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Perceptions of the worker role among people with psychiatric disabilities – Description and investigation of associated factors

Abstract. *Objective:* To investigate how subjective perceptions of everyday occupations, activity level, day centre attendance, social interaction, self-mastery and clinical factors were related to how unemployed people with psychiatric disabilities (PD) envision a future worker role, also controlling for socio-demographic variables.

Participants: 175 people with PD; 93 attended a day centre and 82 did not. Of the 93 day centre attendees 39 visited meeting place-oriented day centres and 54 attended work-oriented ones.

Methods: Self-ratings and interview-based instruments were used to assess the view of the worker role, social interaction, subjective perceptions of everyday occupations, activity level, self-mastery, and socio-demographic and clinical factors. Non-parametric statistics were used when analysing the data.

Results: A few aspects of the worker role seemed positively influenced by attending a day centre, in particular a work-oriented one. High levels of activity ($p=0.009$) and self-mastery ($p=0.024$), being younger ($p=0.004$) and having less depression ($p=0.008$) were also associated with a more positive view of the worker role.

Conclusion: In order to enhance a future worker role the individual's feeling of control in the rehabilitation process should be highlighted and possibilities for general activity

engagement be offered. Since the findings indicate that most aspects of the worker role were not enhanced by day centre attendance community-based care should further concentrate on promoting this future role for people with PD.

Keywords: activities of daily living, mental illness, work

1. Introduction

People have different roles in life and having a worker role, with all associated benefits such as earning money and having a social status, forms an important part of a person's identity, as well as of social life, especially in Western societies. In role theory, the concept of role denotes that a person is a member of a collective, has certain social positions and is expected to uphold specific behaviors, but also expects certain behaviors from other people [1]. Further, according to the Model of Human Occupation [2], a role includes performing certain behaviors and activities, which are all influenced by both cultural context and individual values. The worker role can thus be seen as a function of motivation, life style, capacity and environmental factors, which all interact with each other.

A person disrupted by a mental illness often loses his or her specific worker role, and those who are struck with illness at young age may never get the opportunity to develop this role and are left without employment opportunities [3]. Although engagement in paid work may be seen as stressful and even counterproductive [4] it is also recognized that employment is one of the cornerstones when recovering from a mental illness [5-6] and the literature indicates that rapid re-engagement in work and the establishment of a new, sometimes adapted, worker role is an important part of the immediate rehabilitation for people with psychiatric disabilities (PD) [7]. Research further shows that engagement in paid work is associated with better well-being and quality of life among people with PD [8-9] as well as with reduced hospitalization and medication [10-12]. A study by Eklund

[9] also revealed that people with PD who were working were more satisfied with their daily occupations and had a better level of functioning than people with PD who were not working. Furthermore, the importance of work has been accentuated by Morrow and colleagues [13] who stated that the economic security a paid job offers is essential for a successful recovery process. Being employed also diminishes the social exclusion often faced by people with PD, particularly in developed countries [6]. Research also implies that people with PD view work as meaningful, and that work provides positive challenges, structure and economic security, strengthens people's identity and social network, and generates a feeling of contributing to and being accepted by society [14-17].

Studies have revealed that the urge to work is prominent among people with PD and that between one third and close to 90% of people with PD have a desire to work [7, 18].

However despite the will among people with PD to engage in work occupations, employment opportunities for the target group are inadequate [13, 19]. Research and statistics show that only between 20-30 % of people with PD are employed [19-20], and although strategies to enhance employment, such as supported employment, are rapidly being adopted in psychiatric rehabilitation worldwide [21] the employment rates even seem to be declining in some countries [19].

Research has shown that employment is influenced by a myriad of both internal and external barriers and facilitators [3, 19]. Focusing on the facilitators, Catty and colleagues [22] concluded that having an employment was more common among those who had a previous work history and a better relationship with their vocational worker. Henry and

Lucca [3] stated that personal facilitators of employment were: appropriate work skills and social skills, being motivated to work, having a strong belief in oneself and a high expectation of employment. These authors also identified environmental facilitators, such as relevant skills training and ongoing support, peer support, opportunities for seeing others with PD succeed with employment and developing a positive relationship with a hope-giving provider. Marwaha and Johnson [19] also concluded that symptom reduction and increased levels of quality of life, self-esteem and social functioning were correlated with work engagement, although no clear causal relationship has yet been established. Further, a high level of self-mastery, i.e. feeling in control of one's life situation, has been found to be related to time spent on work [23].

Research regarding the view of the worker role is scarce, but a recent study among unemployed people with PD showed that high levels of empowerment and occupational engagement were correlated with a more positive view of the worker role, as were age and work history, while depressive symptoms were negatively correlated with the view of the worker role [24].

