Daily Occupations in Mentally Disordered Offenders in Sweden

Exploring Occupational Performance and Social Participating

HELENA LINDSTEDT
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Abstract

The major aim was to explore perceived daily occupations in mentally disordered offenders (MDO) through occupational performance (OP) and social participation (SP) with descriptive, comparative and longitudinal designs. The 74 consecutively included MDOs were visited onsite for data collection. The following assessments were used: Capability to Perform Daily Occupation, Self-efficacy Scale, Importance scale, Allen Cognitive Level Screen, Interview Schedule for Social Interaction, Manchester Short Assessment of Quality of Life, Psycho/social and Environmental Problems, Global Assessment of Functioning Scale, assessment of Support and Service for Persons with Certain Functional Impairments and Karolinska Scales of Personality. Background factors were assembled from the individual forensic psychiatric investigation. The results indicate that MDOs had contradictory problems in OP, SP and lack of disability awareness. The MDOs and professionals had different appraisals of the MDOs’ OP and SP. Schizophrenic MDOs need substantial support for community dwelling. MDOs with psychopathic personality traits had more problems during upbringing, however, no perceived problems in OP and SP compared to the remaining group. Low Socialization, high Anxiety and psychopathy personality traits partially influenced perceived OP and SP. After one year of forensic psychiatric care, 60 % were still hospitalized and 32 % were community dwelling. Changes after one year of care consisted of higher satisfaction of OP and SP, 1/36 subject valued daily occupations higher and 5/36 subjects reported better social interaction. Although, there are some methodological weaknesses in this thesis (e.g. high attrition rate), the unique results should be taken into consideration. It is concluded that MDOs’ appraisal of their own capability has to be taken seriously in treatment and care. Also long treatment periods, targeting daily occupations from start and providing substantial individual support are necessary for successful transition into community dwelling for MDOs. This thesis contributes to extended knowledge of the MDOs’ daily occupations.

Keywords: forensic psychiatry, offender, occupational therapy, treatment planning, longitudinal

Helena Lindstedt, Department of Public Health and Caring Sciences, Uppsala Science Park, Uppsala University, SE-75183 Uppsala, Sweden

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Course I’m jivin, man! No need to panic. Can’t trust none of these niggers but I’m the exception. Parole’s over now I’m in rehab. Next comes job training. You American you put your faith in job training. See me hauling your trash that’s city sanitation worker. Carrying your dirty plates that’s bus boy. Minimum wage a victory for the underclass, man we’re grateful. HIV-positive but grateful.

From the Ballad of Ashfield Avenue in Tenderness, poems by Joyce Carol Oates; p. 66 (1).

List of papers

The following papers are referred to by their Roman numerals in the present thesis.


III Lindstedt Helena, Ivarsson Ann-Britt, Söderlund Anne. Background factors related to and/or influencing occupation in mentally disordered offenders. Submitted.


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Abbreviations

ACLS  Allen Cognitive Level Screen
CPDO  Capability to Perform Daily Occupations
DSM-IV  Diagnostic and Statistical Manual of Mental Disorders, 4th edition.
LRV  Act (1991:1129) of Forensic Mental Care
FPI  Forensic Psychiatric Investigation
GAF  Global Assessment of Functioning scale
HSL  Act (1982:763) of Health and Medical Services
ICF  International Classification of Functioning, Disability and Health
IMP  Importance scale
ISSI  Interview Schedule of Social Interaction
KSP  Karolinska Scales of Personality
LPT  Act (1991:1128) of Compulsory Mental Care
LSS  Act (1993:387) Concerning Support and Service for People with Certain Functional Impairments
MANS A Manchester Short Assessment of Quality of Life
MDO  Mentally Disordered Offender
OP  Occupational Performance
RMV  National Board of Forensic Medicine (Rättsmedicinalverket)
SES  Self-Efficacy Scale
SOL  Act (2001:453) of Social Services
SoS  National Board of Health and Welfare (Socialstyrelsen)
SP  Social Participation
Introduction

The present thesis is an endeavour to explore and extend the knowledge about mentally disordered offenders’ (MDO) possibilities for transition into community dwelling, in particular the MDOs’ performance of daily occupations and social participation. After committing a crime, the MDOs are sentenced to forensic psychiatric hospital care with the purpose of transition into community dwelling. Though independent, non criminal community living is evident, it does not pre-suppose physical and psychic health. Quite the reverse, in Sweden like in most countries there are available legal measures of support, aiming at healthy community dwelling for all inhabitants, as well as MDOs (2, 3). Daily occupations, that is self-maintenance, work/study/play and recreational activities (4), are many times taken for granted and by that considered not important. However, when a person, for any reason, has difficulties to perform expected, basic occupations and/or participate in social life, this person is considered as disabled of independent community dwelling. The purpose of the forensic psychiatric care is recovery and/or rehabilitation of the patient to health and successful community living (5). During incarceration in forensic hospitals the intention is partly to increase the MDOs’ abilities for independent community life and partly assess sufficient community support.

Previous plentiful research about mentally disordered offenders concerns different aspects of predicting risk of or are related to dangerousness or offending, however, not to the same extent in relation to their daily occupations (6-10). Expanding the research perspective about MDOs’ failings should cover requirements for adequate daily occupations and not only risk of dangerousness or offending. An expanded perspective may give major contributions to MDOs’ health and community dwelling.

Health and daily occupations

Well balanced and meaningful daily occupations are an important aspect for life and contribute to health and well-being for everyone (11-14). Since life itself is an ever changing condition, it is obvious that human occupation changes through the life span and is influenced by the environment and a diversity of internal and external demands (15, 16).
A multipurpose effort to define components of health aspects is the International Classification of Functioning, Disability and Health (ICF) (17). To facilitate the understanding of MDOs’ health, occupation corresponds here to the ICF components Activity and Participation (18, 19). Thus, in the context of health, occupation includes both the individual and societal aspects, i.e., “activity is the execution of a task or action by an individual” and “participation is involvement in a life situation” (17) (p. 10). Daily occupations are here defined as having two dimensions, namely ‘occupational performance’ (OP) and ‘social participation’ (SP). These dimensions are in an intricate manner influenced by each other since daily occupations are performed in social, cultural and physical environments, which in turn have demanding influences on occupations (15, 20). Performance is the persons’ actions guided by the socio-cultural and physical characteristics of the occupation (21). Occupational performance is by that here defined as skills and actions to execute basic self-maintenance, work/study/play and recreational activities, or what the person does to accomplish those occupations. Social participation is an integrated aspect of occupation and studied here, specifically, for the purpose of understanding mentally disordered offenders’ social competence to participate in the community (16).

In occupational therapy the purpose is to help individuals with occupational limitations and participation restrictions to help themselves to perform and participate in occupations, resulting in a healthy and independent community life (16, 22). Daily occupations can be used both as means and ends of the therapy, which means that the occupation is used on the one hand as an agent in the therapy and at the same time as the goal of the therapy (23, 24). The occupational therapy planning process focuses on analysing what demands and challenges different occupations have for socially acceptable performances (16, 22, 25). In this process one important step is goal setting, preceded by information gathering and assessments (26). The occupational therapist identifies in that way the patients’ strengths and obstacles in daily occupations and formulates an objective for the intervention. In the information gathering and assessment phase, methods, such as, observation, register examination, self-reports and interviews are utilized. In that process the patient and the therapist are expected to collaborate and negotiate jointly for a therapeutic partnership (26). The collaboration between the therapist and the patient is conditional for the ongoing assessment and revision of actions during the therapy process. A prerequisite for the collaboration, on behalf of the patient, is disability awareness to some degree and a direct or indirect expressed wish to change the daily occupations in accordance to the disability. (See also Creek, 2002, about occupational therapy in mental health).

Severe mental disorders in relation to daily occupations and health, is documented, for example, by Eklund (27), Haglund (28) and Ivarsson (22). Eklund et al., (12) found that occupational satisfaction in a broad sense, was strongly associated with health-related variables in schizophrenia outpa-
tients. In another study Eklund et al., (29) reported that competitive work among subjects with long-term mental illness led to higher satisfaction with daily occupations. In a chart-review of individuals with psychoses, occupational therapy was found to be health goal directed, and activities were used as therapeutic resources (means), however, statements of therapy outcome (ends) were sparse (30).

Legal issues

Living in the community presupposes, among other things, independence and acceptable conduct. If a person infringes against these evident, but sometimes, unexpressed rules, the society will interfere in the persons’ life. In most cases the interference takes place in collaboration, however, sometimes coercive measures are motivated. Committing a crime, particular violent offending with the victim physically/mentally injured, can be seen as a lack of acceptable conduct and competence for independent community life.

A forensic psychiatric investigation (FPI) is accomplished when an offence is proved and circumstances of the crime lead to suspicions about the offender’s mental health. Then an FPI precedes the court’s judgements on legal sanctions to forensic hospital care or not. The purpose is to assess the client’s state of sanity at the time of the crime and/or at the time of the ongoing investigation and to assess the client’s need of psychiatric care. The assessments are based on the multi-axis system in the Diagnostic and Statistical Manual of Mental Disorders (DSM) (31). The offender is defined as a mentally disordered offender (MDO) when sentenced by the Act (1991:1129) of Forensic Mental Care (LRV) (5). The judgement also implies imprisonment prohibition.

The LRV act deals with two patient categories, patients with and without compulsory court review (5). The former implies a risk for relapse into serious criminality. Therefore, the court carries the responsibility to grant any temporary leave of absence as well as the final discharge from hospital. The LRV act also includes a statement of rehabilitation with the intention that patients should return to society with acceptable participation and no relapse into crime. Forensic psychiatric care should result in a reduction of stigmatization, social vulnerability, and violence. The Swedish forensic care of MDOs has three security levels: High security forensic hospitals in six regional units, medium security units in local county council hospitals and government approved wards in general psychiatric hospitals. The higher security level, the more restrictions concerning permissions to leave the ward, and more individual boundaries for the patients and more strict requirements of the buildings’ shell protection are demanded. (See also Lidberg and Wiklund, 2004).
Forensic psychiatry in Sweden

The National Board of Forensic Medicine (RMV) assembles the statistics for all forensic psychiatric investigations (FPI) in Sweden. A brief overview is given here. Data covering five years, 2000-2004 (32), reveal that a total of 3,200 forensic psychiatric investigations (FPI) were conducted in Sweden. In 1,427 (45%) of the FPIs the recommended legal sanctions were forensic psychiatric care. These recommendations are followed in general by the courts to 95% (33). That latter group consisted of 1,243 men (87%) and 184 women (13%). Between 2002 and 2004, the average number of FPIs per year was 664 (34, 35). Among those, about 311 persons (52%) suffered from severe mental disorders. Only in 230 cases did the sentences lead to forensic psychiatric compulsory hospital care. However, this is only 0.06% of all solved crimes in Sweden in 2003 (36). Thus, mentally disordered offenders are a minor but demanding group in the society, and need particular and rigid psychiatric care and treatment.

The most immediate official numbers of MDOs incarcerations in forensic hospitals are found in a governmental report (SOU 2002:3) (37). It is reported that a total of 928 persons were cared for in forensic psychiatric hospitals at 2000-06-30, at which 354 patients (38.1%) in regional high security forensic hospitals, 414 patients (44.6%) in medium security units in local hospitals, and 160 patients (17.2%) in general psychiatric hospital wards. At that time the mean (day and night) expenses/forensic patient were 3,300 SEK (≈330 EURO) or 1.2 million SEK/year (37).

Mentally disordered offenders

Mentally disordered offenders (MDO) are internationally cared for in various facilities depending on historical, cultural and juridical systems of each country. The forensic mental care is under the responsibility of either the juridical or the medical services. Within the criminal system, i.e., prisons, forensic psychiatric hospitals etc., in the Western World there is an estimated prevalence of individuals with 4% psychotic disorders, 12% major depression and 20% antisocial personality disorders (38). In Sweden, 2.3% of all 12,687 prisoners were given at least one day of care in psychiatric units during a 12 months period 1996 to 1997 (39).

MDOs are characterized by multiple problems and long periods of hospitalization, in some cases more than 10 years. This symptomatology is well known and has been described in earlier studies (40-42). In general and in forensic psychiatric hospital care the largest mental disorder group are people suffering from schizophrenia/psychoses (33). The second largest separate disorder group are individuals with personality disorders (Axis II, DSM-IV) (31). These mental disorders added together with substance related disorders,
can be summarized to 4-5 diagnoses in random combinations in one men-
tally disordered offender (33, 41). The patient group is also known to have
limited understanding of psychiatric disabilities, underdeveloped social
skills, and inadequate work and school achievements (9, 43-46). Moreover,
the group is described as being manipulative (40), and using power and con-
trol strategies (47).

The RMV data from 2000-2005 (32), revealed that within the group
(n=1243) with recommended LRV sentences, the main diagnosis of the male
offenders consisted of 30 % schizophrenia, 41 % other psychoses, 6.1 % of
personality disorders, 7.9 % neuro psychiatric disturbances, 2 % mental re-
tardation, and 8.7 % other mental disorders. Substance related disorders
occurred in combination with the main diagnosis in 43 %. Percentage of
index crimes for that patient group consisted of homicide 5.3 % (completed
action, and manslaughter included), assault 48 % (attempted murder, gross
violation of women’s integrity and aggravated assault included), robbery 4.9
%, sex-crimes 13.3 %, arson 10.7 %, other violent crimes 13.4 %, crime
against property 5.6 %, narcotic crimes 2 % and other offences 1.2 %. Re-
garding ethnicity (Table 1) it was reported from the same RMV data that
37.2 % of the offenders were born outside of Sweden, distributed on other
Nordic countries 5.3 %, the rest of Europe 10.5 %, and the rest of the world
21.3 %.

