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# Support and Process in Individual Placement and Support

## - A multiple case study

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## **Abstract**

*Objective:* This multiple case study investigated support and process in the Individual Placement and Support (IPS) approach from individual client, longitudinal, and Person-Environment-Occupation (PEO) model perspectives.

*Participants:* Five IPS-participants, or cases, with Severe Mental Illness (SMI) who worked a minimum of 4 hours a week entered the study.

*Methods:* A multiple data collection method was used over a period of 12 months and included IPS-vocational profiles and plans as well as various instruments and questionnaires concerning socio-demographics, work performance, limitations, and accommodations. Both within- and across-case analyses were performed.

*Results:* The IPS-process concerned job search support, job-matches (PEO-match), and adjustment of the PEO-match by providing accommodations by on- and off-worksit support. All participants had limitations concerning social interactions and handling symptoms/tolerating stress. Several accommodations were made for the same limitations, mostly directed towards the social environment. Prior work experience, disclosure, and not being in an acute phase of illness seemed important to the support provided.

*Conclusions:* This study has visualised the support and process in IPS and provided a theoretical framework, the PEO-model, to detect limitations and provide IPS-support. The organization of IPS-support and methods of providing it to individuals may be important for job tenure and employment success.

**Keywords:** Supported employment, psychiatric disability, PEO-model, work accommodations, vocational rehabilitation

## **1. Introduction**

Work is a valued goal for many people with Severe Mental Illness (SMI) [1] and is often identified as an integral part of their recovery process through self-actualization and self-empowerment [2]. Work has also been shown to be related to increased engagement in daily life activities and community participation [3], higher self-esteem, better quality of life, and fewer psychiatric symptoms [4, 5]. Unfortunately, unemployment rates are high in this group of people, even though many of them would like to work [6]. Several international studies have shown that Supported Employment (SE) according to the Individual Placement and Support (IPS) approach is more effective than traditional stepwise vocational rehabilitation to help people with SMI gain and keep employment [7-14]. IPS was developed and standardized for people with SMI by Becker and Drake 1993 [15] and is based on seven principles; eligibility based on the client's willingness to work, a goal of gaining and keeping competitive employment, a rapid job search, placement in a meaningful self-chosen work setting, on-going support at work such as accommodating disability and giving needs-oriented support are central, integration of the vocational plan with the clinical team, and benefit counseling [16]. Despite the success of IPS, research has shown that many participants terminate their jobs prematurely or negatively, often within six months [9, 17-22]. So far, IPS has not demonstrated significant and consistent impact on the short job-tenure [9]. Accordingly, many people with SMI fail to receive full benefit of IPS in terms of vocational outcomes [8] and this sobering recognition has provided us with the goal of better understanding the IPS-support and IPS-process from longitudinal and client perspectives [23, 24].

It is well known that a client's psychiatric disability interferes with work performance [1, 20, 25]. IPS tries to help the client overcome this psychiatric disability or limitation by having an

Employment Specialist (ES) supporting him or her with job applications and interviews, creating a good match between personal preferences and a job, and providing individual adapted accommodations and support [15]. In this study, a work accommodation is defined as “a change in the workplace environment, or in the ways things are usually done, that make it possible for a person with a disability to perform a job” (p 15) [26]. However, applying the theoretical occupational therapy Person-Environment-Occupation (PEO) model [27] can allow us to further illuminate the workplace environment and accommodations. According to the PEO-model, a limitation may depend on Personal capacities, Environmental components, and the activities in his or her Occupation. Thus, limitations may exist on each of these three spheres. A good match among the spheres, PEO-match, can be assumed to result in optimal performance of work activities i.e. occupational performance, whereas an insufficient match may result in work performance limitations.

In prior IPS-research the job-match is described to include a match between the job and the person’s preferences [19], prior work history, illness related difficulties, stressors, coping strategies [25], and strengths [8]. However, it has been suggested that a job-match should also include an analysis of the work environment characteristics and whether it increases or accommodates the person’s symptoms and/or functional limitations [25]. Still, no prior IPS-research has aimed to illustrate the job-person match in relation to also characteristics in the environment, but also to the work activities performed. Accordingly, the PEO-model can help to visualize the job-match and the dynamics involved in actual work performance.

MacDonald-Wilson et al. [20, 28] have made two longitudinal multi-site investigations of functional limitations and workplace accommodations of people with psychiatric disabilities involved in supported employment services. In both studies, a broad classification of workplace

accommodations was made to analyse data quantitatively. The first study [20] showed that the majority of workplace accommodations involved the support of a job coach in the hiring process or at work. The second study [28] investigated the participants' experienced limitations at work and the job accommodations provided. Seventy percent of the 191 participants had a cognitive limitation whereas 41% had a social limitation and 26% an emotional one. Cognitive limitations were the most consistent predictors of the number of accommodations provided and were associated with more co-worker and supervisor training. Although these studies have provided valuable information on a group level, up until now, no study has been conducted to describe the IPS-support and IPS-process among clients from the intervention's start point and over a period of time. Additionally, the PEO-model has not been applied to analyze the match between the client's skills and preferences, the work activities, and the work environment. Still, the importance of a good job-match and adapted support for increasing job-tenure and IPS fidelity has been emphasized [22]. It has further been stressed that a suitable job, or a good match, can make employment more meaningful and enjoyable for the clients, which in turn may increase their motivation to remain in the job and to deal with conflicts that will inevitably arise [19]. Thus, the components of IPS-support may be important factors to consider in relation to job-tenure and employment success and requires further investigation [1, 20, 25]. Accordingly, this study aims to investigate the IPS-support and IPS-process from individual client, longitudinal, and PEO-match perspectives. The questions posed were:

1. How does the IPS-support appear within and across the cases, and the IPS-process occur over time?
  - a. How does the IPS-process occur over time?