Regarding interventions that aim at improvements in work-related variables, research has indicated that people with PD benefit from individualized vocational rehabilitation strategies [3]. Moreover, employment focused services yield better employment outcomes for the target group than standard services, such as day treatment [8, 25-26]. In Sweden the municipalities are given the responsibility to enhance an active community life and provide meaningful daily occupations for people with PD [27]. In that context the term occupation is used to denote activity in general, not only work, but also for example

hobby-like and social occupations. In recently published national guidelines for psychosocial interventions for people with PD [28], it is stated that having a worker role, among other things, enhances positive self-esteem and social inclusion. The role of community-based day centres in supporting a worker role is however unclear, since their main responsibility is to provide occupations of various sorts and social opportunities in order to diminish isolation for unemployed people with PD [28]. In a recent Swedish study examining day center occupations [29], it was shown that some day centers appeared to foster the idea of providing work-like occupations, while others were more meeting place-oriented, without an obvious work focus. Research regarding the influence attendance at these different types of day centers might have on how people with PD view their worker role seems to be lacking. This would constitute important knowledge, however, considering the purpose of such day centers to offer an alternative to paid work and giving support to future employment for the target group.

In conclusion, the worker role has been shown to be connected to factors such as social functioning and social needs [22], the subjective experience of everyday occupations [9], occupational engagement [24], perceived self-mastery [9, 23] and clinical variables [19, 30]. There are, however, few studies that focus on the joint relationship these types of factors, and also day centre attendance, have on how the worker role is perceived among people with PD. The aim of the present study was thus to investigate how subjective perceptions of everyday occupations, activity level, day centre attendance, social interaction, self-mastery and clinical and socio-demographic factors were related to how

unemployed people with PD envision a future worker role. Such knowledge could serve as a basis for designing work-related support in various rehabilitation contexts.

2. Method

2.1 Selection procedure

The local Research Ethics Committee approved the study (No. 303/2006) and the principle of informed consent was applied. All of the seven day centres that were approached agreed to participate. The inclusion criteria for the participants were having attended a day centre for at least one month and more than four hours a week, and being between 18-65 years of age. People with PD within in the same age range, living in the same municipalities but not attending a day centre, constituted a comparison group, selected at the outpatient units where they were registered. Random sampling was used at the outpatient units for selecting non-attendees, except in one unit where the waiting room principle was used. To be working or engaged in full time studies was an exclusion criterion for both groups, as well as having dementia or developmental disabilities, as assessed by staff.

2.2 Characteristics of the day centres and the outpatient units

All of the selected day centres were located in the south of Sweden in four, both urban and rural, municipalities. Staff working at the day centres had varying qualifications and educations, but some had a medical or paramedical profession such as occupational

therapist. The day centres varied in character and met different occupational needs. The attendees could not choose among day centres but attended by geography.

Four of the day centres were mainly oriented towards meeting social needs and were termed “meeting place-oriented” and the other three were termed “work oriented”, since they provided work-like occupations such as assembly work and food catering. No salary was paid at any of the day centres. The occupations offered at the different day centers could be characterized as being, for example, creative, service oriented, or social in nature. For more detailed information about the day centres, see a related study by Tjörnstrand et al. [29]. The outpatient units were located in the same four municipalities. They mostly offered support in terms of psycho-educative programmes and verbal therapy sessions, but at one unit the clients were also offered the choice to participate in different kinds of groups such as creative arts groups and social skills groups.

2.3 Characteristics of the participants

A total of 175 people with PD participated in the study, 93 of whom attended some form of a day centre and 82 did not. Of the 93 day centre attendees 39 visited meeting place-oriented day centres and 54 attended work-oriented ones. PD was in this study defined as having difficulties, present and of lasting character, in performing occupations in important life areas due to a mental illness. This definition is in accordance with the definition by the Swedish National Board of Health and Welfare [31]. Those, who did not attend a day centre, were similar to the day centre group as a whole on most socio-demographic data. There was, however, a significant difference ($p < 0.001$) regarding

education and clinical variables, the non-attendees had a higher education level and also, for example, more often reported having a diagnosis of psychosis than the two day centre groups. Further characteristics are shown in Table 1, where the information is split on the two day centre groups.

Insert Table 1 here

2.4 Instruments

The variables investigated were; the view of the worker role, social interaction, subjective experiences of everyday occupations, activity level, self-mastery, and socio-demographic and clinical factors.

2.4.1 The view of the worker role. The Worker Role Self-assessment (WRS) [32] was used in order to measure how the participants viewed themselves in term of having a future worker role. The WRS is a self-rating version of the Swedish version of the Worker Role Interview [33]. For this study a somewhat modified version of the WRS was used, with only one reversed item in order to make the instrument easier to understand. A reliability analysis was performed of this version of the WRS, showing a Cronbach's alpha of 0.84. The WRS asks the participant to respond to 14 statements about the worker role and indicate his or her degree of agreement with those statements on a four-point ordinal rating scale, where a higher rating indicates a more positive view of the worker role. Examples of statements are; "I'm well aware of my abilities and limitations", "I think that work will be part of my life in the future", "I have goals I want

to attain in relation to work”, “I enjoy working”, “I get support from my family and friends for returning to work” and “I get strong support from the rehabilitation and healthcare staff for returning to work”. The instrument yields a minimum score of 14 and a maximum score of 56. The WRS has been shown to have good content validity and utility as perceived by both clients and occupational therapists. The internal consistency and the test-retest reliability have been found satisfactory [32]. The WRS is viewed as a promising tool that clinicians can use when evaluating a client’s capacity for returning to work.