In an official report (SoS 2000:2) (48) with data of LRV-sentenced of-
fenders covering the years of 1988-1995, it was stated that half of the MDOs
who suffered from schizophrenia (n=257) grow up with their biological par-
ents, 13 % did not complete high school, 32 % completed senior high school
with diploma. In school 28 % had been subject to pupil’s welfare mea-

surements. As grown-ups less than half of these individuals had lived as co-
habiteer or been married one year, 61 % had been employed >6 months and
37 % had made their military service (48). Substance related disorders were
reported for 37 % in combination with schizophrenia. In the same report 401
MDOs with personality disorders (women 9 %) were studied of these sub-
jects 60 % did not live with their biological parents before 16 years of age,
35 % completed senior high school without diploma, and 23 % showed se-
vere signs of conduct disorders before 15 years of age. As grown-ups 61 %
of the MDOs with personality disorder had never been married or co-
habiteer, 30 % had an income from employment and 21 % were regarded as
homeless. Besides having personality disorders 60 % of the MDOs had sub-
stance related disorders (48).

Many of the MDOs also have empathy disturbances named as psychopa-
thy (40). Psychopathy is a central concept in MDOs with personality disor-
ders. These individuals are characterized as having very complex personali-
ties, which could be defined as emotional/interpersonal traits and social de-
viancies (47, 49).
Some investigations covering MDOs’ daily occupations and independent community life have been performed. Primary nurses, working in English high security forensic hospitals, were asked about unmet needs in the patient group. The nurses reported that 25% of the MDOs had unmet needs of daily occupations (50). In a literature review it was reported that supportive, structured living arrangements and the patients’ ability to handle transition should be focused in MDOs’ community treatment (51). The question of how long periods of care are needed for effective outcome has been investigated. In a study lasting over four years showed that there were no outcome differences between MDOs participating in a well structured rehabilitation programme compared to MDOs in usual treatment over time (52). In contrast, in an eleven year follow-up it was revealed that two important factors should be taken seriously for success in any treatment aiming at MDOs community living. These factors are frequency of sessions per week and duration of treatment in years (53). The treatment in that study consisted of home calls, group therapy, checking medication compliance, “networking” with other relevant agencies in the community and available varied residential facilities. According to the same author, the re-offenses were significantly reduced in frequency and severity for MDOs who participated in intensive, extensive, and intrusive treatments. In these two former studies the treatment staff’s engagement and motivation in the forensic care and treatment were noticed as an important factor for success. Schindler confirms this in a study where the rehabilitation staff were taught theory-based interventions in a high security facility (54). These international studies are primarily of methodological interest for the present thesis, since they are accomplished in different juridical, cultural and ethical systems than in Sweden.

Scientific investigations in forensic occupational therapy are rare, mostly programme descriptions are accessible (47, 55-61). A few systematically accomplished studies deal with a diversity of topics. Schindler investigated role development in schizophrenic MDOs in a maximum security facility (54). The implications of that study emphasize that MDOs with severe mental disorders are willing and able to develop skills for and identify individually selected life roles. In a literature review Lloyd concluded that very little research was conducted in the field and called for research in meeting MDOs’ treatment goals (62). Questions about research priorities in forensic occupational therapy were asked to occupational therapists in the United Kingdom. The therapists gave priority to three factors, i.e., development of reliable outcome measures, effective group-work programmes and effective risk assessment tools (63). Two Australian studies covered daily occupations in forensic security facilities. One of them reported sustained occupational deprivation by the inmates (64). In the other Australian study, MDOs described themselves as killing and passing time. Restricted environment and resources prevented them from engaging in adequate and meaningful occupations (65). These, to the number limited studies, show that research cover-
ing mentally disordered offenders’ daily occupations is almost non-existent, and there are no such studies existing in the Swedish juridical, cultural and ethical area.

Mentally disordered offenders and daily occupations

The occupational therapist in the forensic psychiatric treatment team needs to know how different factors contribute to and influence daily occupations for the mentally disordered offenders when planning the treatment (26). The therapist needs information to help the patient define the occupational problems, find effective alternatives to handle the problems, and determine if the planned intervention will benefit the patient. The information may consist of e.g., medical and life history, risk factors, assessments of strengths and limitations in performance and participation, social and physical environments, the patient’s interests, housing and work status, and degree of knowledge and understanding (26).

Information in the forensic psychiatric investigation (FPI)

Factors from the MDOs’ individual FPI indicate reasons why MDOs are sentenced to forensic psychiatric care. These reasons are based on objective overall assessments as to what extent the following factors are present, i.e., severe mental disorders, substance related disorders, psycho/social problems, and criminality.

Criteria for severe mental disorder are established by the National Board of Health and Welfare. The disorders are defined as psychosis, depression with risk of suicide, severe personality disorders, and mental disorder with severe obsessive behaviours (66). When assessing if a mental disorder is severe or not, considerations are taken regarding the characteristics of the disorder and to what extent the disorder affects the patient, i.e., the level of the psycho/social functioning. In a study of occupational therapy it was revealed that in the information gathering phase, complementary assessments from the occupational therapist and the patient are required for implementation of individually tailored occupational therapy (20). According to Eklund et al. there is no interference between psychiatric diagnosis and occupation (29). The relationship between daily occupations and health was supported in a study of schizophrenic subjects who chose occupations that reduced the level of stress (14).

The next factor of importance in the FPI is substance related disorders. Subjects with drug abuse, mental health problems and associations with criminality are widely reported (7). Subjects discharged from hospitals with the principal diagnosis of substance misuse and impact of the misuse on violent criminality were reported to be 23.3 %. However, the co-occurrence
is suggested not to be a simple and causal relation (67). As part of the rehabilitation from drug abuse towards health, subjects with dual diagnoses used participation in leisure activities for preventing a relapse to substance abuse (68).

An overall judgement in the FPI of MDOs’ psycho/social problems, are defined as an umbrella term for problems with family members, other close relations in combination with work and authorities according to DSM-IV (31). Included in the FPI is also an assessment of global functioning from the DSM-IV. These defined problems were reported in MDO subjects (6, 8). Adolescence measures in school such as receiving special education can be seen as an indicator of maladjustment and can have an impact on adult life (8, 10). In adulthood working life and need of societal support are expected to be related to occupations (29, 44, 69).

The MDO’s verdict from the court of law is included in the FPI. That gives information to what degree the criminal offences were violent. Criminality leads to undisputed overall outcast of society and undesirable life roles. Schizophrenic males, early- versus late-starting offenders differ in a number of background factors, which have implications for treatment (70). Criminal schizophrenia subjects compared to non-criminal patients, differed in their ability of community living, i.e., the former group more often had higher education, originated from families of a low socio-cultural background and rural areas than the latter (44). Criminality before present index crime is understood here as an indicator of incompetence for community life.

**Occupational related variables**

In the present thesis, *occupational performance* (OP) is defined as skills and actions to execute basic self-maintenance, work/study/play and recreational activities, e.g., personal hygiene, washing, tiding up, cooking, shopping, the use of public transportation services, housing repairs, gardening, exercise and bank/post errands. Assessing occupational performance should be based on the person’s efforts of executing varied daily occupations (22, 71, 72). In the planning process, the patient’s subjective perspective of skills and efforts serves as a basis of the professionals’ appraisals.

In addition, the three factors, perceived self-efficacy, occupational value, and cognitive function are known to influence the performance of occupations.

Perceived self-efficacy is defined as a situation specific determinant of occupational performance and psychological well-being. Perceived self-efficacy implies the subject’s beliefs to perform a certain task or behaviour (73, 74). Strong self-efficacy beliefs enhance commitments in daily occupations and vice versa for weak self-efficacy. Individuals with severe mental disorders seem to perform fewer occupations and hesitate to try new ones the more influenced they are of the disorder (75).
The occupational value or the importance of performing occupations is considered as a prerequisite of meaning (4). The subject’s appraisal of performing occupations as a therapeutic media, as a personal advantage and a way of gaining health is important for success in occupational therapy. The subject’s perceived positive occupational value may result in well-being and give meaning to life as a whole (4, 76, 77).

Higher-level cognitive functions, i.e., awareness and executive function, is a rapidly emerging research field related to occupational therapy (78). Neurocognitive disabilities were found to be significant obstacles for good prognosis, social and functional outcomes for schizophrenic patients in meta-analyses by Green (77). Cognitive limitations in relation to daily occupations were studied by Allen (79) and Schretlen et al. (80) with results consistent with Green’s studies.

Social participation (SP) consists here of multiple factors, which are psycho/social problems, the perceived individual social interaction with family and friends, and life satisfaction.

Psycho/social problems are defined by the Axes IV (Psycho/social problems) and V (Global assessment of function, GAF) from the DSM-IV (31). Social interaction in the context of occupation concerns skills of communication, reaction and behaviour in relations with family, friends and others (21). The subjects’ obtained availability and adequacy of social interaction are included in the conditions of daily life (81). This is a main issue of the MDOs’ forensic psychiatric care, i.e., how they interact with others. The implications of the MDOs’ disorders, background, and care on social interaction are important issues for their community life.

Life satisfaction is the subjective quality of life, the individual perception of important life domains. The objective quality of life is identified as housing conditions, economy and civil status, the external aspect of life circumstances (82). Subjects suffering from severe mental illness were found to have higher life satisfaction as they enjoyed performing daily tasks and work activities (83). In a sample of schizophrenic out-patients quality of life was explained by personality variables, sense of coherence, psycho-pathology and objective quality of life (84). Quality of life was positively influenced in schizophrenic subjects living in community who chose daily occupations which provided time structure (14).

Mentally disordered offenders’ perceived life satisfaction were investigated in four studies. In a study by Schindler it was found that role development, i.e., acquisition of interpersonal skills and tasks within social roles, contributed to increased life satisfaction for a schizophrenic MDO sample (54). In another study schizophrenic subjects were more satisfied with life than subjects with personality disorders, despite the fact that the two groups were cared for in similar high security living environments (85). The third study reported that the MDOs’ quality of life were about the same as compared to general psychiatric out-patients (86). In the fourth study, the authors
report that measurements of quality of life in forensic psychiatric care are in its infancy, and much can be gained of implementing this concept (87).

Personality traits

Personality traits, i.e. individual characteristics consisting of dispositions to react in a relative predictable manner (88, 89), have been shown to be stable over time and across situations in both a twin-study and in a forensic psychiatric population (90, 91). In other studies of mentally disordered offenders with psychopathy (49) and in criminal populations (92), the joint results were high anxiety and low socialization. These traits are assumed to determine the MDOs’ daily occupations. Personality factors of individuals with severe mental disorders were found to determine their occupational performance in a study by Eklund et al. (93).

Schalling and colleagues, the constructors of the Karolinska Scales of Personality (KSP), propose a theoretical model of vulnerability of psychopathology and psychopathy research (88, 94). The KSP has been thoroughly described by Gustavsson (91). That psychopathy model includes assumptions of increased levels of impulsiveness and sensation-seeking, decreased levels of socialization and higher levels of proneness to somatic anxiety (88). The model of the psychopathy-related personality traits existing of three KSP scales, impulsiveness, monotony avoidance and socialization was confirmed by Stålenheim et al. in a forensic psychiatric population (90, 95). The KSP has been used extensively in similar populations (96-98). Further, long-term (12 years) low social functioning, was predicted by personality traits, lower social class, never been married and higher levels of mixed anxiety and depression at baseline (99) in a group of patients with dysthymic, generalized anxiety or panic disorders. These authors argue that personality traits have a significant impact on social functioning.

Disability awareness

One well-known basic factor for success in care and treatment is the patients’ acceptance of his disability and that he seeks for help. It is not negligible that disability awareness is a determinant factor for independent community life. It is common that patients with severe mental disorders seem to lack awareness of their disorders and shortcoming in community life (9, 46, 100-102). Awareness is a protean concept and therefore difficult to define and consequently difficult to measure. Several synonyms or concepts conceived with the same tenor as awareness are found in the literature e.g. avoidance, ambivalence, compliance, denial, neglect and willingness. Insight and awareness are often used interchangeably and utilized in the rehabilitation of subjects with traumatic brain injury or severe mental disorders (103-105). One criterion in the DSM-IV of the schizophrenia disorder implies
unawareness of the disorder, the social consequences of the disorder and lack of treatment compliance (31). Lack of disability awareness can be defined as a combination of neurocognitive and/or psychological implications that vary between and within subjects (106). Tham and colleagues define disability unawareness as a discrepancy between the subject’s disability, the subject’s performance of a task and the subjective appraisal and verbal expression of the performance (107). For the present purpose it should be added, that the subject’s disability and its consequences for independent community life are apparent for people around but not for the subject himself. For that purpose it is important to ask significant others about the MDOs’ treatment concordance and effect (108). The enlarged definition is motivated by the fact that the MDOs have demonstrated unawareness by performing a violent offence and society has interfered with coercive measures. A person with intellectual awareness of his disability might be unaware of the functional consequences in daily occupations as described by Katz and Hartman-Maeir (105). In an MDO sample, higher level of psychopathology was significantly correlated with lower levels of insight. In the same sample awareness was positively correlated with hopelessness for the future (109). Moreover, the MDOs have to agree that they have committed an offence and suffer from a severe mental disorder and that they are in need of treatment and in that way must comply with legal restrictions (51).