- b. What limitations do the participants mention in relation to their performance of work activities?
  - c. What work accommodations are provided and by whom?
  - d. How does the relationship between work experience limitations and work accommodations provided appear?
2. What does the PEO-match look like within and across the cases?

## **2. Method**

In order to investigate the IPS support process, a multiple case study design was used containing multiple data collection methods as inspired by Yin [29] and Creswell [30]. According to Yin, experiments like Randomized Controlled Trials (RCT) can establish the efficacy of a treatment, but are limited in explaining “how” and “why” the treatment worked. However, the case study design makes it possible to investigate the IPS-support and IPS-process in depth and within a real-life context. Furthermore, the use of multiple data collection methods contributes to the research focus is illustrated from different perspectives.

### *2.1. Study context*

The present study is a part of a larger IPS RCT conducted from 2008-2011 in Sweden. The aim of the RCT was to evaluate IPS effectiveness in relation to vocational, economic, health, and implementation outcomes. The inclusion criteria were (1) to have an SMI, which means having a psychiatric disability on a long term basis, mainly with a diagnosis of psychosis, (2) to have contact with mental health service, (3) to be between age 20 and retirement age, (4) to not have

had a regular job during the preceding year, (5) to be able to communicate in the Swedish language, (6) to express an interest in working in the near future, and (7) to participate in an introductory meeting. The exclusion criterion was having a physical disability. One hundred and twenty persons entered the RCT and were recruited from five outpatient units. The case manager briefly informed the clients about the project and when and where introductory meetings were held by the researchers. At these meetings, information about IPS, the RCT design and related studies, and ethical considerations were provided and discussed among the attendees. Once they had decided to participate, an informed consent was signed.

The RCT-project, of which this study is a part, was approved by the Regional Ethical Board in Lund, Dnr 202/2008, in accordance with the law on ethical review on research involving humans (SFS:2003:460). The RCT was further registered with ClinicalTrials.gov, NCT00960024.

## *2.2. Selection of cases*

The inclusion criteria were to have obtained work during the first twelve months of IPS and to have been working at least a couple of hours a week on a regular basis. A maximum variation sampling in accordance with Creswell [30] was used to show different perspectives of the IPS-support and IPS-process. The criteria concerned diversity in terms of (1) gender, (2) country of origin, (3) ES, (4) years since last employment, (5) work experience, (6) type of work, (7) education level, (8) working hours per week, and (9) self-disclosure, i.e., telling the employer about the illness or limitation. Socio-demographic and occupational characteristics of the five cases are presented in Table 1. The number of cases is in line of what is recommended by Yin

[29] and Creswell [30] for a multiple case study. Pseudonyms were used when presenting the five cases or study participants.

Table 1 about here

### *2.3. Procedure and data collection*

A multiple data collection method [29, 30] was used over a period of 12 months. A case study protocol containing the research questions and a description of procedure and analysis guided the data collection. To refine the case study protocol, a single pilot case study was conducted. As a consequence, the protocol was supplemented with an analysis chart to clarify the analysis process. The general analytic strategy was to rely on theoretical prepositions reflected in the research questions as inspired by Yin [29]. Furthermore both within-case and a cross-case analyses, and finally an interpretation of the meaning of the case, were made in accordance with Yin and Creswell [30]. Burnard's [31, 32] content analysis, and creation of flow charts as suggested by Yin, was used as a specific analytic technics.

#### *2.3.1. Data sources*

Five data sources were used in the data collection. Baseline socio-demographic information was recorded by means of a *Socio-demographic questionnaire*. The *IPS Vocational Profile and Plan* was another source. The IPS Vocational profile and plan functioned as an assessment and guiding tool for the ESs and the participants during the IPS-process. It regarded both initial and on-going assessments as well as strategies of how to reach and support work, and

it was written by the participants and ES in collaboration with the IPS-support network, i.e., friends, family members, staff in the mental healthcare team and the welfare service, and employers and co-workers.

Three questionnaires administered by the ES were applied when the participants had been working for at least two weeks and every time the participant got a new job. The *Work-characteristics questionnaire* contained questions as type of work, workplace characteristics, employer information, and geographical placement. The *POES-P* was used to gather information about performance of work activities. It requires filling in a time-use diary concerning the working hours and focuses on work tasks, the social and physical work environment and perceptions of work performance. The diary sheet and interview procedures in POES-P are based on Profiles of Occupational Engagement in people with Severe mental illness, POES [33]. The P in POES-P stands for productive occupations. Finally, a *Work accommodation form* was used based on previous work accommodation research [20]. It was designed to allow comprehensive answers and was administered in two steps. The first step concerned questions about the participants' mentioned limitations at work and the accommodations provided. The questions covered employee training, working hours and schedule, work tasks, communication, training by staff or supervisors, the physical environment and finally an open question concerning other experienced limitations and accommodations provided. The second part consisted of an open-ended question about the support and work accommodations provided by the ES. Supplementary interviews with the ES were performed by the first author to supplement the content.