2.4.2 Social interaction. In order to measure quantitative and qualitative aspects of social interaction a short self-report Swedish version [34] of the instrument Interview Schedule for Social Interaction [35] was applied, named Interview Schedule for Social Interaction – Self Rating version (ISSI-SR). Good reliability and validity [34-35] has been shown for the ISSI-SR and it also has shown satisfactory psychometric qualities for people with PD [36]. The instrument measures, with 30 questions, both quantitative and qualitative aspects of social interactions. The questions regarding quantitative matters are; Availability of social integration (number of social contacts) and Availability of attachment (possibilities for emotional relationships). Questions regarding qualitative aspects are; Adequacy of social integration (how satisfied a person is regarding social contacts), and Adequacy of attachment, (how satisfied a person is with emotional relationships). The quantitative subscales yield a maximum score of six, Adequacy of social integration may give a maximum score of eight and the maximum score for Adequacy of attachment is ten.

2.4.3. Subjective perceptions of everyday occupation. The perception of *occupational value* in daily occupations, such as concrete, symbolic and self-reward value, was measured using the 18-item version of the Occupational Value with pre-defined items (OVal-pd) instrument [37-38]. On a scale from 1 (not at all) to 4 (very often) the participants estimate how often they have experienced different types of value in occupations during the last month. The OVal-pd total score ranges from a minimum score of 18 to a maximum score of 72 points. Good validity and reliability have been shown for the instrument [38]. Furthermore, the participants were asked to rate their *satisfaction with daily occupations* within the occupational areas of work, leisure, home maintenance and personal care. The instrument used for this was the Satisfaction with Daily Occupations (SDO). It generates a total score that may range from 9 to 63, where a higher number indicates more satisfaction with daily occupations. The SDO has good internal consistency, good test-retest reliability and good content and construct validity and has also demonstrated an acceptable ability to discriminate between diverse psychiatric samples [39-40].

2.4.4. Activity level. As a part of the SDO the participants estimated their level of activity. The activity level scale ranged from scores of 0-9, reflecting the number of daily life areas in which the respondent is currently active and where a higher number indicates a higher activity level. Good test-retest reliability has been shown for the SDO measurement of activity level [39-40].

2.4.5. *Self-mastery.* The Swedish version [41] of the Pearlin Mastery Scale [42] was used to measure the participants' sense of self-mastery. The Pearlin Mastery Scale is a self-report assessment that yields scores ranging between 7 and 28, where a higher score indicates greater sense of self-mastery. This instrument has been shown to have satisfactory psychometric properties concerning both validity and reliability [41- 43].

2.4.6. *Socio-demographic characteristics.* Socio-demographic characteristics were investigated with a questionnaire, which was specially designed for the present study. The questions focused for example; sex, age, type of housing, civil status and level of education.

2.4.7. *Clinical factors.* *Psychiatric symptoms* were measured by using an 18-item version of the Brief Psychiatric Rating Scale (BPRS) [44]. In this instrument, interviews and observation form a base for estimating the severity of an individual's psychiatric symptoms. A scale from 1 to 7 is used, where a higher rating indicates more severe symptoms. The result of the measurement may be presented in terms of four sub-scales; positive, negative and depressive symptoms and general psychopathology. Good inter-observer and intra-observer reliability has been shown for the BPRS [44]. As suggested in the literature, the present study used a structured interview guide [45] and the interviewers received special training [46]. Inter-rater reliability alpha coefficients of 0.80 were obtained. Since day centres do not register the diagnosis of their visitors the participants were all asked to give a *self-reported diagnosis*. A psychiatrist then matched this self-reported diagnosis with the ICD-10 classification of mental disorders [47]. The

diagnoses were subsequently organized into four groups for further analyses; Schizophrenia and other psychoses, Mood disorders, Anxiety, phobia and stress disorders and Other disorders.

2.5. Procedure

Information about the study was given to the staff, who then conveyed both oral and written information to presumptive informants, i.e. a person with PD. A primary contact person took the initial contact with each interested and eligible informant and received their written consent when they agreed to participate in the study. The informant was then contacted by a trained interviewer who made an appointment for the interview, preferably at the day centre setting or at the outpatient unit. The interview took approximately 1 hour and 45 minutes, with breaks for coffee. The informants' anonymity was ensured by coding the interview material and storing it in a secured place to which unauthorized persons had no access.