The consequences of disability unawareness obstruct the process in occupational therapy and in forensic care. The care and therapy become even more complicated when health professionals have a tendency to over- or underestimate the problems or focus on aspects different from those perceived by the patients (23, 110). It is important to pay attention to these circumstances since they might lead to non-concordance with the forensic psychiatric care (100, 110).

The forensic psychiatric care setting and outcome of the care

The National Board of Health and Welfare (66) as well as the act of Health and Medical Services (HSL 1982:763) (111) regulate the forensic psychiatric care in Sweden. The establishment of an individual care-plan including medical, psychological and social problems, needs of measures and controlled temporary releases is obligatory in forensic psychiatric care. While in hospital care, the MDOs’ daily life is under structured management. This includes regular medication for psychiatric symptoms, the drug abuse is under control, and basic living needs are met with food and shelter. This foreseeable and safe environment is in contrast to the chaotic life situation the MDOs often have had and many times return to after final discharge.
The structured day at a forensic hospital ward is not much different from other psychiatric hospital wards. The scheme is designed to include breakfast, lunch and dinner and recurrent rounds by the psychiatrist and the team. Like in most long-term hospital care there is a striving to create as much a homelike atmosphere as the security environment allows. This implies everyday life with habits and routines, rejoicing over small matters, and close relations with few people during a long time (112). The patients are expected to voluntarily participate in everyday activities in the ward. The importance is that the weakly and daily scheme should have the same structure as that of regular life, with getting up in the morning, being occupied during day, rest in the evening and sleep at night. It is also important to differentiate between weekdays, weekends and holidays. The patients are overall encouraged and requested to assist at meals, cleaning and tiding up, wash their laundry etc.

The occupation during the day consists mostly of vocational training in handicrafts, like carpentry, assembling semi-products, metal work and participating in textile workshops. In addition, education, physical exercise and psychotherapy are parts of the structured scheme. These possibilities are accessible, and this is how the care ought to be managed, according to general care programmes in forensic hospitals. However, there are international reports on occupational deprivation and that every day is the same for forensic patients (64, 65). What separates forensic care from other psychiatric care is the long periods of incarceration and the security policy. Some Swedish forensic hospital facilities have the security status of a prison, approved by the government. The security policy stipulates that the windows and outer doors are locked and there are security checks when patients pass in and out. The patients are given temporary permissions to leave the ward either by the psychiatrist or by the local court. In all other cases nursing staff must accompany the patient outside the hospital. Inside the ward, all spaces are locked except those that the patients need for personal usage. Usually the patients have private rooms with their own door-key. Kitchen utensils and above all, sharp knives are placed in locked spaces.

The care is, in most cases, implemented by a multi-disciplinary treatment team, usually consisting of a forensic psychiatrist, a psychologist, a social worker, a nurse/mental health assistant and an occupational therapist, who together determine the care plan in agreement with the patient (113). A liaison nurse is assigned to the patient for support in daily care. The psychotherapy is performed by a registered therapist and/or psychologist, with either a psychoanalytic, psychodynamic or cognitive-behavioural direction (114). In education a programme is given by teachers, aiming at a high school/college exam. The vocational training is directed towards work abilities and performed by craftsmen e.g. carpenters. The social training is used as an umbrella term for a diversity of measures performed by nurses/assistants, craftsmen, occupational therapists and others. The subject’s temporary releases from the hospital are on conditional terms with durations from one
hour to six months. In addition, economical measures, and sufficient accommodations are important steps prior to final discharge for this patient group.

The outcome of forensic psychiatric care is returning to community dwelling, according to the LRV act. Longitudinal studies of the treatment outcome of mentally disordered offenders in security settings are rare. Therefore it is an urgent need to study hospitalized MDOs’ changes over time and how they benefit from the care.

MDOs’ occupational performance and social participation are important aspects of community dwelling after discharge and therefore necessary to immerse into. Competence in daily occupations contributes to community living, however, it is not a prerequisite. The questions are the nature of the MDO’s problems, the obstacles, when community living is not functioning? Treatments of cognitive impairments were shown to improve community function (115). Disorganization was found to determine community dwelling for individuals with schizophrenia or psychosis (116). Alcohol abuse together with high anxiety is associated with low community function in subjects with bipolar disorders (117).

It is assumed that after admission the main part of the MDOs is still hospitalized after such a short time as one year. However, the long-term target would for the MDOs’ be to return to community dwelling. In the efforts to explore the daily occupations of the MDOs it can be questioned what aspects differ at the admission between those MDOs who were hospitalized and those who were community dwelling after one year. Those who were released to community dwelling after one year should have adequate occupational performance and social participation.
Aim

The main aim of the thesis was to investigate perception of daily occupations, defined as occupational performance and social participation, in mentally disordered offenders in forensic psychiatric care.

The following research questions were made to specify the aim:

- How do mentally disordered offenders perceive occupational performance and social participation? Study I.
- How do professionals assess the MDOs’ occupational performance and social participation? Study I.
- Are there different perceptions between the MDOs’ self-reports and the professionals’ assessments regarding the MDOs’ occupational performance and social participation? Study I.
- Are there any differences between groups with or without substance-related disorders or between diagnostic groups regarding occupational performance and social participation? Study I.
- Are there any differences between groups with or without psychopathy related personality traits regarding demographic variables, occupational performance, and social participation? Study II.
- To what extent do personality traits predict MDOs’ occupational performance and social participation? Study II.
- In what way do MDOs’ background factors influence occupational performance and social participation? Study III.
- Are there group and/or clinically relevant individual changes between assessments at admission and after one year of forensic psychiatric care in MDOs’ occupational performance and social participation? Study IV.
- Are there any differences in occupational performance and social participation at admission and at one-year follow up between hospitalized and community dwelling MDOs? Study IV.
Method

Descriptive, comparative, and longitudinal designs were used to answer the research questions. Data were collected at admission to forensic psychiatric care with a multi-method approach where self-reports, observation and register data were utilized (118). Longitudinal data were collected for Study IV at a follow-up session after one year, but not used in studies I – III. The intention was to describe the MDOs’ daily occupations from several viewpoints as perceived by the participating MDOs and as reflected in professional assessments (108). Approval by the Research Ethics Committee of the Faculty of Medicine at Uppsala University (Reg. no. 00-120) was obtained.

Sample

The original sample consisted of 180 subjects, selected consecutively from the Central Archive of the National Board of Forensic Medicine during a period of 11 months (Figure 1). Inclusion criteria were male, ≥18 years old, sentenced to forensic psychiatric care with compulsory court review. Owing to available resources, the geographical area was limited to central Sweden. The psychiatrist in charge at each hospital was asked for permission to contact the subjects. A total of 74 subjects were visited for an initial interview after written informed consent, within six months after their verdict had gained legal force. Fifty-five subjects of the 74 completed the Karolinska Scales of Personality (KSP), Study II, and 36 subjects participated after written informed consent in a second interview, Study IV, after one year of care. An overview of demographic data for the sample (n=74) is presented in Table 1.

Mental disorders and criminal offences in the sample: The subjects were diagnosed with one to five disorders on Axis I and on Axis II of the Diagnostic and Statistical Manual of Mental Disorders, DSM-IV (31) at the Forensic Psychiatric Investigation. The main diagnosis of the sample is presented in Table 2.
As additional diagnosis on Axis II (DSM-IV), a total of 26 subjects suffered from Personality Disorders and nine subjects from Mental Retardation. Furthermore, 24 subjects were judged as having a Conduct Disorder before 15 years of age. A total of 37 subjects were diagnosed with substance-related disorders as main or additional disorders.

Most of the subjects (n=62; 83.8 %) had earlier been in contact with psychiatric care, 40 subjects (54.1 %) had been hospitalized earlier under the LRV Act (5) and 16 subjects (21.6 %) under the Compulsory Mental Care Act (119).
Table 1. Description of the sample’s demographic variables (n=74).

<table>
<thead>
<tr>
<th>Sample characteristics</th>
<th>RMV*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean age, range 18 – 75</td>
<td>34.2 years (SD=11.33)</td>
</tr>
<tr>
<td>Place of birth:</td>
<td></td>
</tr>
<tr>
<td>Sweden</td>
<td>n=44</td>
</tr>
<tr>
<td>Nordic countries</td>
<td>n=5</td>
</tr>
<tr>
<td>Europe</td>
<td>n=7</td>
</tr>
<tr>
<td>Asia</td>
<td>n=10</td>
</tr>
<tr>
<td>Africa</td>
<td>n=7</td>
</tr>
<tr>
<td>America</td>
<td>n=1</td>
</tr>
<tr>
<td>Childhood family socio-economic status:</td>
<td></td>
</tr>
<tr>
<td>middle or working class families</td>
<td>n=61</td>
</tr>
<tr>
<td>socially outcast families</td>
<td>n=13</td>
</tr>
<tr>
<td>Failed senior high school</td>
<td>n=45</td>
</tr>
<tr>
<td>Married, had been married or cohabiteer</td>
<td>n=44</td>
</tr>
<tr>
<td>MDOs with children</td>
<td>n=36</td>
</tr>
<tr>
<td>Never had permanent employment</td>
<td>n=56</td>
</tr>
<tr>
<td>Never had employments ≥eight months</td>
<td>n=32</td>
</tr>
<tr>
<td>Homeless at incarceration</td>
<td>n=10</td>
</tr>
<tr>
<td>Economic situation at incarceration:</td>
<td></td>
</tr>
<tr>
<td>Disability pension</td>
<td>n=30</td>
</tr>
<tr>
<td>Sickness allowance</td>
<td>n=15</td>
</tr>
<tr>
<td>Socialsecurity allowance</td>
<td>n=20</td>
</tr>
<tr>
<td>Other financial support or did not report</td>
<td>n=9</td>
</tr>
</tbody>
</table>

Note: *Data from 2000-2004, personal communication, L-E Ingerloo, National Board of Forensic Medicine (RMV).

The three most frequent index crimes for the present verdict were aggravated assault in 26 cases (35.1 %), sex-crimes (aggravated rape and molesting included) in 14 cases (18.9 %) and homicide (attempted murder and manslaughter included) in 11 cases (14.9 %). A total of 60 subjects (81.1%) had earlier criminal offences in the Person and Charges Register. These offences had resulted in imprisonment (n=26; 35.1 %) and/or probation (n=40; 54.1 %). The sample was presently cared for in high security regional hospitals (n=29; 39.2 %), in local security forensic psychiatric units in county hospitals.

Table 2. Frequencies, n (%), of main diagnosis (DSM-IV) in the sample (n=74).

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schizophrenia</td>
<td>23 (31)</td>
</tr>
<tr>
<td>Psychotic Disorders</td>
<td>17 (23)</td>
</tr>
<tr>
<td>Mood and Anxiety Disorders</td>
<td>7 (9)</td>
</tr>
<tr>
<td>Substance related Disorders</td>
<td>4 (5)</td>
</tr>
<tr>
<td>Autistic Disorders</td>
<td>9 (12)</td>
</tr>
<tr>
<td>Attention deficit/Hyperactivity disorders</td>
<td>5 (7)</td>
</tr>
<tr>
<td>Paedophilia</td>
<td>4 (5)</td>
</tr>
<tr>
<td>Dementia</td>
<td>2 (3)</td>
</tr>
<tr>
<td>Other severe mental disorders</td>
<td>2 (3)</td>
</tr>
<tr>
<td>Axis II, Personality Disorder</td>
<td>1 (1)</td>
</tr>
</tbody>
</table>
council hospitals (n=24; 32.4 %) and in general psychiatric hospital wards (n=21; 28.4 %).

The subjects reported having contact with the following professional categories on regular, therapeutic basis at the forensic psychiatric hospital, 67 subjects (91 %) with a psychiatrist, 25 subjects (34 %) with a psychologist, 43 subjects (58 %) with a social worker and 33 subjects (45 %) with an occupational therapist.

Assessment instruments

Demographic data, background factors, and results from two assessments (Psycho/social functioning and Global Assessment of Functioning Scale, GAF, see below) were collected from the individual forensic psychiatric investigation (FPI). Self-reported demographic information was collected using questions on occupation, housing conditions, and financial support from the MANSA questionnaire. An overview of the assessment instruments is presented in Table 3.

Demographic data and background factors from the FPI

The forensic psychiatric investigation in Sweden is based on professional assessments in consensus, using the multi-axis DSM-IV system (31). The FPI team consists of a specialist in forensic psychiatry, a psychologist, a social worker, and nursing staff. Retrospective register data from the FPI can be reliably extracted. This has been demonstrated in an investigation of the entire process of collecting file-based data from the FPI (120). That investigation resulted in a protocol (120-122) with reliable variables, used in the present thesis. The factors were included as present (yes) or absent (no). One additional variable relevant for the present purpose was included. The LSS-assessment (see below) was added to the protocol.

Included background factors in Study III were phenomena reflecting adolescence: 1/ being subject of pupils’ welfare measures and 2/ completing senior high school with diploma. Factors in adulthood were defined as 3/ being capable of employment >8 months and 4/ being in need of societal support was defined as eligible of subsidies from the LSS act. Factors reflecting mental disorders were 5/ suffering from schizophrenia/psychotic disorders. 6/ Suffering from substance related disorders. 7/ Psycho/social problems and other problems related to life circumstances (Axis IV in DSM-IV) (31) were dichotomized by the presence of problems either in relation to family and/or close friends (Psycho=Individual problems) or by presence of problems related to life circumstances (Social=Environmental problems). Criminality factors: 8/ Presence of violent index crime was defined as being
sentenced for murder, homicide, assault and battery, threats, and arson, robbery, or sex crimes. The mentally disordered offenders’ previous criminality were assembled by presence of 9/ earlier imprisonment, 10/ earlier probation and 11/ registration in the Police Register.

