may have been met in the day center, which has been found to give less incentive to seek competitive work (Catty et al., 2008). The finding must also be seen against the fact that attendees who spent less

than four hours per week in the DC were excluded. They may very well have been more prone to prefer an employment or social opportunities outside the DC. On the opposite, individuals spending more time could also be assumed to be more self-going individuals that had been at the center for some time, for motivation to get intrinsic. The role of motivation and recovery in relation to attending DCs needs to be studied further, however, and the conclusions so far may be seen as hypotheses for future research.

The fact that the groups based *on day center orientation* did not differ in terms of OE corroborates findings from the qualitative study based on the same sample, showing that both orientations offered a wide range of occupations with different levels of demands (Tjörnstrand et al., 2011, 2013a). This may in turn emphasize that both orientations are important for OE and equally needed for people with psychiatric disabilities in different stages of their recovery process.

Study limitations

Due to the fairly low participation rate, and that participants were mainly rated as having a moderate level of psychopathology, the sample may not represent people attending DCs in general, but perhaps the better functioning attendees. Another study limitation refers to the lack of information on how long the participants had attended the day centers in general. Logistic regression was considered the most appropriate method for multivariate analysis since the variables were on ordinal scales and generally did not have a normal distribution. A disadvantage with logistic regression is, however, that the dependent variable has to be dichotomized, which causes loss of variance. To keep as much as possible of the variance in the original data, the independent variables were kept as ordinal scales. The result does not explain any causal relationships or predict outcomes, but should be interpreted as a piece of the puzzle of

knowledge regarding OE in the DC context and as generating hypotheses worth investigating further. Social desirability bias is a potential risk in such studies as this one but measures were taken to counteract this in the form of ensuring the participants' confidentiality and using interviewers who were unrelated to the DC. When it comes to the generalizability/applicability, the findings should be transferable to similar community settings outside of Sweden, organized similarly and with comparable contents and users.

Conclusion

The results emphasize that the attendees' psychopathology, especially general symptoms, and time spent at the day center were important factors for OE, and self-mastery was the only variable related to belonging to the group with the highest level (> the 75th percentile) regarding OE. For DC attendees to become occupationally engaged, the result further indicates that the staff need to focus on motivational factors such as the motivation to attend the DC and to set clear goals for what to do there. Furthermore, enhancing self-factors such as self-mastery and self-esteem appear to be a promising path to enable engagement in DC occupations.

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