2.6. Data analysis

Non-parametric statistics were applied as the study was based on ordinal and categorical outcome data. The Mann Whitney U-test was used when performing comparisons between two groups and the Kruskal Wallis test was used for comparisons between more than two groups. When comparing the different groups regarding their worker role, however, the Jonkhere-Terpstra test was used to test for a linear trend between groups representing increasing involvement in work-like occupations, namely subjects visiting

outpatient units, meeting place-oriented centres and work-oriented ones. Spearman rank correlations were performed for investigating relationships between variables on ordinal scales. Logistic regression analysis, forward conditional model, was used for multivariate analysis of factors influencing the worker role. The independent variables were; participation in day centres (being an attendee or not), perceived occupational value, satisfaction with daily occupations, level of activity, social interaction, and self-mastery, as well as the different socio-demographic and clinical factors. Since no specific cutoff values have been suggested for those variables a median cut was chosen to create dichotomous group variables for the worker role, perceived occupational value, satisfaction with daily occupations, activity level, social interaction, self-mastery and the various BPRS scales. Although age may be of importance to different aspects of everyday occupations it has also been assumed that the linear relationship may not be linear, and a grouping based on three groups has been proposed [48]. Hence, the participants were divided into three age groups; 22-40, 41-51 and 52-65. These intervals formed groups with equal numbers of people, further used as an independent variable in the logistic regression models. The p-level for entering independent variables in the models was set at $p \leq 0.10$. To avoid too many (> eight) independent variables, two sets of logistic regression analysis were made, one with variables pertaining to activity, social interaction and self-mastery, and one with socio-demographic and clinical factors. The p-value for significant results was set at $p < 0.05$ and the SPSS software, version 17.0, was used.

3. Results

3.1. Comparing the worker role between non-attendees, attendees at meeting place-oriented day centres and attendees at work-oriented day centres

There were no differences between non-attendees, attendees at meeting place-oriented day centres and attendees at work-oriented day centres regarding the sum variable of WRS. There were significant differences, however, at the item level that concerned the question “I believe that work will be part of my life in the future” and “I have goals I want to attain in relation to work”. The Jonckheere-Terpstra test showed that for these items the attendees at work-oriented centres scored higher than the meeting place-oriented group, which in turn rated their worker role better than the group that was not attending a day centre at all (see Table 2).

Insert Table 2 here

3.2. The importance of occupational factors, self-mastery, social interaction and clinical and socio-demographic variables for the worker role

The results showed that occupational value was significantly associated with the view of the worker role. Further, being more active and having a higher level of self-mastery and availability of social attachments were significantly correlated to higher ratings of the worker role. Also, being younger and having less negative and depressive symptoms and general psychopathology were associated with a more positive perception of the worker role (see Table 3).

Insert Table 3 here

Logistic regression analysis was performed to further explore the associations with those factors that in the previous analyses had been shown to be related ($p \leq 0.10$) to perceptions of the worker role. The first model had five independent variables (satisfaction with daily occupation, occupational value, activity level, self-mastery and availability of social attachment). The Hosmer-Lemeshow test showed a significance level higher than 0.05 (0.228), indicating support for the model. The model correctly classified 77 % of those participants who had a positive view of their worker role and 59 % of all cases. The strongest predictor for scoring high on the worker role, indicating a positive view, was having a high activity level, with an odds ratio above two. The model further suggested that having a high level of self-mastery also doubled the chance of having a positive view of the worker role. In the second model, five independent variables were included; age, gender and negative, depressive and general symptoms. A Hosmer-Lemeshow test of 0.959 gave support to the model. The model correctly classified 62 % of all cases. Being younger (22-40 years) was the strongest predictor of having a positive view of the worker role. Belonging to this age group, as compared to belonging to the old age group, more than tripled the chance of perceiving the worker role as positive. Furthermore, having a low level of depressive symptoms indicated a more positive view of the worker role, with an odds ratio of 2.7. See Table 4 for further details.

Insert Table 4 here

4. Discussion

Some aspects of the worker role, such as believing in work in the future and having future worker goals, seemed positively influenced by attending a work-oriented day centre. Factors such as having high levels of activity and self-mastery, being younger and having less depression were also associated with a more positive view of the worker role. Research regarding the view of the worker role for people with PD is scarce, and there are no studies regarding the influence day centre attendance may have on the worker role for people with PD. There is, however, some related research with which the results of the present study can be compared. Day centre attendance appeared to be associated with some aspects of the worker role in a positive direction in our study and to attend a day centre with a more work-oriented approach seemed to further enhance the worker role. This concurs with the findings in other studies that show that employment focused services yield better employment outcomes for people with PD than interventions that do not have this focus [8, 25]. However those who attended a day centre, even if it was a worker oriented one, did not rate their worker role on the whole higher than the non-attendees, which is surprising. The reason for this may be that the work-oriented day centres did not address all aspects of the worker role. Why this occurs can perhaps only be speculated on, but it can be related to the staff's fear of jeopardizing the clients' benefits, which in other research has been found to hinder the clients' rehabilitation towards work [3]. Since the findings indicate that not all aspects of the worker role are enhanced by day centre attendance community-based care should further concentrate on enhancing this future role for people with PD.

In terms of factors of importance for the worker role, it appeared that activity level was an important correlate, which would thus agree with the findings of Areberg et al. [24], who showed that occupational engagement was a predictor of a stronger worker role. To be active and feeling able to do something during the day would thus be a facilitating factor towards creating a stronger worker role.