## *2.4. Data analysis*

Initially, the material was read repeatedly, case by case, to get a sense of the whole. Each case was then analyzed individually, a within-case analysis' [29, 30]. The first part of this analysis concerned describing the case with data derived from the Socio-demographic questionnaire, IPS Vocational Profile and Plan, and the Work-characteristics questionnaire. The second part concerned the support provided and included limitations and work accommodations. The Work accommodation form was analyzed using Burnard's content analysis [31, 32]. Some sub-categories clearly corresponded to the question areas in the Work accommodation form. However, new sub-categories were discerned along the analysis. In the third part, the IPS-support was mapped out in a flowchart, which illustrated the longitudinal IPS-process. Data was derived from the IPS Vocational Profile and Plan and the Work-characteristics questionnaire. The fourth and final part of the within-case analysis concerned illustrating the PEO-match pre and at work using the PEO-model [27] as theoretical framework (Fig. 1). This was executed in line with Yin's guidelines [29], which state that the first and preferred analysis strategy in case studies is to display data from the individual cases according to the same theoretical framework, and Creswell's model [30], which frames the last step of analysis as an interpretation of data according to theories or constructs in the literature. The extent of the congruence in the Person-Environment-Occupation relationship [27] is represented in the degree to which the three spheres overlap. The overlap in the centre of the sphere represents occupational performance of work activities. In the analysis, a high degree of overlap represents a good PEO-match, whereas a low degree of overlap represents an insufficient PEO-match. Data was derived from IPS Vocational Profile and Plan, Work-characteristic questionnaire, POES-P, and the Work accommodation form. All parts of the analysis were developed and refined by the authors.

Fig. 1 about here

Finally, a cross-case analysis was performed. Firstly, the tree-lists of limitations and accommodations were merged and analyzed using content analysis (Table 2 and 3). Note that the tree-lists in Table 2 and 3 correspond to the categories in Table 4. Secondly, differences and similarities among the cases with regard to process, support and PEO-match were analyzed. Thirdly, frequencies and distributions of accommodations were accounted for and the relationships between limitations and accommodations were examined.

Table 2 and 3 about here

### **3. Results**

In the following results, working is defined as working in a paid employment or working in an internship or job practicum, or a ‘practice place’. The Swedish welfare system provides employment in practice places allowing students, the unemployed or people in vocational programs to try out a job in the open market.

#### *3.1. IPS-process*

It took the five participants between six and nine and a half months to start working from their baseline measurements. If the participant changed jobs, the period of revising the vocational

plan and starting work again was less than a month. The IPS-support and IPS-process in general and for the different cases is presented in Fig. 2 and in the results section below.

Fig. 2 about here

### *3.2. IPS-support*

IPS-support was provided in several ways. The ES provided support by matching the participant to the job, i.e., pre-work PEO-match, helping out with job-seeking, and adjusting the PEO-match at work by providing on- and off-worksit support (Fig. 2). Onward, site will be used interchangeably with the term worksite. As Table 4 shows, the ES was the key person in the IPS-support network. One aspect of the ESs' comprehensive support included engaging this network by working closely with employers and co-workers, psychiatrists, case managers, welfare service staff, friends and family members, among others. In short, the ESs organized, initiated, and provided support throughout the whole IPS-process. If the participants had chosen to disclose their illness, they received accommodations through on-site support as well as indirectly, via off-site supports. The accommodations made at the worksite were mostly provided by the ES in collaboration with the participant, employer, supervisor, and co-workers. However, if a participant did not disclose his or her illness, it was common for accommodations to be provided indirectly by off-site support, with the main purpose of helping the participant adjust to the working situation in his or her own way. Here, the employer and co-workers were not part of the IPS-support network. The number of persons engaged in the IPS-support network for each participant varied from the ES alone to an extensive network of people.

Table 4 about here

### 3.2.1. Limitations

All participants experienced limitations that affected their performance of work activities (Table 4). One noteworthy feature of the illustrated text is that it resembles the categories and sub-categories in Table 2. *Interacting socially* and *Handling symptoms/tolerating stress* were the most common limitations experienced by the participants, whereas the least frequent reported limitation was *Adjusting to changes*.

To illustrate two different perspectives of *Interacting socially*, Catherine's and Mark's cases are used as examples. Catherine experienced severe limitations in *Interacting socially* within her professional role, especially when she was making small talk with co-workers and communicating with her supervisor at the department store. In general, she suffered from anxiety in social situations. Mark also experienced limitations in *Interacting socially*. Because of his limitations in interpreting social cues, Mark often believed that everything was his fault and became suspicious that his colleagues wanted to harm him. Mark's case is also used to illustrate the limitation *Handling symptoms/tolerating stress*. Mark's limitations in *Handling symptoms/tolerating stress* affected his sleep and increased his feelings of persecution, which made it even harder for him to interact socially with others at the worksite.