Occupational performance

The Capability to Perform Daily Occupations (CPDO) (71) is a computer-based self-rating of the subject’s ability to perform daily occupations, which was originally designed for a chronic pain population. The subject rates 27 video-sequences of daily occupations (one video-sequence was excluded), e.g., personal hygiene, washing clothes, tiding up, cooking, shopping, transportation (public services or driving), housing repairs, gardening, exercise and bank/post errands. The subject first decides if each of the occupation is relevant to him or not. This results in a total number of 26 or any number of individually selected relevant occupations. Six questions, used in Study I, are asked on each occupation: Do you interrupt the occupation while you are performing it? Do you avoid this occupation? How much exertion do you feel during or after you have performed the occupation? How much inconvenience do you feel during the performance? How satisfied are you after having completed the occupation (also used in Studies III and IV)? How often do you usually perform the occupation (in Study IV)? The responses are given on rating scales ranging from 1 to 9, where 1 corresponds to never interrupt, never avoid, no exertion, no inconvenience, perceived satisfaction and high frequency of performing the occupations. Nine indicates the highest level of interruption, avoidance, exertion, inconvenience, the lowest level of satisfaction and frequency (original scale 0 – 8). A mean score for each of the six questions of ≥ 2.99 was used as a cut-off score for “problems performing daily occupations” according to Schult (71). In Studies II-IV, the CPDO-Burden factor was used. In accordance with Schult, the four subscales Interruption, Avoidance, Exertion, and Inconvenience were grouped to one factor. That gives points from 4, which equals no performance burden to 36 indicating a very high burden performing occupations. The CPDO has been shown to possess convergent and discriminative validity and alpha coefficients for internal consistency varied between .69 and .93 for the 27 daily occupations computed across the six questions in Schult’s material.

The Self-Efficacy Scale (SES) (123) is a 20-item self-rating scale assessing how confident the subject is to perform daily activities. The scale ranges from 0, not at all confident, to 10, very confident. The maximum score of 200 indicates very high confidence. In the present sample, the alpha coefficient for internal consistency was .90 for the total self-efficacy scale with item coefficients ranging from .89 to .90.

The Importance (IMP) scale (constructed for the present project) is a 20-item self-rating scale for assessment of the subject’s ratings of the impor-
tance of being able to perform the everyday activities that are listed in the SES. Responses are given on a five-level scale where 1 indicates that the activity is “not at all important to me” and 5 that it is “very important to me”. The maximum score of 100 indicates very high importance. The alpha coefficient for internal consistency was .84 for the total score with item coefficients ranging from .82 to .85.

The Allen Cognitive Level Screen (ACLS) (20, 79, 124) is a method for assessment of the ability to follow instructions and gives a measure of visual-motor planning, problem solving and learning for subjects with mental health problems. The subject is observed while performing three leather lacing stitches with an increasing degree of difficulty. Structured instructions are given about how to accomplish each task. The ACLS gives a score on a 15-point global scale ranging from 3.0 (low ability) to 5.8 (high ability). The levels are assessed from observations of voluntary motor actions in contrast to most cognitive assessments, which are based on verbal abilities. The assessment usually takes less than 15 minutes to administer. High interrater (ICC=.98) and test – re-test reliability (r=.90-.99) have been reported for the ACLS (79, 125). Some evidence has also been demonstrated for concurrent and predictive validity (126, 127) among patients with schizophrenia.

Social participation

The Swedish abbreviated version of the Interview Schedule for Social Interaction (ISSI) (81, 128-130) was used. The ISSI is a questionnaire for assessment of the availability and adequacy of social relationships in a general population. It includes four subscales with a total of 30 items. The four subscales give information about 1) the AVailability of ATtachment (AVAT), 2) the AVailability of Social Integration (AVSI), 3) the perceived ADequacy of ATtachment (ADAT), and 4) the ADequacy of Social Integration (ADSI). Reliability and validity have been investigated and found to be satisfactory (128, 131). In Study I, the concepts Availability and Adequacy were represented by the AVAT and AVSI scores (maximum 12 points) and the ADAT and ADSI scores (maximum 18 points) respectively.

The Manchester Short Assessment of Quality of Life (MANSA) is a questionnaire of perceived life satisfaction (132-134), a questionnaire for subjects with mental health problems. Overall life satisfaction score is summarized by the 12 MANSA questions with a total score of 84 (very high life satisfaction): global quality of life, occupation, economy, social relations, leisure, accommodation, personal security, living situation, family relations, sexlife, physical and mental health. Ratings are given on a seven-point Likert type scale where 1 stands for “it couldn’t be worse”, and 7 “it couldn’t be better”.

Assessments from the FPI: Psychosocial and Environmental Problems (Axis IV, DSM-IV) (31) were evaluated for the year preceding the investigation by the FPI-team. These problems were grouped in nine qualitative cate-
gories: Primary support group; relations to the social environment; education; occupation; housing; economic problems; health care services; interaction with the legal system/crime (e.g., arrest, incarceration, litigation and victim of crime) and other psychosocial and environmental problems.

The Global Assessment of Functioning Scale (GAF) (Axis V, DSM-IV) (31) was rated by the FPI-team for the year prior to the crime. GAF ratings take into account the overall psychological, social, and occupational functioning of the subject. The scale ranges from 1 to 100, where a higher score indicates a higher level of functioning.

The Act Concerning Support and Service for Persons with Certain Functional Impairments (1993:387) (LSS-assessment) (2) concerns subjects with 1) mental retardation; 2) disablement or brain damage due to external trauma during adulthood; and 3) other durable physical or mental disablements that cause major difficulties in everyday life. The aim of the LSS is that the subject should be able to lead a normal life and participate in society. Based on data, i.e., diagnoses and information on “durable disablements” in the FPI, all subjects were assessed by the author (HL) with regard to whether they belonged to LSS-groups 1, 2, or 3 or not. In the present thesis, “durable disablements that cause major difficulties in everyday life” were defined as documented social, housing and/or occupational problems with a duration of two to three years during adolescence and/or adulthood (135).

Personality traits

The Karolinska Scales of Personality (KSP) (40, 91, 94) is a self-report questionnaire including 135 items representing 15 scales, concerned with the participant’s stable habitual behaviour and feelings. The KSP gives an assessment of vulnerability for psychopathology, and includes the following scales: Somatic anxiety, Psychic anxiety, Muscular tension, Social desirability, Impulsiveness, Monotony avoidance, Detachment, Psychastenia (ten items each), Socialization (20 items), Indirect aggression, Verbal aggression, Irritability, Suspicion, Guilt (five items each) and Inhibition of aggression (ten items). Three scales, Impulsiveness, Monotony avoidance and Socialization have been found to be highly related to Psychopathy (136), why a factor was formed by these scales (Impulsiveness + Monotony avoidance – Socialization) (42), here named ‘psychopathy-related personality trait’ (Psychopathy-PT) (90). An Anxiety-proneness factor was formed by summarizing the Somatic anxiety, Psychic anxiety, Muscular tension, and the Psychastenia scales (95). The responses to the questionnaire are given from 1, “does not apply at all” to 4, “applies completely”. The raw mean scores for the separate scales are transformed into T-scores (M=50, SD=10) in accordance with af Klinteberg et al (1986) (136). The KSP raw scores are used in the present project for all data computations and T-scores are used for illustrating results in Figure 2. KSP scores have been found to be stable over nine
years (91) and used in several investigations of similar populations (42, 88, 89, 92).

Table 3. Overview of the assessment instruments used in Studies I – IV.

<table>
<thead>
<tr>
<th>Assessment instruments</th>
<th>Study I</th>
<th>Study II</th>
<th>Study III</th>
<th>Study IV</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Occupational performance</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-reports: Capability to Perform Daily Occupations (CPDO)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Self-Efficacy Scale (SES)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Importance (IMP)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Professional assessment: Allen Cognitive Level Screen (ACLS)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td><strong>Social Participation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-reports: Interview Schedule for Social Interaction (ISSI)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Manchester Quality of Life Scale (MANSa)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Professional assessments: Psychosocial and Environmental Problems (Axis IV, DSM-IV)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Global Assessment of Functioning (GAF, Axis V, DSM-IV)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Assessment Concerning Support and Service for Persons with Certain Functional Impairments (LSS)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td><strong>Personality Traits</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-report: Karolinska Scales of Personality Traits (KSP)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

**Procedure**

The author (HL) performed the entire data collection. After written informed consent, the assessments were executed onsite, with only the author and the subject in the room, except about four times when the subject’s nurse assistant was present. At first the proceedings of the session and the purpose of the study were carefully explained to the subject. Then the subject was instructed to consider his normal reactions and behaviour, when responding to the questionnaires. The approximately one hour session started with the ISSI, the SES, the IMP, followed by the ACLS observation and the CPDO. Due to the subject’s expected weariness after one hour of questioning the KSP and a pre-stamped envelope were handed to the subject for completion on his own.

After the session, demographic data were collected from the subject’s forensic psychiatric investigation. Thus, the author was unaware of the specific individual circumstances of the subject when performing the interview.
After one year of care, the subjects were contacted by mail and asked about participation, again after written informed consent. The assessments were accomplished following the same procedure as described above.

Data analyses

An overview of the performed statistical methods is given here. Regarding specific details of the data methods are referred to the separate Studies I – IV. All statistics were computed using the Statistical Package for the Social Sciences software (SPSS, 2000).

Study I: One-way ANOVAs were utilized, computing differences between three diagnostic groups (Schizophrenia n=23, S-group; Personality Disorders, n=23, PD-group; or Other Mental Disorders, n=28, OMD-group) and groups with/without substance related disorders (n=37). Chi-square analyses were used for comparing the three diagnostic groups and groups with/without substance related disorders concerning demographic variables, psycho/social problems and the LSS-grouping. Tukey’s Post Hoc tests were utilized when appropriate.

Study II: Three multivariate regression analyses, preceded by correlation analyses, were performed between the Somatic-anxiety, the Psychastenia KSP scales and the ACLS. Seven KSP scales (Somatic anxiety, Psychic anxiety, Muscle tension, Psychastenia, Socialization, Suspicion, and Guilt) were entered in the multivariate regressions with the MANSA. Multivariate regressions were also performed between the KSP factors (Psychopathy-PT and Anxiety-proneness) and the MANSA. Univariate regression analyses were performed between the KSP Socialization scale and the CPDO-Burden factor, the Psychopathy-PT factor and the CPDO-Burden factor, and between the KSP Anxiety-proneness factor and the ACLS.

Differences between groups with/without psychopathy related personality traits were calculated with one-way ANOVAs. These analyses were performed separately for the CPDO-Burden factor; the ACLS mean score and the MANSA total mean score. Comparisons of demographic variables between these two groups were performed by Chi-square analyses.

One counteract was performed with the purpose of strengthening the internal validity. Missing data from the drop-outs (n=19) and the study-group (n=55) were compared with Chi-square analyses, concerning differences in available demographic data.

Study III: Influences of background factors as independent variables (IV) on the dependent variables ACLS, CPDO-Burden factor, CPDO Satisfaction scale, ISSI and MANSA were computed with regression analyses. The dependent variables with continuous data were dichotomized for the purpose of entering logistic analyses, which consisted of 1/ ACLS and six IVs, 2/ CPDO-Burden and two IVs, 3/ CPDO Satisfaction and one IV, 4/ ISSI and
one IV, 5/ MANSA and one IV. The multivariate regressions consisted of
ISSI and two IV, MANSA and two IVs. The univariate regressions consisted
of ACLS and one IV, CPDO Satisfaction and one IV. Additionally, confi-
dence intervals were computed.

Study IV: Differences over time between the initial assessment for the
sample and data from one year later concerning occupational performance
(OP) and social participation (SP) were analysed with paired t-tests.

Individual clinically significant changes after one year of care were calcu-
lated following Jacobsson and Truax’s Reliable Change Index (137, 138).
The non-parametric Mann-Whitney U-test was utilized concerning differ-
ences in occupation between the Community dwelling group and the Hospi-
talized group after one year of care. Separate analyses were performed for a)
differences between the two groups and data from the initial assessment and
b) differences between the groups at the second assessment after one year of
care.

Data was missing in 38 cases of the initial sample (n=74). With the pur-
pose of strengthening the internal validity, two counteracts were performed.
Firstly, the drop-outs and the study-group were compared with Chi-square
analyses, concerning differences in available demographic data at initial
assessments (T1). Secondly, missing data from the OP and SP variables at
follow up (T2) were replaced with available data from the 38 drop-outs at T1
(139, 140). In that way differences between T1 and T2 for the full sample
(n=74) were analysed with independent t-tests (139) for the OP and SP vari-
ables.

Little is known of daily occupations in the present population, therefore in
some analyses a liberal significant level (p<0.1) was used. The purpose was
to explore and contribute to hypothesis generation in a new research field.
Results

Description of daily occupations

The description of the mentally disordered offenders’ (n=74) daily occupations is derived from the assessments of occupational performance (OP) and social participation (SP). The material was assembled at admission to forensic psychiatric care and utilized in Studies I and III. Descriptive data and data from analyses with mean scores (M), standard deviations (SD), and categories with the highest percentage from self-reports and professional assessments in OP and SP, are presented in Table 4 for the whole sample. Additionally in Table 4, number of subjects and percentage with mean scores one SD towards functionality of the sample mean are presented. In the same table significant differences between diagnostic subgroups and groups with/without substance related disorders are noted.