Perceiving a high level of self-mastery was a factor of importance for having a strong worker role. This is in agreement with the result of a recent study where empowerment, a phenomenon related to self-mastery, was connected to having a stronger worker role [24]. Self-mastery has also previously been found to be related to time spent in work [23], although no association was found between self-mastery and being engaged in work [9, 49]. That self-mastery would be related to a positive worker role appears to be an expected finding being as it concerns feelings of being in control of one's life situation and being able to affect future life events.

Regarding socio-demographic data, being younger seemed to be a strong indicator of a positive perception of the worker role. This might be due to generation differences, and younger people having higher expectations of life, which would also be in line with the results of Henry and Lucca [3], who claimed that older people with PD have reached a point where they are institutionalized and as a result have lower work expectations. This contradicts the results of Areberg et al. [24], however, who concluded that younger people had a weaker worker role. It seems that so far findings regarding the relationship between age and the worker role are inconclusive, which warrants further study.

When looking at psychiatric symptoms, lower levels of depressive symptoms seemed to increase the chance of predicting a strong worker role, which might not be so surprising since being depressed generally would give a more negative self-image, as shown by Razzano et al. [30]. Negative and general symptoms were also correlated with the view of the worker role according to the bivariate analyses. This agrees with the findings of Marwaha and Johnson [19] who showed that symptom reduction was correlated with work engagement and with Razzano et al. [30] who found negative psychiatric symptoms and poor functioning to be associated with employment failures.

4.1 Limitations

The study participants were, on a group level, rated as having moderate levels of psychopathology. The sample used was thus lacking people with more severe psychiatric problems and may not be representative of people with PD in general. Another limitation is that those who did not attend a day centre more often reported a diagnosis of schizophrenia. Diagnosis did not explain any of the variance in the worker role variable, however, and the differences in self-reported diagnosis should thus not jeopardize the validity of the findings. A limitation of the study was also that there were no data on when, if ever, a person had had an employment, which would have been valuable knowledge in relation to how close the participants were to a former worker role. Finally, there was no record of whether people who attended a day centre did so because that was their first priority or because it was what was available in their community. The motive for attending a certain day centre, such as a work-oriented one, might have impacted on

how being in the day centre associated with the participant's view of the worker role.

Although of potential importance, the reason for attending the day centre could however not be investigated in the present study.

There were no data regarding which kind of occupations the participants were engaged in outside the day centres and it might be that things outside the day centre arena influenced the worker role. For example, having a generally high activity level was associated with a stronger overall worker role, but the participants' activity level was probably affected by circumstances both within and outside the day centre. It is also likely that factors that were not targeted in this study were of importance for perceptions of the worker role and led to few differences between the groups, such as possible stigmatizing attitudes in work places and employment agencies.

Furthermore, this study is based on several computations, and since the level for statistical significance was set at $p < 0.05$ there was a risk for mass significance.

Lowering the p-value to 0.01 was considered, the consequences being that the second item of the worker role, shown in Table 2, would be thus considered as non-significant, as would be the case for self-mastery in the logistic regression model. The overall result would thus not have been significantly different with a lowered p-value.

The study had a cross-sectional design and therefore no causal relationships could be established. A further limitation was that random sampling could not be used with all

outpatient units when selecting non-attendees. In one unit the waiting room principle was used instead, which thwarted the possibilities to estimate the dropout rate.

Logistic regression analysis was considered the most appropriate multivariate analysis since most of the data were of ordinal character and were not normally distributed [50], and both dependent and independent variables were dichotomized. This meant, however, that much of the variation within these variables was lost, and therefore complementary analyses were made to test the robustness of the results. Both linear regression and logistic regression with continuous independent variables arrived at similar results, with self-mastery as a major predictor variable and additional contribution from activity variables and psychiatric symptoms.

5. Conclusion and clinical implications

The present study showed that some aspects of the worker role seemed positively influenced by attending a day centre, and by attending work-oriented day centres in particular. High levels of self-mastery and activity engagement, being younger and having a low level of depression were associated with having a more positive view of the worker role.

According to the result, work-oriented day centres are only associated with some parts of the vocational self-image. Community-based care should thus further concentrate on enhancing a future worker role for people with PD.

Specifically, enhancing the clients' feeling of self-mastery in life and providing opportunities to be active should also be important goals for the community-based psychiatric care. According to this study, older persons and persons with depressive symptoms would need special attention when the rehabilitation aim is to strengthen their worker role.

Conflict of interest

The authors declare that they have no conflict of interest.