Asif's case illustrates *Learning work tasks* and *Working independently* (Table 4). Asif had a thought disorder which made *Learning work tasks* problematic. He had limited abilities in concentrating, following and remembering work instructions and routines, which made it difficult for him to complete tasks. Moreover, these cognitive limitations also affected his ability

to initiate work tasks, solve problems and organize work which affected his possibility of *Working independently*.

### 3.2.2. Work accommodations

The distributions and frequencies of accommodations by on- and off-site support (Fig. 2) are given in Table 4. Note that the illustrated text resembles the categories and sub-categories in Table 3. About 19 accommodations (median: 21, range: 9-26) were provided in each of the five cases. Accommodations provided at the worksite were more frequent than off-site support. The most frequently reported accommodation was on-site support in *Work performance*, and the least frequent reported accommodation was performed indirectly through off-site support in *Medical consultation* and in *Transportation*.

All participants had support from the ES in *Work performance*. In most cases, the supervisor or employer at work also assisted with support. However, Mark did not want to disclose his limitations at work. As a consequence, he worked to accommodate his *Work performance* through off-site support provided by ES *Counseling*. He wrote memos for work tasks and routines which helped him to perform his work. Examples of on-site support accommodations from the different cases are presented under the next heading.

James' and Mark's cases illustrate off-site support that indirectly led to work accommodations (Table 4). For James, the psychiatrist provided *Medical consultation* by updating his medication, while the case-manager gave *Counseling* to enable him to handle the mental distress at work. The ES and the municipal housing support manager gave *Guiding advice* about how to plan and lead the art study group and how to remember his working hours. The ES also provided James with support in *Transportation*, which enabled him to handle the

fears he encountered when taking the bus back and forth to work. Mark had *Counseling* with the ES, mainly by telephone, and *CBT-treatment* by a CBT-therapist in the mental healthcare team to help him handle social interactions and stress at work.

### *3.2.3. Limitations and work accommodations*

The distributions and frequencies of limitations and accommodations and their relationships are also given in Table 4. In general, the accommodations made to compensate for specific limitations varied across the cases. Several accommodations were provided through both on- and off-site support and could be applied to the same limitation. The most frequent relationship evident was between limitations in *Working independently* and on-site support in *Work performance*. *Handling symptoms/tolerating stress* was the limitation that was accommodated with the most varied types of both on- and off-site support.

Amber's case is presented to illustrate the common relationship between the participants' limitations in *Working independently and Learning work tasks*, and the relevant accommodations made (Table 4). Amber's auditory hallucinations made it difficult for her to concentrate and follow and remember instructions, which affected her abilities in *Learning work tasks* and thus *Working independently*. Therefore, the ES supported her in *Rearranging work* by adjusting her pace of work, providing hands-on supervision in *Work performance* and making a list of step-by-step work instructions. These accommodations enabled Amber to learn her work tasks and then to perform them independently. The ES also gave support by *Providing guidance and education to staff or supervisors* about Amber's limitations and needs for accommodation.

Catherine's on-site accommodations illustrate common relationships between the participants' limitations in *Interacting socially* and relevant accommodations made (Table 4).

The ES supported Catherine in her *Social interactions* by suggesting conversational topics to use during breaks. The ES also provided her with strategies of how to handle her fear of social interactions with co-workers and customers while performing her work tasks. The ES support in *Work performance* involved hands-on supervision and helping Catherine develop strategies to assist customers. The ES also supported Catherine by *Providing guidance and education to staff or supervisors* about her limitations and need for accommodations. This guidance could include strategies of how to best support her when she experienced failure or fear in social situations.

### *3.3. PEO-match perspective*

This section provides an interpretation of the PEO-match or job match using the PEO-model as a theoretical framework. The PEO-match, i.e., pre-work and at-work PEO-match (Fig. 2), was more effective if the participants had prior work experience since the onset of mental illness, disclosed their illness or limitation to the employer, and were not in an acute phase of their illnesses. The participants' experience of working while being ill provided the ES and the participant with knowledge of how to improve the pre-work PEO-match before reaching their employment, and plan for accommodations in advance. Furthermore, when the participant chose to disclose the mental illness or disabilities, it became possible for the ES to visit the worksite and adjust the at-work PEO-match by providing accommodations through on-site support and to contact and collaborate with the employer from the start and throughout the adjusting process.

Amber and James both had previous experience of working with an SMI and were able to describe how the SMI affected the performance of work activities in different work settings. They also disclosed their limitations to their employers. The ES was able to provide for a good PEO-match for them. They maintained their jobs, developed and gradually became more

independent at work. Amber, whose hallucinations limited her at the very beginning, started to assume a supervisory role with new trainees, and James increased his workload and developed in his role as a teacher in the art study group. Mark, on the other hand, decided not to disclose his limitations to the employer because of previous negative experiences of being stigmatized at work. As previously mentioned, work accommodations were provided indirectly through off-site support only. However, since the pre-work PEO-match was based on Mark's preferences and not on recent work experience, the degree of overlap between the Person and Environment spheres was insufficient. Consequently, the ES could not make a PEO-match evaluation at work. Because of his sensitivity to noise and difficulties in interpreting social cues (Personal sphere), he had difficulties in performance of work activities. In his first workplace, he shared an office with a co-worker and in the second, where he finally gained employment, he had his office by the canteen. Because of his office's location (Environmental sphere), he was repeatedly interrupted when co-workers passed through. At the end of the case study period, however, Mark was determined to get an office on his own so that his limitations could be accommodated.