The MDOs’ appraisals of their occupational performance were perceived both as without problems and in some respect problematic. By using scores ≥ 2.99 on the six subscales of the Capability to Perform Daily Occupations (CPDO) as a criterion for problems performing occupations, the MDOs reported that occupational performance was without problems in four of the CPDO subscales (Interruption, Avoidance, Exertion, and Inconvenience). However, the high scores in the CPDO subscales Satisfaction and Frequency indicate problems in this respect.

The sample mean of the CPDO-Burden factor was consequently low (range 3.58 – 16.0), suggesting that the subjects apprehended themselves performing occupations without burden. The fact that the sample minimum mean score was lower than 4, suggests that the subjects perceive some occupations as being irrelevant to them.

The MDOs’ reported confidence in OP (SES) were of such high magnitude that ceiling-effect can be suspected. In addition, the MDOs reported surprisingly high occupational value (IMP). By this description the research question of how MDOs perceive occupational performance can be regarded as answered.

The professional assessment of MDOs’ occupational performance implicates varying levels of support for most MDOs in performing daily occupations utilizing Allen’s treatment recommendations (79). According to the scores of the Allen Cognitive Level Screen (ACLS range 4.2 – 5.8) this statement is
motivated by the fact that as many as 55 subjects (74.3 %) scored ≤ 5.2 which is analogous to “the patient may live alone with weekly checks --- (and participation) in supportive employment with job coach and participation in community events may occur.”(p. 99) (79). In addition, MDOs observed with score 4.2 implicate as much as 24-hour supervision according to Allen (79). With these statements the research question how professionals assess MDOs’ occupational performance can be considered as answered.

Table 4. Presentation of mentally disordered offenders’ (n=74) daily occupations in terms of means, standard deviations (SD) and categories. Number (n) and percentage (%) of subjects with mean score one SD below/above (towards functionality) of the sample mean. Results from analyses with one-way ANOVA and Chi-square analyses. (Studies I and III)

<table>
<thead>
<tr>
<th>Assessment instruments</th>
<th>Mean (SD)/category with highest %</th>
<th>1 SD below/above mean n (%)</th>
<th>Significant differences between subgroups</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Occupational Performance</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-reports:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capability to Perform Daily Occupations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interruption, Avoidance, Exertion, and Inconvenience</td>
<td>&lt; 2.99</td>
<td>19 (25.7)</td>
<td>n.s.</td>
</tr>
<tr>
<td>Satisfaction (max 9)</td>
<td>4.2 (2.1)</td>
<td></td>
<td>n.s.</td>
</tr>
<tr>
<td>Frequency (max 9)</td>
<td>5.6 (1.6)</td>
<td>47 (63.5)</td>
<td>n.s.</td>
</tr>
<tr>
<td>Number of selected relevant occupations (max 26)</td>
<td>13.5 (6.3)</td>
<td>11 (14.9)</td>
<td>*Subst.-related disorders –, without +.</td>
</tr>
<tr>
<td>CPDO-Burden factor (max 36)</td>
<td>6.47 (2.49)</td>
<td>5 (3.98)</td>
<td></td>
</tr>
<tr>
<td>Self-Efficacy Scale, (max 200)</td>
<td>155.8 (33.2)</td>
<td>10 (13.5)</td>
<td>n.s.</td>
</tr>
<tr>
<td>Importance (max 100)</td>
<td>68.9 (11.5)</td>
<td>18 (24.3)</td>
<td>n.s.</td>
</tr>
<tr>
<td>Professional assessment:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allen Cognitive Level Screen (max 5.8)</td>
<td>5.1 (0.4)</td>
<td>12 (16.2)</td>
<td>*†S-group-, PD-group+.</td>
</tr>
<tr>
<td><strong>Social Participation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-reports:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interview Schedule for Social Interaction (max 30)</td>
<td>14.5 (5.9)</td>
<td>12 (16.2)</td>
<td>*†S-group-, OMD-group+.</td>
</tr>
<tr>
<td>Manchester Short Assessment of quality of life (max 84)</td>
<td>50.4 (9.3)</td>
<td>11 (15.0)</td>
<td>n.s.</td>
</tr>
<tr>
<td>Professional assessments:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psycho/social problems: Social environment</td>
<td>72.9 %</td>
<td></td>
<td>n.s.</td>
</tr>
<tr>
<td>Global Assessment of Functioning (max 100)</td>
<td>40.0 (9.3)</td>
<td>12 (16.2)</td>
<td>n.s.</td>
</tr>
<tr>
<td>LSS-assessment: Major difficulties in everyday life</td>
<td>70.3 %</td>
<td></td>
<td>n.s.</td>
</tr>
</tbody>
</table>

Note: S-group=Schizophrenia, PD-group=Personality disorders, OMD-group=other mental disorders; n.s.=not significant; *p<0.05; †after Tukey’s post hoc test; + =high mean, - =low mean; III= results from Study III, all others are from Study I.

The mentally disordered offenders’ perceived social participation indicates low access to and low satisfaction with social interaction (ISSI) contradictory to the unexpected relative high life satisfaction (MANSA).
The mean for the 12 separate MANSA questions ranged from minimum sample score of 3.7 (Mental health, economy and sexlife) to maximum sample score of 4.7 (Friendship), indicating relative positive satisfaction with life. By this description the research question of how MDOs perceive social participation can be regarded as answered.

The professionals’ assessments demonstrate an unanimous devastating picture of the MDOs’ social participation. All subjects had psychosocial problems according to the assessments in the forensic psychiatric investigation (FPI). These assessments of the last year before the crime, showed that with the exception of those 51 subjects who had problems with the social environment, ten subjects (14.3 %) were judged as having psychosocial problems with economy and housing, and nine (12.9 %) were classified as having problems with the family and friends (DSM-IV).

The sample mean score of the Global Assessment of Functioning Scale (GAF) further certified the sad picture of the MDOs’ social participation. The GAF exposed that a total of 59 subjects (79.7 %) scored 45 or below, which implies severe disabilities regarding social relations, work or studies.

In addition, it was assessed by criteria from the LSS act (2), that a total of 52 subjects from the diagnostic groups, i.e., 20 subjects (38.5 %) with schizophrenia, 12 subjects (23 %) with personality disorders and 20 subjects (38.5 %) with other severe mental disorders had long-standing disablements that caused major difficulties in everyday life the last two to three years before the crime. They were therefore judged to represent LSS-group 1, mental retardation (n=13; 25 %), group 2, brain damage (n=2; 4 %) and LSS-group 3, mental disablements (n=37; 71 %). Twenty-five of the 52 subjects (48 %) had substance related disorders. With these statements the research question how professionals perceive MDOs’ social participation can be considered as answered.

Another noticeable result is the frequency (%) of MDOs with a mean score of one SD, towards functionality, above/below the sample mean score. These frequencies reveal that the SP assessments by the two parties of MDOs and professionals possess about the same frequency. The number of MDOs with a mean scores one SD towards functionality varies more in OP. This may be an indication that the MDOs and the professionals have more overlapping appraisals of the MDOs’ SP than of their OP.

By these descriptions of the mentally disordered offenders’ daily occupations, the definition of disability unawareness could be said to be fulfilled, i.e., discrepancy is at hand between the subject’s disability, the subject’s performance of a task and the subjective appraisal and verbal expression of the performance with the addition that significant others notice the unawareness. It could be asserted that mentally disordered offenders as a group are lacking disability awareness particular in OP but not to same extent in SP.
Additionally, the answer to the research question if there are different perceptions between MDOs’ and professionals’ assessments regarding the MDOs’ occupational performance and social participation is derived from these statements.

Differences between subgroups

The results from the assessments of the 23 MDOs suffering from schizophrenia, disclosed the consequences of their disorder by having lower scores in the ACLS, and the total ISSI scores. The low ACLS scores (M=4.9; SD=0.4) indicate lower ability to follow instructions and to perform an activity for the 23 schizophrenic subjects than for the 23 MDOs with personality disorders (M=5.2; SD=0.4). The lower total ISSI scores for the 23 schizophrenic subjects (M=12.3; SD=5.1) indicate that they perceived lower access to and lower satisfaction with their social interaction than the 28 subjects with other mental disorders (M=16.2; SD=5.5).

The third overall difference between the three diagnostic groups (S, PD, and OMD) emerged in the ISSI Adequacy scale. The post-hoc test identified no pairwise between-group differences. However, the group means suggest that the MDOs with schizophrenia (M=8.0; SD=3.5) and those with personality disorders (M=7.9; SD=4.4) were somewhat less satisfied with their social interaction than were the subjects with other mental disorders (M=10.4; SD=3.9; Study I).

Additional mental disorders diagnosed in the FPI that are expected to differentiate the sample are their frequent use of drugs. This was confirmed in one OP measurement. Subjects with substance-related disorders (n=37) selected fewer relevant occupations (CPDO, M=13.6; SD=4.1) than those without such disorders (M=16.4; SD=3.7).

MDOs with empathy disturbances (Psychopathy-PT, n=17), surprisingly, did not differ from other MDOs (n=38) concerning OP and SP, whereas, the two groups differed in three demographic variables. There were more subjects (54 %) with Psychopathy-PT than subjects (46 %) without, who were assessed as having a Conduct Disorder before 15 years of age (DSM-IV). In addition, there was a larger part of subjects with Psychopathy-PT (67 %) than without (33 %) who had grown up in socially outcast families. However, there was a smaller part of subjects with Psychopathy-PT (45 %) than without (55 %) who had been subject to measures of pupil’s welfare in school.

The above mentioned statements are regarded as an answer to the research question if there are differences between groups with or without substance related disorders, or between diagnostic groups concerning occupational performance and social participation. The stated research question of differences between groups with or without psychopathy related personality
traits concerning demographic variables, occupational performance and social participation are also regarded as being answered by the above mentioned statements.

Factors influencing daily occupations

The mentally disordered offenders’ personality traits, background factors, confidence in, and value of occupations were investigated in Studies II and III concerning how these factors were related to and/or influenced MDOs’ occupational performance (OP) and social participation (SP). The performed counteracts against attrition revealed no differences between drop-outs and study-groups in Study II.

![Figure 2. Mean T-score (n=55) for the Karolinska Scales of Personality (KSP), mean=50, (SD=10) in Study II.](image)

The Karolinska Scales of Personality (KSP) sample mean T-scores for the separate scales were distributed with a range from 31.2 to 62.2 (Figure 2). The high levels of the anxiety scales (Somatic Anxiety M=60.1, SD=13.9; Psychic Anxiety M=58.8, SD=12.4; Muscle Tension M=62.2, SD=14.1;
Psychastenia M=58.7, SD=15.3) indicate restlessness, worry, lack of self-confidence, muscular tension and being easily fatigued. Low Socialization scores (M=31.2, SD=12.5) suggest that the MDOs lack positive interpersonal family experiences, empathy and satisfaction. The T-scores for the five aggression scales, Indirect Aggression (M=52.6, SD=11.9), Verbal Aggression (M=49.1, SD=10.3), Irritability (M=49.8, SD=11.8), and the two included hostility scales, Suspicion (M=56.7, SD=11.4) and Guilt (M=55.9, SD=9.6), were close to the mean of 50 and the SD of 10, suggesting normal levels in these respects (Figure 2).

The correlations and multivariate regression analyses revealed that the KSP Somatic anxiety and Psychastenia scales together explained 14% of the ACLS variance (p=0.02). There were no significant standardized β-coefficients in these analyses (Table 5).

The analyses revealed further that the Somatic-anxiety, Psychic-anxiety, Muscle-tension, Psychastenia, Socialization, Suspicion and Guilt scales together explained 39% (p=0.001) of the total MANSA score variance. Among these independent variables only the Socialization scale had a significant β-coefficient (Table 5). In addition, a combination of the Psychopathy-PT and the Anxiety-proneness factors explained 27% (p<0.0001) of the MANSA variance. Only the Anxiety-proneness factor’s β-coefficient significantly predicted perceived life satisfaction (Table 5).

Table 5. Correlations (r) and standardized beta-coefficients between Karolinska Scales of Personality’s (KSP) seven scales, two factors and occupational performance assessed by Capability to Perform Daily Occupations (CPDO) Burden factor, Allen Cognitive Level Screen (ACLS), and perceived life satisfaction assessed by Manchester Quality of Life Scale (MANSA) (n=55) in Study II.

<table>
<thead>
<tr>
<th>KSP, seven scales and two factors</th>
<th>CPDO-Burden r</th>
<th>β</th>
<th>ACLS r</th>
<th>β</th>
<th>MANSA r</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Somatic anxiety</td>
<td>-0.28*</td>
<td>-0.28*</td>
<td>-0.33†</td>
<td>0.35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychic anxiety</td>
<td>-0.44†</td>
<td>-0.44†</td>
<td>-0.14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Muscle tension</td>
<td>-0.28*</td>
<td>-0.28*</td>
<td>0.20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychastenia</td>
<td>-0.35†</td>
<td>-0.35†</td>
<td>-0.27</td>
<td>-0.29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Socialisation</td>
<td>-0.41†</td>
<td>0.41†</td>
<td>0.51†</td>
<td>0.42†</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Suspicion</td>
<td>-0.26*</td>
<td>-0.26*</td>
<td>-0.03</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guilt</td>
<td>-0.26*</td>
<td>-0.26*</td>
<td>-0.04</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychopathy-PT factor</td>
<td>0.30*</td>
<td>0.30*</td>
<td>-0.42†</td>
<td>-0.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxiety proneness factor</td>
<td>-0.31*</td>
<td>-0.31*</td>
<td>-0.47†</td>
<td>-0.34*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: *p<0.05, †p<0.01.