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[edited for review process]

References

- [1] B. Biddle, Recent developments in role theory, *Annual Review Social* **12** (1986), 67-92.
- [2] G. Kielhofner, *Model of human occupation: theory and application* Baltimore: Lippincott Williams & Wilkins, (2008).
- [3] DA. Henry and AM. Lucca, Facilitators and Barriers to Employment: the Perspectives of People with Psychiatric Disabilities and Employment Service Providers. *IOS Press* **22** (2004) (3).
- [4] TL. Scheid, An investigation of work and unemployment among psychiatric clients, *International Journal of Health Services* **23** (1993), 763-82.
- [5] F. Markowitz, Modeling Processes in Recovery from Mental Illness: Relationships between Symptoms, Life Satisfaction, and Self Concept. *Journal of Health and Social Behavior* **42** (2001), (1), 64-79.
- [6] J. Boardman, Work, Employment and Psychiatric Disability, *Advances in Psychiatric Treatment* **9** (2003), 327-34.
- [7] B. Grove, Mental health and employment: Shaping a new agenda. *Journal of Mental Health* **8** (1999) (2), 131-40.
- [8] G. Bond, S. Resnick, R. Drake, H. Xie, G. McHugo and R. Bebout, Does competitive employment improve non vocational outcomes for people with severe mental illness? *Journal of Consulting and Clinical Psychology* **69** (2001), (3), 489-501.

- [9] M. Eklund, L. Hansson and C. Ahlqvist. The importance of work as compared to other forms of daily occupations for wellbeing and functioning among persons with long-term mental illness. *Community Mental Health Journal* **40** (2004), 465-77.
- [10] MD. Bell, P. Lysaker and R. Milstein. Clinical benefits of paid work activity in schizophrenia. *Schizophrenia Bulletin* **22** (1996), (1), 51-67.
- [11] K. McKeown, T. O'Brian and T. Fitzgerald, Vocational rehabilitation and mental health - The European project on mental health in Ireland, 1989-1991. (1992).
- [12] T. Reiker and B. Eikermann, Work therapy for schizophrenic patients: results of a 3-year prospective study in Germany, *European Archives of Psychiatry & Clinical Neuroscience* **247** (1997), 314-9.
- [13] M. Morrow, A. Wasik, M. Cohen and K-M. Perry, Removing barriers to work: Building economic security for people with psychiatric disabilities. *Critical Social Policy* **29** (2009), 655-76.
- [14] B. Kirsh, Factors associated with employment for mental health consumers, *Psychiatric Rehabilitation Journal* **24** (2000), (1), 13-22.
- [15] M. Kennedy-Jones, J. Cooper and E. Fossey, Developing a worker role: Stories of four people with mental illness, *Australian Occupational Therapy Journal* **52** (2005), 116-26.
- [16] C. Leufstadius, E. Eklund and L-K. Erlandsson, Meaningfulness in work - Experiences among employed individuals with persistent mental illness, *Work* **34** (2009), 21-32.
- [17] E. Argentzell, C. Håkansson, and M. Eklund, Experience of meaning in everyday occupations among unemployed people with severe mental illness, *Scandinavian Journal of Occupational Therapy* **19** (2012), 49-58.
- [18] J. Secker, B. Grove and P. Seebohm, Challenging barriers to employment, training and education for mental health service users: The service user's perspective, *Journal of Mental Health* **10** (2001), (4), 395-404.
- [19] S. Marwaha, S. Johnson, P. Bebbington, M. Stafford, MC. Angermeyer, T. Brugha, JM. Azorin, R. Kilian, T. Hansen and M. Tourin. Rates and correlates of employment in people with schizophrenia in the UK, France and Germany. *British Journal of Psychiatry* **191** (2007), 30-7.
- [20] H. Tsang, P. Lam, B. Ng and O. Leung, Predictors of employment outcomes for people with psychiatric disabilities: A review of literature since the mid '80s, *Journal of Rehabilitation* **66** (2000), (2), 19-31.
- [21] DR. Becker and RE. Drake, *A working life for people with severe mental illness*, Oxford: Oxford University Press, (2003).
- [22] J. Catty, P. Lissouba, S. White, T. Becker, RE. Drake, A. Fioritti, et al, Predictors of employment for people with severe mental illness: results of an international six-centre randomized controlled trial, *The British Journal of Psychiatry* **192** (2008), 224-31.
- [23] C. Leufstadius, LK. Erlandsson, and M. Eklund, Time use and daily activities in people with persistent mental illness, *Occupational Therapy International* **13** (2006), 123-41.
- [24] C. Areberg, T. Björkman and U. Bejerholm, *Work readiness in People with Severe Mental Illness*. Manuscript in preparation.
- [25] GR. Bond, RE. Drake and K. Mueser, Effectiveness of psychiatric rehabilitation approaches for employment of people with severe mental illness, *Journal of Disability Policy Studies* **10** (1999), 18-52.
- [26] T. Burns, F. Creed, T. Fahy, S. Thompson, P. Tyrer and I. White, Intensive versus standard case management for severe psychotic illness: a randomised trial. *Lancet* **353** (1999), (9171), 2185-9.
- [27] National Board of Health and Welfare. Kommunernas insatser för personer med psykiska funktionshinder. Slutrapport från en nationell tillsyn 2002-2004. [Community achievement for people with mental disability. Final report. In Swedish]. Stockholm (2005).
- [28] National Board of Health and Welfare, National guidelines for psychosocial interventions for people with schizophrenia or similar conditions, 2011 - support for governing and management. [Nationella riktlinjer för psykosociala insatser vid schizofreni och schizofreniliknande tillstånd, 2011 - stöd för styrning och ledning. Final report in Swedish]. Västerås (2011).
- [29] C. Tjörnstrand, U. Bejerholm and M. Eklund, Participation in day centers for people with psychiatric disabilities - characteristics of the occupations, *Scandinavian Journal of Occupational Therapy* **18** (2011), 243-253..
- [30] L. Razzano, J. Cook, J. Burke-Miller, K. Mueser, S. Pickett-Schenk ,D. Grey, et al. Clinical factors associated with employment among people with severe mental illness - Findings from the