A pre-work PEO-match was difficult to perform for Catherine and Asif, because they had no work experience since the onset of their illnesses. In both cases, the ESs' attempts to compensate for an insufficient pre-work PEO-match by accommodating for their difficulties at work did not succeed. Catherine left her first job because of limitations in *Interacting socially* and *Maintaining work stamina*. There was an insufficient match between the Person, Environment, and Occupation spheres, i.e., her Personal limitations in *Interacting socially* made it difficult to perform Occupational tasks in a social Environment at the large department store, such as serving customers, handling conflicts, and making small talk with her co-workers. She also found it difficult to *Adjust to changes* as she established her daily work routines and tried to

maintain her motivation to stay on a job that was not according to her preferences. Her vocational plan was revised, and it was then possible to create a pre-work PEO-match based on her recent work experience. After two weeks, she started to work in a small interior decorating shop and a good at-work PEO-match was confirmed by Catherine shortly thereafter. Her new workplace was different with regard to the physical and social Environments. The interior decorating shop was small in size and had few customers. She had only one co-worker, who was also her supervisor and employer. The small number of personnel together with the few customers limited the number of social interactions she had on a daily basis. The Occupations or required work tasks were also according to her preferences and skills in decorating (Personal sphere) and were in line with the employer's requests for someone capable of decorating the store and arranging the storefront. The good PEO-match made it possible for her to perform her work tasks and to train her social skills, since the challenge was appropriate for her and within the limits of what she was able to do. Asif, on the other hand, decided to end his IPS participation and take time to build his strength and recover more fully. He wanted to try out a better and more adequate medication and learn how to cope with his symptoms better. However, his long term goal was to find a job that better matched his preferences.

### *3.3.1. At-work PEO-match*

The at-work PEO-match was created by providing for accommodations in the Personal, Environmental, and/or Occupational spheres of performance of work activities. The ES initiated accommodations in the sphere in which the participant experienced limitations. In Fig. 3, the frequencies of accommodations and support in the different spheres are shown for each type of

limitation. Totally 17 accommodations was performed in the Personal sphere, 44 in the Environmental and 33 in the Occupational.

Fig. 3 about here

Almost every limitation was accommodated for in all three spheres of occupational performance. However, the limitation *Following schedule/attending work* was accommodated for in the Environmental and Occupational sphere, and *Adjusting to changes* was accommodated for in the Personal sphere only. In the Personal sphere, off-site support such as *CBT-treatment* or *Counseling* enabled the participants to work independently. In the Environmental sphere, the on-site support consisted mainly of accommodations in the social environment, such as hands-on supervision in performance of work activities.

Accommodations for enabling performance of work activities were mostly directed towards the social Environment and were most frequently related to limitations in the Personal sphere of *Interacting socially* and *Working independently*. Accordingly, it was important for the participants to get on- and off-site support from the ES and other persons in the IPS-network to be able to work independently and handle social interactions at work.

#### **4. Discussion**

This study investigated the IPS-support and the IPS-process as a whole from individual client, longitudinal, and PEO-match perspectives. The result showed that the social environment was most frequently accommodated, and it was also indicated that the PEO-match was an important factor for job tenure in all of the cases. Furthermore, the participants' work experience

since the onset of mental illness, disclosure of their illness at work, and not being in an acute phase of the illness were other factors that seemed to be important for clients benefiting from IPS. These results also showed that in IPS-support, work accommodations can be provided not only through support at the worksite, but also indirectly through off-site support, findings which have not been presented in previous research in this area.

The accommodations for enabling performance of work activities were mostly directed towards the social Environment. Individualized support by the ES and other persons in the IPS-support network seems central to IPS-support, a finding which is in line with previous research [20, 28].

In line with the PEO-match findings as well as findings in previous studies [19, 25], the initial job match was an important factor for increasing or decreasing job tenure among the participants. Shankar [25] stressed that in order to make an appropriate job match as well as an assessment of the client's preferences and skills, the ES should analyze the characteristics of the working environment. In accordance with the PEO-model [27], a good match between the Person, the Environment and Occupation resulted in an optimal occupational performance of work activities, whereas an insufficient match resulted in problems at work. Accordingly, the implications for IPS-practice include the importance of having a holistic and dynamic view of the client and constantly evaluating his or her work performance against the interpretation of the interaction between the Person, Environment, and Occupation. The PEO-model can thus serve as a theoretical framework to help visualise the relation between a person's abilities, the work activity and environmental demands, which perspective can be assumed important for mobilising an optimal pre- and at-work match.