In the univariate regression analyses, the KSP Socialization scale by itself explained 17% (p=0.002) of the shared variance in the CPDO-Burden
factor. The analyses also showed that the Psychopathy-PT factor explained 9 \% of the CPDO-Burden factor (p=0.02), and that the KSP Anxiety-proneness factor explained 10 \% of the ACLS variance (p=0.02) (Table 5).

The results from Study III with correlation coefficients between background factors and dependent variables in OP and SP are presented in Table 6. The background factors from the MDOs’ (n=74) adolescence and the factors’ relatedness with OP, indicated to some degree, that MDOs who completed high school could also follow instructions and to perform an activity as adults (ACLS). MDOs who had been subjects of pupils’ welfare measures in school did perceive higher social participation (ISSI) as adults than those who did not receive welfare measures (Table 6).

In adulthood, relations emerged indicating that the MDOs with regular employment >8 months, were assessed as having better ability to follow instructions and perform an activity (ACLS) than MDOs who could not keep a permanent job. MDOs who were judged as eligible of social support (LSS) reported significant burden in performing occupations (Table 6).

Suffering from schizophrenia/psychosis seems to correspond to low ability to follow instructions and perform an activity (ACLS; Table 6). The ratio in the logistic regression analyses revealed that it was more than four times higher odds of having difficulties to follow instructions and perform an activity (ACLS) for MDOs suffering from schizophrenia than for those without.

All MDOs suffered from psycho/social problems (Study I). The correlation coefficients implied that MDOs with individual psycho/social problems had more difficulties to follow instructions and perform an activity (ACLS), they reported more burdens (CPDO-Burden) and were less satisfied (CPDO Satisfaction) when performing occupations than those who had environmental psycho/social problems (Table 6). The MDOs with individual psycho/social problems had 2.5 times higher odds of perceiving occupational performance as burdensome compared to the MDOs who had environmental psycho/social problems. The odds were almost three times higher of being satisfied with OP for the MDOs with environmental psycho/social problems than suffering from individual psycho/social problems. The MDOs with environmental psycho/social problems seem to stronger correspond with higher life satisfaction (MANSA) than suffering from individual psycho/social problems (Table 6).

MDOs with substance related disorders and violent criminality appear to better follow instructions and perform an activity (ACLS) than those without drug problems and violence. It was 26 \% greater chance for MDOs with violent offences to follow instructions and perform an activity than those who had not performed violent offences. Previous criminality was not in any way related to occupational performance and social participation (Table 6).

The correlation coefficients disclosed that being confident in OP (SES) relates to the ability of follow instructions and perform an activity (ACLS)
Table 6. Frequencies (n) and correlations (r/) are presented between the dichotomized, background, independent variables (IV) and the dichotomized, dependent variables (DV) of mentally disordered offenders (n=74). In addition, correlations (r) between the IVs and the DVs with continuous data are presented. DV: Allen Cognitive Level Screen (ACLS), Capability to Perform Daily Occupations (CPDO) Burden factor and Satisfaction scale, the Interview Schedule of Social Interaction (ISSI), and Manchester Short Assessment of Quality of Life (MANSA). The DVs are dichotomized by ‘yes’=subject’s mean >sample’s median/ ‘no’=subject’s mean <sample’s median, the reverse direction for the CPDO Satisfaction. Psycho/ social problems (n=74) are dichotomized by presence of individual (psycho) or environmental (social) problems.

<table>
<thead>
<tr>
<th>IV, presence of background factors (n)</th>
<th>ACLS (n=34) r/</th>
<th>CPDO-Burden (n=32) r/</th>
<th>CPDO Satisfaction (n=31) r/</th>
<th>ISSI (n=35) r/</th>
<th>MANSA (n=35) r/</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. High school diploma (n=29)</td>
<td>.22† ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>2. Pupils’ welfare measures (n=47)</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>.21† ns</td>
<td>ns</td>
</tr>
<tr>
<td>3. Employment &gt;8 months (n=16)</td>
<td>.22† ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>4. Eligible of support (n=54)</td>
<td>ns</td>
<td>-.23*</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>5. Schizophrenia/ psychosis (n=40)</td>
<td>-.27* ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>6. Substance related disorders (n=37)</td>
<td>.22† ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>7. Psycho/ social problems (n=30/44)</td>
<td>.21† -.28*</td>
<td>-.25*</td>
<td>ns</td>
<td>.21† ns</td>
<td>ns</td>
</tr>
<tr>
<td>8. Violent index crimes (n=35)</td>
<td>.25* ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
</tr>
</tbody>
</table>

Self-efficacy scale (SES) - .21† ns ns .24* .22†
Importance scale (IMP) - ns ns -.26* .22† .32**

Note: ns=not significant, †p<0.1, *p<0.05, **p<0.01.
and having relatively satisfactory SP (ISSI and MANSA) for MDOs. However, confidence in OP (SES) did not predict any DV, whereas the Importance scale was related to satisfaction in OP and SP (CPDO, ISSI, and MANSA). The IMP influenced satisfaction in OP with 7% and in SP with 11%. Thus, MDOs who valued occupations as important were also somewhat satisfied with their OP and SP (Table 6).

With these analyses it can be justified to say that the research question of to what extent personality traits and how background factors influence MDOs occupational performance and social participation has been answered.

Outcome after one year of forensic psychiatric care

Changes after one year in forensic psychiatric care regarding the mentally disordered offenders’ (n=36) daily occupations are presented on group and individual levels. On the one hand differences in daily occupations at admission and on the other hand differences at follow up between community dwelling MDOs and MDOs still hospitalized after one year of care are also stated (Study IV). The performed counteracts against attrition revealed no differences between drop-outs and study-groups in Study IV.

On group-level there was a difference over time regarding the CPDO sub-scale Satisfaction of occupational performance between admission (M=3.0, SD=1.2) and follow up one year later (M=2.6, SD=0.7). The mentally disordered offenders were more satisfied with their occupational performance (OP) after one year of care compared to the initial assessment. The MDOs’ mean scores and standard deviations for the ISSI and the MANSA are presented in Table II in Study IV. Difference over time was found in the ISSI Adequacy scale indicating higher satisfaction with social interaction over time for the MDOs.

Differences were also found over time in three of the MANSA questions (Table II in Study IV). These imply that the MDOs felt more secure with the social environment, had better contact with significant others and their psychiatric symptoms did not disturb them to the same extent as one year previously.

Following the cut-off scores in the OP assessments, there was only one subject with clinically individual significant change over time (Table 7). One subject valued performance of daily occupations more (IMP) after one year of care than at admission. This subject’s mean score of the Importance scale crossed the cut-off score of 96 after one year of care. No other clinically significant changes over time were found in the OP assessments. Nevertheless, subjects did improve in OP over time. The MDOs changed their ap-
praisal positively in the SES, CPDO Satisfaction, Frequency and how burdensome they perceived performing occupations, but not with enough magnitude for clinically significant change or crossing the cut-off score. Some MDOs improved to follow instructions and perform an activity (ACLS) but most of them deteriorated to a greater extent in this respect over time (Table 7).

There was a clinically significant change in the ISSI total mean score (Table 7). Thus, five subjects reported improvements in satisfaction with their social interaction with such magnitude that the individual ISSI total mean score crossed the cut-off score at 22.5 over time.

Further, there were improvements in the individual self-reports of the MANSA over time, still, not with a large enough magnitude for crossing the cut-off score for clinically significant change of the MANSA total score.

Table 7. Number of mentally disordered offenders with clinically significant alterations in Occupational Performance (OP) and Social Participation (SP) after one year of care (n=36). OP assessed with the Capability to Perform Daily Occupations (CPDO), the Self-efficacy scale (SES), the Importance scale (IMP), the Allen Cognitive Level Screen (ACLS). SP assessed with the Interview Schedule of Social Interaction (ISSI) and the Manchester Short Assessment of Quality of Life (MANSA) in Study IV.

<table>
<thead>
<tr>
<th>Assessments</th>
<th>Cut-off score</th>
<th>Recovered n (%)</th>
<th>Improved n (%)</th>
<th>Unaltered n (%)</th>
<th>Deteriorated n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACLS</td>
<td>≥5.9</td>
<td>0</td>
<td>11 (30)</td>
<td>7 (20)</td>
<td>18 (50)</td>
</tr>
<tr>
<td>CPDO Satisfaction</td>
<td>≤1.20</td>
<td>0</td>
<td>12 (33)</td>
<td>21 (59)</td>
<td>3 (8)</td>
</tr>
<tr>
<td>Frequency</td>
<td>≤2.15</td>
<td>0</td>
<td>9 (25)</td>
<td>15 (42)</td>
<td>12 (33)</td>
</tr>
<tr>
<td>Burden factor</td>
<td>≤2.62</td>
<td>0</td>
<td>12 (33)</td>
<td>17 (47)</td>
<td>7 (20)</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>n.a.</td>
<td>n.a.</td>
<td>12 (33)</td>
<td>14 (39)</td>
<td>10 (28)</td>
</tr>
<tr>
<td>Importance</td>
<td>≥96</td>
<td>1 (3)</td>
<td>14 (39)</td>
<td>11 (30)</td>
<td>10 (28)</td>
</tr>
<tr>
<td>ISSI total score</td>
<td>≥22.5</td>
<td>5 (15)</td>
<td>11 (30)</td>
<td>13 (35)</td>
<td>7 (20)</td>
</tr>
<tr>
<td>MANSA total score</td>
<td>≥73</td>
<td>0</td>
<td>15 (42)</td>
<td>15 (42)</td>
<td>6 (16)</td>
</tr>
</tbody>
</table>

Note: n.a.=not applicable.

With these statements the research question if there were group and/or clinically individual changes over time in the MDOs’ occupational performance and social participation can be considered as answered.

There were 12 subjects (33 %) dwelling in the community and 24 subjects (67 %) hospitalized after one year of care (Figure 1 in Study IV). The two groups differed in the Allen Cognitive Level Screen and the Importance scale of occupational performance (OP) at admission, T1 (Table 8). There were no differences between the two groups concerning any aspects of social participation (SP), at T1.

At the follow up one year later, T2, the two groups differed in two OP and in five SP measurements (Table 8). Surprisingly, the Community-dwelling group was having more difficulties with OP than the Hospitalized-group.
However, the Community-dwelling group reported higher satisfaction in four of the MANSA questions. The Hospitalized subjects were more satisfied with life as a whole.

Table 8. Differences between initial, T1, and second assessments, T2, regarding Occupational Performance (OP) and Social Participation (SP) for the community dwelling group of mentally disordered offenders (MDO) and MDOs still hospitalized after one year of forensic psychiatric care (n=36). Significant higher OP or SP are notified with p-value (Mann-Whitney U-test, p<0.1). OP is measured with the Allen Cognitive Level Screen (ACLS), the Capability to Perform Daily Occupations (CPDO) and the Importance (IMP) scale. SP is measured with the Manchester Short Assessment of Quality of Life (MANSA) in Study IV.

<table>
<thead>
<tr>
<th>Assessments</th>
<th>Community (n=12)</th>
<th>Hospitalized (n=24)</th>
<th>Community (n=12)</th>
<th>Hospitalized (n=24)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACLS</td>
<td>-</td>
<td>p=0.07</td>
<td>-</td>
<td>p=0.01</td>
</tr>
<tr>
<td>CPDO Frequency</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>IMP</td>
<td>p=0.03</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>MANSA Global</td>
<td>-</td>
<td>-</td>
<td>p=0.08</td>
<td>-</td>
</tr>
<tr>
<td>Leisure</td>
<td>-</td>
<td>-</td>
<td>p=0.01</td>
<td>-</td>
</tr>
<tr>
<td>Accommodation</td>
<td>-</td>
<td>-</td>
<td>p=0.07</td>
<td>-</td>
</tr>
<tr>
<td>Company/alone</td>
<td>-</td>
<td>-</td>
<td>p=0.08</td>
<td>-</td>
</tr>
<tr>
<td>Sexlife</td>
<td>-</td>
<td>-</td>
<td>p=0.09</td>
<td>-</td>
</tr>
</tbody>
</table>

With this account the research question if there were differences in occupational performance and social participation at admission and at one-year follow up between hospitalized and community dwelling MDOs is regarded as answered.
Discussion

Asking mentally disordered offenders about the way they perceive daily occupations is a demanding task. The group is known to be hostile and manipulative. Despite this the MDOs’ appraisal of their capability have to be taken seriously to succeed in care and treatment.

The present thesis provides unique results summarized in a heterogeneous and contradivative picture regarding mentally disordered offenders’ (MDO) daily occupations. The complexity exists on several levels within the MDOs themselves, what they think they do and what they actually do, within MDOs’ occupational performance and within social participation, between different MDO groups, between the MDOs and the professionals and within the MDO group over time. The summarized description of mentally disordered offenders’ daily occupations can be characterized by contradiction in terms of what they perceive and what they say they actually do, particular in OP. The MDOs’ apprehension that they perform occupations without any problems can be seen as positive wishful thinking. This is contrasting to the few relevant performed occupations they selected. When asked how they actually had performed occupations, they reported low frequency and dissatisfaction.