- employment intervention demonstration program, *Journal of Nervous Mental Disorders* **193** (2005), (11), 705-13.
- [31] National Board of Health and Welfare. What is a psychiatric disability? The national psychiatry co-ordination gives their definition of the concept of psychiatric disability [Vad är ett psykiskt funktionshinder? Nationell psykiatrisamordning ger sin definition av begreppet psykiskt funktionshinder]. (2006).
 - [32] B. Wästberg, L. Haglund and M. Eklund, Psychometric properties of the worker role self-assessment instrument used to evaluate unemployed people in Sweden, *Scandinavian Journal of Occupational Therapy* **16** (2009), 238-46.
 - [33] E. Ekbladh and L. Haglund, WRI-S version 2. The Worker Role Interview (In Swedish), Linköping University, Sweden (2000).
 - [34] A-L. Undén and K. Orth Gomér, Development of a social support instrument for use in population surveys, *Social Science and Medicine* **29** (1989), 1387-92.
 - [35] S. Henderson, P. Duncan-Jones, D. Byrne and R. Scott, Measuring social relationship: The interview schedule for social interaction, *Psychological Medicine* **10** (1980), 723-4.
 - [36] Eklund, M., Bengtsson-Tops, A. and Lindstedt, H. (2007). Construct and discriminant validity and dimensionality of the Interview Schedule for Social Interaction (ISSI) in three psychiatric samples. *Nordic Journal of Psychiatry* **61**; 182-188.
 - [37] D. Persson, L-K. Erlandsson, M. Eklund and S. Ivarsson, Value dimensions, meaning and complexity in human occupation - a tentative structure for analysis, *Scandinavian Journal of Occupational Therapy* **8** (2001), 7-18.
 - [38] M. Eklund, L-K. Erlandsson, D. Persson and P. Hagell, Rasch analysis of an instrument for measuring occupational value: Implications for theory and practice, *Scandinavian Journal of Occupational Therapy* **16** (2009), 118-28.
 - [39] M. Eklund, Satisfaction with Daily Occupation - a tool for client evaluation in mental health care. *Scandinavian Journal of Occupational Therapy* **11** (2004), 136-42.
 - [40] M. Eklund and B. Gunnarsson, Content validity, discriminant validity and responsiveness of the Satisfaction with Daily Occupations (SDO) instrument: A screening tool for people with mental disorders, *British Journal of Occupational Therapy* **71** (2008), 487-95.
 - [41] M. Eklund, L-K. Erlandsson and P. Hagell, *Psychometric properties of a Swedish version of the pearlin mastery scale in health and mentally ill people*. *Nordic Journal of Psychiatry*, in press.
 - [42] LI. Pearlin, MA. Lieberman, E. Menaghan and JT. Mullan, The stress process, *Journal of Health and Social Behaviour* **22** (1981), 337-56.
 - [43] G. Marshall and E. Lang, Optimism, Self-Mastery, and Symptoms of depression in women professionals, *Journal of personality and social psychology* **59** (1990), 132-9.
 - [44] T. Kolakowska, *Brief Psychiatric Rating Scale*, Oxford; Oxford University Press, (1976).
 - [45] JA. Crippa, RF. Sanches, JE. Hallak, SR. Loureiro and AW. Zuardi, A structured interview guide increases Brief Psychiatric Rating Scale reliability in raters with low clinical experience, *Acta Psychiatrica Scandinavica* **103** (2001), 465-70.
 - [46] J. Andersen, JK. Larsen, V. Schultz, B. Nielsen, A. Korner and K. Behnke, Psychiatric Rating Scale: Dimension of schizophrenia: reliability and construct validity, *Psychopatology* **22** (1989), 68-76.
 - [47] World Health Organization, *The ICD-10 classification of mental and behavioral disorders. Diagnostic criteria for research*, Geneva, (1993).
 - [48] C. Leufstadius and M. Eklund, Time use among individuals with persistent mental illness: Identifying risk factors for imbalance in daily activities. *Scandinavian Journal of Occupational Therapy* **15** (2008), 23-33.
 - [49] M. Eklund, L. Hansson and U. Bejerholm, Relationship between satisfaction with occupational factors and health-related variables in schizophrenia outpatient, *Social Psychiatry Epidemiology* **36** (2001), 79-85.
 - [50] D. Altman. *Practical statistics for medical research*. London: Chapman & Hall, (1991).