A client's prior work experience while having SMI made it possible to improve the pre-work PEO-match, which affected the support provided and the participant's job tenure positively. This result indicates that lack of work experience from the onset of a mental illness may explain why some IPS-participants [9, 18-22], like Asif in this case study, terminate their jobs prematurely or under negative circumstances. However, current results tracking the longitudinal process in IPS indicate the importance of the clients trying out several jobs to enhance their awareness of their limitations and support needs, a finding which is also suggested by Shankar [25], who saw that many individuals with mental illness are aware of their limitations but have difficulty predicting the frequency, intensity, and kinds of support they need when they start to work. Accordingly, in addition to gaining employment, IPS plays an important part in assisting individuals with SMI gain experience and greater knowledge of how their limitations affect work performance. This perspective in IPS can help the clients view a job termination as a valuable and positive experience when starting the next job [9]. Moreover, the onset of mental illness often occurs in the late adolescence or early adulthood, and for many clients this results in major disruption of their educational and vocational development [34]. Accordingly, lack of work experience while having SMI may not be the only reason for an insufficient PEO-match throughout the IPS-process, but the lack of work experience in general can be a decisive factor. In fact, one of the few determining factors in predicting employment success has been shown to be having previous work experience [35].

As previous research has shown [25], the results in this study indicate that deficiencies in the pre-work PEO-match cannot be fully compensated for by accommodations either directly or indirectly, either through on- or off-site support, respectively. Therefore, to provide for a good match, IPS must not only include an initial and on-going assessment of the client's skills and

interests, but also an analysis of characteristics in the work environment and occupations that may exacerbate or mitigate the client's limitations. Moreover, disclosure of the participants' mental illness made it possible for the ES to better collaborate with the employer at an early planning stage and to make a PEO-match evaluation at work. It also made it possible for the ES to be active at the worksite in terms of providing accommodations to further increase the PEO-match. This was also shown in the study by Shankar [25], who found that disclosure facilitated the cooperative relationships between the ES and the employer, which made it possible for the ES to advise the employer concerning the participant's abilities and accommodation needs and to manage the employer's preconceptions about the participant. Nevertheless, not everyone with SMI wants to disclose their limitations at work for fear of being stigmatized, as both previous research [36, 37] and Mark's case in this study show. However, in the aforementioned pre-existing research, participants who chose to disclose their illness also got positive feedback and support from co-workers, which was also the experience among the participants who disclosed their illnesses in this study. It can be further assumed that the employer, co-workers and the type of work culture also have roles to play, as do whether the employer gets a wage subsidy from welfare services or pay their SMI employees a full salary.

The relationship between off-site sources of support, the IPS-process, and the individual client and PEO-match perspective in the results have not been demonstrated by earlier research, a difference which is probably the result of the nature of the research focus and data collection. While previous research [20, 28] concerned the worksite, the present longitudinal case study made it possible to capture the entire IPS-process and thus the work accommodations provided indirectly by off-site support as well. The categorization of the accommodations by support at

the worksite and the limitations experienced by study participants reported in this study were, however, corroborated by previous research [1, 20, 25, 28].

The ESs played a central role in organizing, initiating and providing the IPS-support, and studies have shown that their knowledge and skills are crucial for assuring the quality of IPS [1, 20, 25]. It can thus be assumed that the ESs need to have comprehensive knowledge and understanding of the IPS-approach, the limitations caused by the mental illness, the interaction of the personal, environmental and occupational factors in work performance, and possible work accommodations that may be made in order to create an individualized IPS-support plan. Accordingly, it is important that the ES gets IPS education and on-going supervision as well as having IPS-fidelity evaluations in order to guide their practice.

## **5. Limitations and strengths**

The IPS-support process is a complex system, and the case study design can be assumed to have both strengths and weaknesses. The study only included five participants, which restricts the potential to generalize the results. On the other hand, the case study made it possible to get a sense of the whole and to collect multiple sources of evidence that improved the construct validity of the data. The design of the study allowed for detailed and multifaceted in-depth descriptions of IPS-support, which is anticipated to serve as a complement to previous research and a stepping stone for further research questions.

The work accommodation form and its questions may have affected the authors' categorization in the content analysis. Moreover, the extensive amount of data may have been a risk for inconsistency in data collection, as Graneheim and Lundman suggested [38]. Another limitation comes from the impossibility of having key informants review the data they provided.

Despite the aforementioned study limitations, several case study tactics by Yin [29] were applied. To increase the construct validity, as previously mentioned, multiple sources of evidence were used. The work accommodation form was supplemented with an interview to obtain methodological triangulation. Every step of analysis was discussed and validated among the authors to obtain investigator triangulation. Theoretical propositions based on pre-existing research were worked out and reflected in the research questions and served as theoretical triangulation. To increase the external reliability, a case study protocol was constructed to guide the data collection and analysis, and a case study database was developed. Further, the PEO-model proved to be a valuable assessment tool to assess the IPS-support provided in the different cases.