The finding of the MDOs’ disability unawareness in daily occupations, in Study I, and to some degree in Studies III and IV, was in consistence with what is previously documented for non criminal schizophrenic subjects (78, 106). However, the presently studied MDOs consist of subjects with a diversity of mental disorders (Table 2), and in that context, there are few studies investigating the concept of disability awareness. Instead, concepts conceivable as synonyms have been used (9, 46, 100, 135, 141). These studies present similar descriptions of MDOs’ lacking disability awareness in different life-situations, and in that respect, are in agreement with each other and confirm the present results.

In addition, often the patients diagnosed with severe mental disorders suffers from cognitive impairment and disability unawareness (78) depending on the disorder in it self. These impairments can be reflected in the GAF-scale in the DSM-IV (31). Specifically the severity of the disorder affects the subjects’ disability awareness, which is manifested as level of psycho/social functioning by the National Board of Health and Welfare (66).

Therefore, with these arguments it can be claimed that mentally disordered offenders as a group lack disability awareness in daily occupations.
This situation is particularly troublesome since the MDO and the staff in the forensic treatment team are expected to cooperate (26). In addition, the care plan should also be accepted by the district court. The dual obligation of protecting the general public from crime and providing rehabilitation for the mentally disordered offender makes this situation a challenge. There is a risk that some of the treatment targets appear inadequate to the MDOs, since they regard themselves as having few limitations in performing occupations and participating in social life. The clinical implication could result in not accepting offered voluntary support e.g. according to the SOL and LSS acts (2, 3). Henry and Coster point out that social support has a significant impact for subjects with neuro-psychiatric and developmental disabilities. Social support can make a difference for people with similar disability history, insofar as those receiving support perceive less dysfunction (142).

The present results suggest that the treatment planning process should address the MDOs’ lack of disability awareness in daily occupations. Thus, mere demands for behaviour change in performance and participation are not sufficient. Individual supportive measurements for facilitating community dwelling should also be offered. Moreover, the third part in the MDO’s care and rehabilitation, the judgements from the district court, has a great influence on the MDO’s future, since the district court permits temporary releases and discharge when the MDO is assessed as not dangerous to himself or others and/or not in need of continued forensic care.

MDOs suffering from schizophrenia/psychosis

MDOs’ suffering from schizophrenia/psychosis had greater difficulties to follow instructions and perform an activity than MDOs without schizophrenia. Allen et al. stress that cognitive limitations (ACLS <5.2) interfere with independent community life (79). The present findings are partly consistent with earlier research concerning non-criminal subjects with severe mental disorders (44, 143-145). Rempfer and colleagues partially confirm the relation between cognition and independent living skills for schizophrenic individuals having difficulties shopping (126). In a sample of subjects with schizophrenia and neurocognitive deficits, social functioning, vocation and daily occupations were highly related to and to some extent predicted community living (69). Schretlen et al. (80) suggest that cognitive impairments regardless of schizophrenic/psychotic disorders are associated with functional daily occupations. Additionally, measurements of the ACLS revealed gender differences with men performing occupations inferior to women (126). However, the present sample of male MDOs have less cognitive occupational limitations compared to Ivarsson’s mixed gender sample with severe mental disorders, whose OP was also assessed by way of the ACLS (22).
According to Allen (79), subjects assigned close to the mean score (ACLS=4.9) of the Schizophrenic-group, are recommended accommodation with daily assistance and scheduled community activity or supportive employment. In Study I this was confirmed by the fact that 14 % reported homelessness, 47 % were unemployed and the FPI documented that 75 % never had stable employment before performing the index crime. These were also the circumstances for the MDOs in the report from the National Board of Health and Welfare (48). The low ISSI score indicates a more severe social dysfunction for the schizophrenic subjects than for the subjects with other mental disorders (OMD-group i.e., psychotic, mood and autistic disorders). Current investigations in schizophrenia subjects suggest that cognitive impairments is the major determinant for work functioning/independent living, however, there have not been shown any relations to quality of life and level of care (146, 147)

Thus, MDOs differs from subjects with severe mental disorders in general mental health care regarding cognitive impairments in daily occupations, and schizophrenic MDOs’ with impairments in daily occupations need substantial more support in community living than subjects with other mental disorders.

MDOs with psychopathy related personality traits

Interestingly, the MDOs with and those without psychopathy related personality traits (psychopathy-PT) did not differ with respect to occupational performance or perceived life satisfaction. However, there were differences in some demographic variables between these two groups as reported in Study II. One reason can be that subjects with psychopathy-PT do not have cognitive impairments to the same extent as remaining MDOs with severe mental disorders.

By using the KSP, it is demonstrated that having been brought up in outcast families and having conduct disorders before 15 years can distinguish a psychopathy-PT group from the non-psychopathy-PT group. The present results indicate other differences between these two groups: subjects with psychopathy-PT perceived occupational burden as not problematic and had lower life satisfaction than those assessed as non-psychopaths. In general, the life-history of the MDOs and particularly for those who were characterized by psychopathy-PT, is considered important for predicting adjustment in the community (41). These factors should therefore be accounted for in treatment planning.

The present results underline that occupational therapy interventions for MDOs should be directed at individual targets. The importance of noticing individual differences of OP in patients with the same psychiatric disorders has been discussed by Girard et al (148). They argue for not including all subjects with mental disorders in the same intervention program. Instead, the
occupational therapist should take into consideration the factors that account for a limited occupational performance by taking a client-centred approach. This is particularly important since MDOs seem to differ with regard to OP from other patients with severe mental disorders (22).

Factors influencing MDOs’ daily occupations

Some personality traits as measured by way of the KSP, i.e. socialization, anxiety proneness, and to some extent assessed psychopathy-PT, influenced OP and perceived life satisfaction in mentally disordered offenders (MDO) in Study II. The low scores of socialization imply that MDOs’ negative upbringing, influenced the level of reported occupations as a burden and with low experience of life satisfaction. The high proneness to anxiety was related to the level of OP and perceived life satisfaction. Similar results regarding the KSP scores have been found in two different criminal samples by Stålenheim et al (1998) (42) and Longato-Stadler (2002) (92). The present results are also consistent with those of Skodol et al (149) and Seivewright et al (99) in the sense that personality disorders are related to social dysfunction. Eklund et al (93) reported that personality is strongly associated with the level of functioning and all aspects of psychological health in schizophrenic patients. In another study by Eklund et al (84), it was demonstrated that personality determined the major part of perceived life satisfaction among schizophrenic out-patients. The main difference between the samples of Skodol (149), Seivewright (99) and Eklund et al. (84, 93) and the present sample is that the MDOs are sentenced to care after having committed an offence. In the present group, 81 % had earlier criminal records, besides the current index offence. However, an important similarity is that they all suffer from severe mental disorders.

A well-known predictor of the MDOs’ future is their long history of difficulties (141). In the present investigation, the subjects’ history was illustrated mainly by their demographic data from the FPI, the self-reports and the low score in the KSP socialization scale. These results point to the fact that the MDOs’ life-history is an important factor even for their future performance and participation in daily occupations. However, it is not possible to change life-history, but to some extent repair what was missing in the upbringing and take this into consideration in the care plan.

MDOs dichotomized to environmental psycho/social problems (31), including problems with work, and public authorities reported satisfaction with OP in Study III. However, the MDOs dichotomized to individual psycho/social problems i.e., problems with significant others, reported no satisfaction with OP. Eklund et al., stress that satisfaction with daily occupations in a broad sense is related to psycho/social functioning, quality of life and health in a non criminal, mixed gender sample with schizophrenia (12). This indicates similar tendencies with the present results. In addition, psy-
cho/social problems were somewhat related to life-satisfaction. The sample of Eklund’s et al. and the present sample are perhaps doubtful to compare, since the present sample consists of criminal subjects afflicted with heterogeneous psychiatric disorders (12). The conformity between the present sample and Eklund’s sample should therefore be cautiously interpreted. Still, the results point to the fact that MDOs dichotomized to individual psycho/social difficulties are not to the same extent satisfied with their OP as are MDOs dichotomized to environmental psycho/social problems.

The MDOs, assessed as eligible for societal support, also reported no burden performing occupations (Table 6), which may indicate disability unawareness. In Study III the authors believed that support-needing MDOs should also report high OP burden. Nyström states that severe mentally disordered individuals often use different depreciative strategies to avoid suffering (150). Nyström adds that some patients tend to be self-sufficient when confronted with their shortcomings. Since many MDOs have a harsh life history, it might be necessary to have a disability unawareness strategy for survival, which also may be an explanation for the MDOs’ hostility and sometimes manipulative conduct. Additionally, the FPI-team and the author (HL), independent of each other, apprehend MDOs of having low OP and SP. Therefore it is suggested that MDOs seem unaware of the surrounding environment’s appraisals of their obstacles in daily occupations.

MDOs who value occupations as important also perceive high social participation in Study III, in this case high life satisfaction. Value dimensions of daily occupations are discussed by Persson, et al., who propose a tentative structure for describing occupation (4). The authors introduce “occupational value” as a prerequisite for meaning. The MDOs were here asked of the importance of 20 daily activities. This could be assessed as overlapping with occupational value, according to Persson, et al (4). Additionally, the same MDO subjects, who were satisfied with OP were also, to some degree, satisfied with SP. Thus, the results are indicating that those MDOs who perceive positive occupational value may also perceive life in general as meaningful.

A striking result was that violent index crimes predicted high cognitive occupational performance. In a study by Russo et al., background factors of indirect cognitive nature differed significantly between violent mentally disordered offenders, non violent MDOs, and non criminal psychiatric patients (44). The violent MDOs in that study had significantly longer education, higher employment attainment and marital status to a significantly higher degree than the two remaining groups. In addition, the violent MDOs had cognitive demanding vocations (44). Russo and colleagues declare that violent crimes are often committed by well-educated subjects with severe mental disorders from rural origins in deviant situations. The present sample has not been investigated regarding these aspects, however, the results indicate some relationship between daily occupations and violence. As mentioned above, it is known that suffering from severe mental disorders in-
cludes poor clinical outcome and occupational performance (20, 143-147). Following the present result it should be interesting to further investigate what lies behind the positive association between cognitive OP and violent offences.

Changes after one year of forensic psychiatric care

Since differences were rather sparse over time and between groups in Study IV, it is more interesting to look closer to those variables that did change and did not change over time and what phenomena they represent, besides the significance of the change. These differences can give a hint as to which group and individual variables should be strengthened during and after the first year in forensic care. The changes over time emerged in self reports with increased occupational value and satisfaction, adequate social interaction and satisfaction with personal safety, family relations and mental health. Further, the hospitalized subjects changed positively in observed OP. Thus, the MDOs were overall more satisfied with daily occupations and significant others, besides, being less disturbed by their mental disorders after one year of care. Additionally, some MDOs were observed to have an increased ability to follow instructions and to perform an activity.

The OP variables that did not change over time or between groups, were, self reported frequency, perceived burden and confidence in daily occupations. The latter two, burden and confidence in OP, were reported as not problematic for the MDOs at admission and could therefore not be expected to improve over time. The SES had such a high sample mean score and range that ceiling-effect could be suspected.

Utilizing these results as an outline of a brief individualized treatment programme, should start from the MDOs’ increased overall satisfaction and reduced psychiatric symptoms. This is where the first important individual rapport between the MDO and the therapist could be established. Then the MDOs’ high confidence in performing occupations could be used as a resource of increase in frequency of performing occupations and reduce perceived occupational burden.

Change over time is most commonly investigated in longitudinal designs on sample levels. The sample is compared pair wise, pre-test and post-test, for one variable at a time as was performed here (151). The obtained significant change over time is then valid for the whole sample and the distribution within the sample is consequently equalized. However, in forensic hospital care, as well as in occupational therapy, the interventions are targeted towards individualized goals. Change over time is then expected on individual level. The issue is to decide when the effect of the clinical intervention is large enough to be designated as significant. Kazdin suggests that clinical significant change is assessed by multiple measures of a given construct as was the case here (108). The effect of the intervention should have practical,
observable or perceived implications on the patients’ daily life from the perspective of the patient and/or significant others (108). This is especially important regarding MDOs since they are assessed as suffering from severe mental disorders with assumed disability unawareness.

Jacobsson and Truax present a predictive valid method of clinical significant change pre- and post-treatment, where intra-individual comparisons are conducted in two steps (137, 138, 152). The first step is to establish a cut-off score, which should be passed toward functionality. The second step is to assess whether the change is reliable or not, by constructing a reliable change index (RCI) (138). These two criteria have to be fulfilled in order to classify the individual as recovered (Table 7). However, in the present investigation the results revealed only brief individual changes over time, indicating that changes in MDOs’ OP and SP need intensive, extensive, and intrusive treatments (53), and they need substantial support for community dwelling.