Table 1
Description of socio-demographic and clinical factors for the non-attendees and the day centre attendees.

| Characteristics | Non-attendees (N=82) | Day centre attendees (meeting place-oriented) (N=39) | Day centre attendees (work-oriented) (N= 54) |
|---|-------------------------|--|--|
| Gender: male/female | 36/45 (44 %/56 %) | 25/14 (64%/36%) | 30/24 (56%/44%) |
| Age; mean (min – max) | Mean 47 (24 - 65) | 48 (25 - 61) | 44 (22-63) |
| <i>Type of housing</i> | | | |
| Own apartment/house without support | 58 (71%) | 22 (58%) | 36 (68%) |
| Own apartment/house with support | 16 (20 %) | 14 (37%) | 13(25%) |
| Sheltered living | 8 (10%) | 2 (5%) | 4 (8%) |
| <i>Civil status</i> | | | |
| Married/cohabiting | 18 (22 %) | 7 (18%) | 10 (20%) |
| Single | 63 (78 %) | 32 (82%) | 40 (80%) |
| <i>Education level</i> | | | |
| Not completed nine-year compulsory school | 2 (3 %) | 3 (8%) | 2 (4%) |
| Completed nine-year compulsory school | 10 (13 %) | 14 (37%) | 21(43%) |
| Completed 6 th form college | 42 (53 %) | 17 (45%) | 24 (49%) |
| University or college degree | 25 (32 %) | 4 (11%) | 2 (4%) |
| Lives with children | 13 (18 %) | 1 (3 %) | 9 (19%) |
| <i>BPRS symptoms</i> | | | |
| Negative symptoms Mean (min-max) | 2.4 (1-5) | 2.2 (1-4.5) | 2.0 (1-3.5) |
| Positive symptoms Mean (min-max) | 1.8 (1-4.2) | 1.7 (1-3.3) | 1.7 (1-3.8) |
| Depressive symptoms Mean (min-max) | 2.6 (1-6) | 2.7 (1-5) | 2.7 (1-5) |
| General psychopathology Mean (min-max) | 1.9 (1-3.5) | 2 (1.2-3.6) | 2 (1.3-4.8) |
| <i>Self reported diagnosis %</i> | | | |
| Schizophrenia and | 82 | 50 | 39 |

| | | | |
|---|---|----|----|
| other psychosis | | | |
| Mood disorders | 5 | 25 | 20 |
| Anxiety, phobia and stress disorders | 5 | 11 | 25 |
| Other disorders | 8 | 14 | 16 |

Table 2

Differences between the occupational groups' ratings of the worker role.

| <i>Items of WRS</i> | Non-attendees | Attendees at meeting place oriented day centre | Attendees at work oriented day centre | <i>P-value</i> |
|----------------------------------|----------------|---|--|----------------|
| | Mean (min-max) | Mean (min-max) | Mean (min-max) | |
| Believe in work in the future | 2.2 (1-4) | 2.4 (1-4) | 2.9 (1-4) | 0.001 |
| Have future work goals | 2.4 (1-4) | 2.5 (1-4) | 2.9 (1-4) | 0.020 |

Table 3

Inter-correlations between perception of the worker role and subjective perceptions of occupation, activity level, self-mastery, social interaction, age and clinical variables.

| <i>View of a future worker role</i> | | |
|-------------------------------------|--------------------------------|----------------|
| | <i>Correlation coefficient</i> | <i>P-value</i> |
| Satisfaction with daily occupation | 0.127 | 0.098 |
| Occupational value | 0.351 | 0.000 |
| Activity level | 0.286 | 0.000 |
| Self-mastery | 0.366 | 0.000 |
| Availability of social attachment | 0.191 | 0.012 |
| Age | -0.266 | 0.000 |
| BPRS negative symptoms | -0.222 | 0.003 |
| BPRS depressive symptoms | -0.180 | 0.018 |
| BPRS general symptoms | -0.149 | 0.049 |
| Gender (based on Mann-Whitney test) | - | 0.087 |

Spearman's correlation test was used. *p<0.05. **p<0.01, *** p<0.001

Table 4

Results from logistic regression analyses with perceived worker role as dependent variable and subjective perception of daily occupation, activity level, self-mastery and availability of social attachment as independent variables in the first model and age, gender and clinical factors as independent variables in the second model.

| <i>Perceived worker role</i> | Odds ratio | 95 % CI | <i>p-value</i> | Nagelkerke R squared |
|------------------------------------|------------|-------------|----------------|----------------------|
| <i>Model 1</i> | | | | |
| High level of activity | 2.34 | 1.234-4.423 | 0.009 | 11 % |
| High level of self-mastery | 2.09 | 1.100-3.952 | 0.024 | |
| <i>Model 2</i> | | | | |
| Being between 22-40 years of age | 3.40 | 1.490-7.769 | 0.004 | 14.1 % |
| Lower level of depressive symptoms | 2.70 | 1.303-5.614 | 0.008 | |