## **6. Future research**

Few studies have been conducted to explore the support and process of IPS-services. It is thus important to expand our knowledge about what it means to live and work with SMI and how IPS-services, employers, and society as a whole can work to enable this group of people to work as an integrated part of society. Although the present study yields useful information about IPS-support and the IPS-process in a PEO-perspective, the exploratory nature of the study and sample size underlines the importance of replicating the findings in a larger sample and other contexts. One interesting research focus concerns employer characteristics, especially regarding what features distinguishes those who choose to employ and support clients in IPS from employers who do not. Furthermore, the PEO-model functioned as a helpful theoretical framework to visualize the PEO-match in this study. Thus, an interesting quantitative research focus would concern investigating whether an active use of the PEO-model in IPS-practice

would have an impact on the effectiveness of IPS in terms of employment success as total hours worked and job tenure in particular. This can be anticipated since Mancuso's [26] assertion that work accommodations involve changes in the ways things are usually done at the workplace supports the findings in our study. However, this study showed that work accommodations provided indirectly through off-site support were an important part of IPS as well. Accordingly, it seems important to further investigate the indirect off-site support, i.e., the roles of different actors in the IPS-support network and what support they provide. Lastly, the exploration of individual perspectives of persons with psychiatric disabilities regarding their work experiences while receiving IPS-support may contribute to further knowledge about how to improve IPS and thereby improve job tenure.

## **7. Conclusions**

A severe mental illness brings about disabilities that are difficult to detect at first. These disabilities are often hidden limitations that affect many aspects of daily life, including work. Our results have helped visualise IPS-support and the IPS-process and have provided theoretical assumptions of how to better detect limitations and support clients with SMI. The social environment was an important area in which accommodations increased participants' ability to work independently. The ES, in collaboration with the IPS-support network, were central in providing the IPS-support. This study also points in the direction that on-site accommodations can be complemented with off-site support, which seems to be an important part of IPS-support processes as a whole.

Furthermore, participants' prior work experience since the onset of their mental illness, disclosure of the limitations at work, and not being in an acute phase of their illness were

indicated important factors in optimizing clients' utilization of IPS benefits. The PEO-model as a theoretical framework can be helpful in IPS practice and research by providing a systematic approach for the evaluation of the client's support needs. Moreover, the model can be useful to the ES, enabling him or her to more clearly communicate the client's limitations and accommodation requirements to different persons in the IPS-support network.

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Table 1. Demographic and work characteristics of the five cases.

	Age (Years)	Gender	Country of origin	Marital status	Diagnosis	Hospital admiss. (n)	ES	Last employment (Year)	Work experience Yes/No	Type of work	Higher education Yes/No	Working hours (%)	Self- disclosure Yes/No
Catherine	40	Female	Sweden	Single	Schizoid personality disorder	1	1	-	No	Personnel in store <sup>1</sup>	No	20	Yes
Amber	32	Female	Thailand	Single	Psychosis	1	2	4	No	Personnel in second-hand store	No	50	Yes
James	36	Male	Sweden	Single	Paranoid schizoph- renia	2	1	1	Yes	Teacher in art study group <sup>2</sup>	Yes	10	Yes
Mark	42	Male	Sweden	Single	Paranoid schizoph- renia	2	2	2	Yes	Engineer <sup>3</sup>	Yes	100	No
Asif	38	Male	Pakistan	Single	Paranoid schizoph- renia	4	1	7	Yes	Personnel in department store	Yes	20	Yes

<sup>1</sup> Catherine worked at two different workplaces during the case study period. First she worked in a larger department store and then in a small interior decorating shop.

<sup>2</sup> After James completed the first art study group at the day centre for people with mental handicaps he started another group at the same worksite.

<sup>3</sup> Mark studied engineering and was trainee in two different work settings, and after graduation, he was employed.

Table 2. Tree lists of limitation categories.

1. Category	2. Sub-category	3. Sub-category
Interacting socially	<ul style="list-style-type: none"> <li>- Social interactions with others</li> </ul>	<ul style="list-style-type: none"> <li>- Interacting within the professional role</li> <li>- Communicating with supervisor</li> <li>- Making small talk with co-workers</li> </ul>
	<ul style="list-style-type: none"> <li>- Handling conflicts</li> <li>- Interpreting social cues</li> </ul>	
Learning work tasks	<ul style="list-style-type: none"> <li>- Following and remembering instructions and work routines</li> <li>- Concentrating</li> </ul>	<ul style="list-style-type: none"> <li>- Completing tasks through interruptions</li> <li>- Screening out extraneous environmental stimuli</li> </ul>
Working independently	<ul style="list-style-type: none"> <li>- Initiating work tasks</li> <li>- Solving problems</li> <li>- Organizing work</li> </ul>	
Following schedule/attending work	<ul style="list-style-type: none"> <li>- Remembering work hours</li> </ul>	
Maintaining work stamina	<ul style="list-style-type: none"> <li>- Tired mentally or physically</li> <li>- Maintaining motivation</li> </ul>	
Handling symptoms/tolerating stress	<ul style="list-style-type: none"> <li>- Managing internal stimuli</li> <li>- Regulating emotions</li> </ul>	<ul style="list-style-type: none"> <li>- Anxiety</li> <li>- Travelling by public transportation</li> </ul>
Adjusting to changes	<ul style="list-style-type: none"> <li>- Modifying routines</li> <li>- Adjusting daily routines to work</li> </ul>	

Table 3. Tree lists of on-worksit and off-worksit support categories.