In the results from Study IV, there were more changes between the Hospitalized and the Community dwelling groups at the second assessment, T2, than at admission, T1 (Table 8). Regarding occupation, it is known that a balanced and subjectively meaningful occupation is an important prerequisite for health and well-being for everyone (13). This is also known for subjects suffering from severe mental disorders (20, 29). Swedish law (5) stipulates that when an offender is diverted to forensic psychiatric care with compulsory court review, and as long as there is a judged risk for dangerousness the person should be hospitalized. When the risk has diminished and he is not in need of forensic care, the person should consequently be released. These circumstances are valid for the present sample. In order to understand the surprising results and to pursue Rogers’s arguments of order and disorder in occupational therapy and medicine (153), the following theoretical reasoning is made. The sample (n=36) was regrouped in a 4-fold table (Figure 4). Firstly, the sample was divided as “hospitalized” (n=24) or “community dwelling” (n=12) (Study IV). Secondly, a new variable “able/not able” of OP was defined by dichotomizing the CPDO Burden-factor and the ACLS by the group median at T2. Subjects with an ACLS mean of \( \geq 5.2 \) and subjects with a Burden-factor mean of \( \geq 6 \) were considered as able of OP. When there were discrepancies between the means, the ACLS mean prevailed. Also a new variable was constructed representing “able/not able” of SP. The medians at T2 of the total ISSI score of \( \geq 15 \) and the MANSA total score of \( \geq 55 \) were considered as able of SP. The ISSI mean prevailed when discrepancy between the means occurred. Thus, the numbers in the OP and SP groupings are mainly based, except for the ACLS, on the MDOs’ self reported appraisals of their ability in each variable respectively (Figure 4).
### Figure 4

Following data from the second assessment, the mentally disordered offenders (MDO) \((n=36)\) were divided to “Hospitalized/Community dwelling” (rows) (Study IV) and dichotomized by “able/not able” of occupational performance (OP)/social participation (SP) (columns). Regarding OP, 11 MDOs are in the “right” or order boxes after one year of forensic psychiatric care. The lower left box (in *italics*) represents the target of the forensic care. The six subjects in the upper right box (in *italics*) are adequately taken care of. The 25 remaining MDOs are classified to the “wrong” or disorder boxes. The 18 subjects in the ‘Able OP-Hospitalized’ box have the potential of successful community dwelling. The other way around concerns the seven subjects in the ‘Not Able OP-Community dwelling’ box, they need more support for Community dwelling.

<table>
<thead>
<tr>
<th></th>
<th>Able</th>
<th>Not Able</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OP (n=18)/SP (n=10)</td>
<td>OP (n=6)/SP (n=14)</td>
</tr>
<tr>
<td>Hospitalized</td>
<td>n=24</td>
<td></td>
</tr>
<tr>
<td>Community</td>
<td>OP (n=5)/SP (n=8)</td>
<td>OP (n=7)/SP (n=4)</td>
</tr>
<tr>
<td>Dwelling</td>
<td>n=12</td>
<td></td>
</tr>
<tr>
<td>OP (n=23)/SP (n=18)</td>
<td>OP (n=13)/SP (n=18)</td>
<td></td>
</tr>
<tr>
<td>n=36</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Theoretically, interesting inconsistent arguments and important questions emerge for the 25 subjects classified to the “wrong” or disorder boxes (Figure 4). According to Rogers’s arguments (153), the 23 MDOs classified by themselves to the ‘able OP’ column should not receive occupational therapy. The situation could be precarious for the 18 MDOs in the upper left box, who perceived themselves as being able of performing occupations while still judged as in need of care. This core question is considered as disorder and may render difficulties in treatment motivations (153). Shall the MDOs participate in occupational therapy? How is their treatment justified? In what way is disability unawareness playing part in their daily occupations? How were they spending their time when locked up in a hospital ward? Were they adequately occupied, including sleep, 24 hours day and night? Moreover, were the 13 MDOs classified to the column of ‘not able of OP’, given the time and opportunity for improvements in OP during hospitalization? What obstacles were targeted in the care-plan during the year in hospitalization? Were the seven MDOs in the lower right disorder box given sufficient support during transition into community dwelling? These questions can elucidate why such a large part of the subjects in the Community-dwelling group was classified as not able of OP (Figure 4). It was also remarkable that the Community-dwelling group (\(n=12\)) partly consisted of subjects (\(n=8\)) directly released from maximum security hospitals to either treatment homes or community care (Figure 1 in Study IV). The question is how they were prepared for community dwelling. Another reflection is, being released without adequate OP might add to the internal and external obstacles a men-
tally disordered offender experiences in daily life in order to succeed in the community (154). Struggling in community life, without sufficient help and support may increase psychological stress leading to the risk of violence and dangerousness. In addition, the heterogeneous sample was suffering from more than one psychiatric disturbance and additional substance abuse in half of the group. In general, substance abuse by itself predicts a higher risk of violence (67) particularly among people suffering from mental illness (155). These are all factors that together contribute to the difficulties for this patient group all through the life time. Could subjects from this temporarily released group not able of OP, have a higher risk for relapse into serious crime than the group in community dwelling able of OP and SP? Additionally, these arguments also contribute to the importance of planning individual treatments for MDOs and subjects suffering from severe mental disorders (148).

Methodological aspects

The mentally disordered offenders (MDO) are in an ethically weak position under confinement, which is characterized by their dependence, the hospitals’ responsibility for the forensic psychiatric care, the protection of the patient’s integrity and the protection of the society from the MDOs risk of relapse in crime. Particular attention was paid to the ethical considerations for this vulnerable patient group during the research procedures.

The number of included subjects (n=74) is the positive side of a two-sided coin. The sample represents 8 % of the total estimated population of the 928 MDOs that were incarcerated 2000-06-30 in Sweden (37). The negative side of the coin, despite a high percentage of recruited MDOs, was a high attrition rate (46 %; Figure 1) in the sample, which may imply risk of Type-II errors. Accepting a false null hypothesis, can be considered as a threat to the internal validity (151). Equally, attrition rates of 58 % (156), 54 % (89) and 76 % (92), are reported from studies with similar populations. Difficulties to include subjects with psychiatric diagnoses in scientific studies are well known (157). The drop-outs in the present thesis were not asked the reason for not participating, due to ethical considerations. In Study II, the KSP administration may have contributed to the drop-out. After the assessment session, the subject was asked to complete the KSP by himself and to send it by post. This procedure might have been the main reason why only 55 subjects of the 74 returned the questionnaire.

Hodgins & Müller-Isberner as well as Lindqvist & Skipworth point out several obstacles to perform longitudinal studies for this patient group (41, 158). They stress that the organization and the culture of secure, forensic hospitals have difficulties in providing the integrity of individualized multimodal treatment programmes over time. The difficulties of treatment integrity have effect on the attrition rate insofar as the MDOs are participating in
different programmes at different times. It is the treatment programme that changes over time, not the MDOs. Another obstacle to perform longitudinal studies is the unmotivated subjects (158, 159). The unmotivation can be reflected in neglect in meeting a stranger, it might be frightening to answer assumed indiscreet questions, especially if the MDO does not understand the purpose of the research and has no personal gain in return. An additional reason for the presently recruited subjects for not participating at the second assessment, could be disappointment concerning the content of the assessment questions. At the initial assessment, some subjects spontaneously expressed that it was irrelevant for them to talk about daily occupations. Instead, they insisted that the purpose for their participation was that they could freely express their mortification with the ongoing care. Despite the high attrition rate, the results from the counteracts executed against the consequences of the attrition, supported the validity of the study. The feared risk of Type-II error was therefore somewhat reduced in this respect.

Most studies of MDOs are small, i.e., they are performed in one unit with limited samples (160). In the present thesis, data was collected from the three existing security levels of forensic hospital care in Sweden and not only from one facility. The facilities included represent four regional high security forensic hospitals, seven medium security units in local county council hospitals and six wards in general psychiatric hospitals. All of them were located in central Sweden. These circumstances can be said to strengthen the present results insofar as they may be valid for the Swedish population of mentally disordered offenders.

Another strength in this thesis was the usage of a variety of data collection methods, such as self-reports, observation, professional assessments and data from registers. Utilizing different methods offered a possibility to confirm the results. However, the manifoldness of the instrumentation was at the same time a potential limitation. The observed differences could result from the use of different data collection methods of OP and SP, or from the fact that the two different parties, the MDOs and the professionals, performed them.

Another instrumentation issue was the fact that the CPDO and the SES are constructed for persons suffering from chronic pain, implying that the selection of CPDO and SES activities should be representative for most people. However, it cannot be excluded that alternative occupations might have been more relevant for persons with severe mental disorders.

The IMP was constructed for the project. Internal consistency for the IMP was sufficient, however, no other psychometric properties were investigated. The results of the correlation analyses (Table 6), should therefore be taken with some caution. Likewise, the results in Study IV, the individual clinical change (Table 7) and the differences between Hospitalized and Community groups in the IMP (Table 8) should be cautiously judged.
An important methodological question was the low strength of the associations in Study III, none crossed the coefficient of (r) 0.32, which increased the risk for Type I errors in the subsequent analyses. The significance of the correlation coefficients tells us about the reliability of the associations, and the coefficients’ strength of how much the IVs and DVs are related (161). Correlation coefficients of (r) 0.30 are regarded as medium and (r) 0.10 as small according to Cohen (162). Considering the size of the present correlation coefficients (0.2-0.32), the large sample size (n=74) and the low number (n=8) of the IVs in the separate computations, together decrease the risk of Type I errors and support the significance of the analyses. In Study III, 40 correlation analyses (Table 6) were performed, the more analyses performed the greater the chance of random significant results. Thus, the 11 significant correlations in Table 6 can be partly the result of mass significance, although the pattern of significances speaks against this fact, since most independent variables seem to correlate with the ACLS.

Why the correlation coefficients were low can be related to the unspecified time-period when the investigated phenomena, OP and SP, occurred and when the interview session was carried out in the individual case. Solely, that time had past since the MDOs had participated in daily occupations and the interview session could influence their appraisals of the phenomena. The subjects’ assumed cognitive limitations, which sometimes entail memory difficulties, might also have influenced the subjects’ appraisal of the investigated daily occupations. If the assessments had been executed in connection with or immediately after a performed occupation or social occasion, the correlation coefficients might have been higher.

Moreover, why the background factors sparsely correlated with SP can depend on the usage of self-reported assessments. On the one hand, the backgrounds factors and the ACLS were professionally administrated and significantly related in 6 out of 8 correlations. On the other hand, the remaining dependent variables, CPDO, ISSI, and MANSA were self reported, and overall sparsely related to the background factors. Tuninger and Levander address self-reported underscoring in patients with prominent negative symptoms (145). That patient group assessed themselves as more symptom-free and well-functioning with no relation to other test performances, reflecting cognitive limitations. In contrast, Wright et al. (7), describe that self-reports and case-records broadly support each other as to previous violent offending, indicating that the MDOs’ reports are trustworthy in this respect.

The comparative designs in Studies II and III with only one measurement session weaken the predictions of the DVs. However, in Study II the assessments were made post-hoc, but covering the time-period before the crime. In Study III the background factors also date from the past. These procedures indicate causal relations, supporting the reliability of the results.

There is at least one explanation why only small improvements emerged over time in daily occupations (Study IV). There was a vast discrepancy
between the treatments in which the MDOs reported they had taken part and
the generally eligible treatment opportunities. Considering the sparing treat-
ment in which the MDOs chose to participate (see in Sample) and the some-
times meagre content of how time can be used in a forensic psychiatric ward
(65), it is not strange that there were hardly any improvements regarding
daily occupations after one year of forensic psychiatric care.

Concerning the differences in the Allen Cognitive Levels Screen between
the Community and the Hospitalized groups at T2, it may be noticed that this
difference was already the case at T1 (Table 8). This implies that the signifi-
cant difference between the groups at T2 can be questioned regarding the
Hospitalized subjects’ ability to better follow instructions and perform an
activity than the Community-group.

One side effect of the present results is the contribution to the validation
of the ACLS which is constructed to measure visual-motor planning of vol-
untary actions for the cognitively disabled (79). The ACLS correlated with
variables with known cognitive impact, such as schizophrenia, school
achievement and employment. The validity of the ACLS was supported by
the significant correlations coinciding with assessments from the FPI. ACLS
and FPI are both assessed by professionals.

Conclusions and future clinical implications

This exploratory, quantitative thesis offers extended knowledge for enabling
a safe and healthy community dwelling for mentally disordered offenders
(MDO). The evidence for existing occupational subgroups within the MDO
population is supported. These subgroups consist of individuals with schizo-
phrenia, subjects with substance related disorders and subjects with psycho-
pathy-PT. They all have disparate needs of care and support for transition
into community dwelling and consequently need different treatments. The
MDOs’ life history and high proneness to anxiety were related to daily oc-
cupations and should accordingly be given attention in the care planning.

The mentally disordered offenders did not change over time regarding
daily occupations. Improving the MDOs’ daily occupations requires well
designed individual treatment programmes in units with stable, highly edu-
cated staff and sufficient evaluated resources. Previous research and the pre-
sent results point to longer periods than one year of regular treatment con-
tacts for effective outcome. To begin the MDOs’ improvement process, the
individual problems in daily occupations should be distinctly targeted and
constantly re-evaluated even during the first year of hospitalization. Further,
the fact that the MDOs were more generally satisfied after one year of care,
is promising. Satisfaction and positive self-efficacy are basic requirements
for improvements in any person’s life.

An important task for the forensic treatment team is to initiate the MDOs’
rehabilitation with good knowledge of that they are a heterogeneous group
and consequently have complex daily occupations. To avoid bias in the information gathering phase, the information should be compiled jointly between staff in the forensic treatment team and the MDOs. Additionally, in the care-plan considerations should be given to the MDOs’ disability unawareness, which was the most central result of the present thesis. Disability unawareness determine substantially to the MDOs’ concordance with care and treatment.

This thesis contributes to the forensic psychiatric care of mentally disordered offenders with a unique material. With appropriate caution, owing to the methodological weaknesses, the results should be taken into consideration. The achievements are pointing to new ways of assessing and expanding the knowledge of mentally disordered offenders’ individual daily occupations and transition into the community.
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