On-worksit support	<i>IPS-support network: Initiated and provided by the ES in collaboration with the employer, supervisor and co-workers.</i>
1. Category	2. Sub-category
Flexible scheduling	<ul style="list-style-type: none"> <li>- Decreased/gradually increased working hours</li> <li>- Visit the health care during working hours</li> <li>- Flexible breaks</li> </ul>
Rearranging work	<ul style="list-style-type: none"> <li>- Modified employee training</li> <li>- Individually adjusted work pace</li> <li>- Modified job duties</li> </ul>
Work performance	<ul style="list-style-type: none"> <li>- Step-by-step work instructions</li> <li>- Memos</li> <li>- Hands-on supervision</li> <li>- Guiding advice</li> </ul>
Social interaction	<ul style="list-style-type: none"> <li>- Social support</li> <li>- Job evaluation</li> </ul>
Providing guidance or education to staff or supervisors	<ul style="list-style-type: none"> <li>- Guidance</li> <li>- Education</li> </ul>
Modification to the physical environment	<ul style="list-style-type: none"> <li>- Special Equipment</li> <li>- Change of premises</li> </ul>
Off-worksit support	<i>IPS-support network: Initiated and provided by the ES in collaboration with the friends, family, staff in the mental healthcare team, and the welfare service.</i>
1. Category	2. Sub-category
Counseling	<ul style="list-style-type: none"> <li>- Social support face to face or by telephone</li> </ul>
Guiding advice	<ul style="list-style-type: none"> <li>- Planning support</li> <li>- Aid to remember working hours</li> </ul>
CBT-treatment	<ul style="list-style-type: none"> <li>- Strategies to handle emotions</li> <li>- Strategies in how to interact with others</li> </ul>
Medical consultation	<ul style="list-style-type: none"> <li>- Adjusting medication</li> </ul>
Transportation	<ul style="list-style-type: none"> <li>- Handling fear</li> </ul>

Table 4. Distributions and frequencies of accommodations and limitations and their relationships.

Limitations	Number of accommodations											
	On-worksit Support (by ES, supervisor and co-workers) through/in/by...						Off-worksit Support (by ES and e.g. the friends, family, and mental health team) by/in...					
N persons with specific limitations	...work performance	...providing guidance or education	...rearranging work	...flexible scheduling	...social interaction	...mod. to the physical environment	...counseling	...guiding advice	...CBT-treatment	...medical consultation	...transportation	N of accommodations
N persons provided with spec acc.	5	4	4	4	3	3	2	2	2	1	1	
Interacting socially	5	5	4	1	6	1	3		3			23
Handling symptoms/tolerating stress	5	4	4	3	1	1	2			1	1	21
Learning work tasks	4	5	3	6	1		3			1		19
Working independently	4	8	4	2	1			2		1		18
Following schedule/attending work	2	4	2					2				8
Maintaining work stamina	2	1	2		2							5
Adjusting to changes	1				1							1
N of accommodations	27	19	13	8	7	5	5	4	3	3	1	95

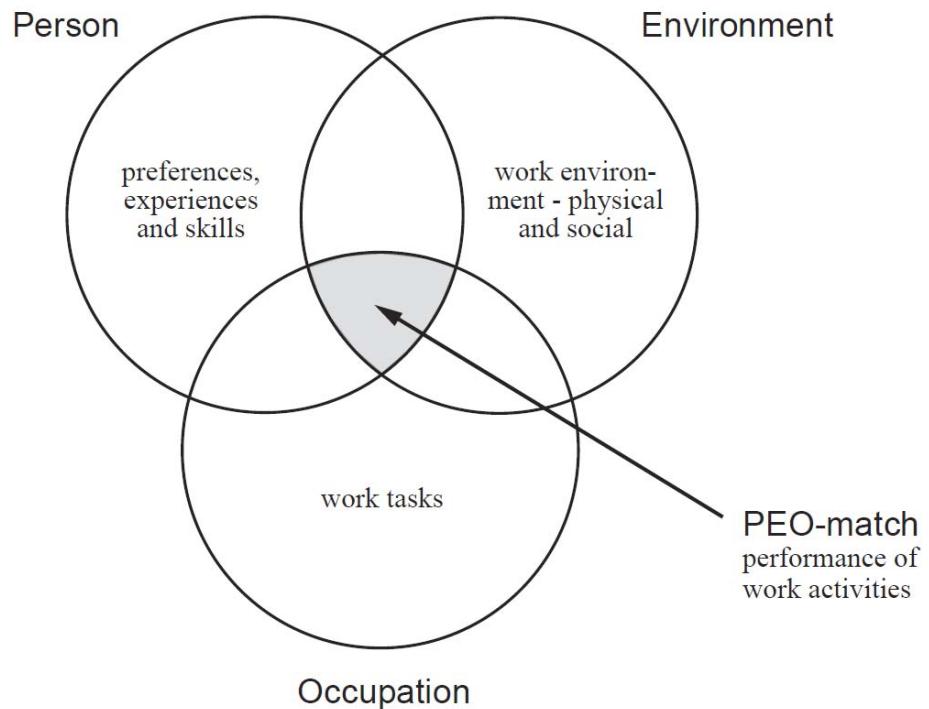


Fig. 1. The PEO-model illustrating the PEO-match.

### IPS support and process over time

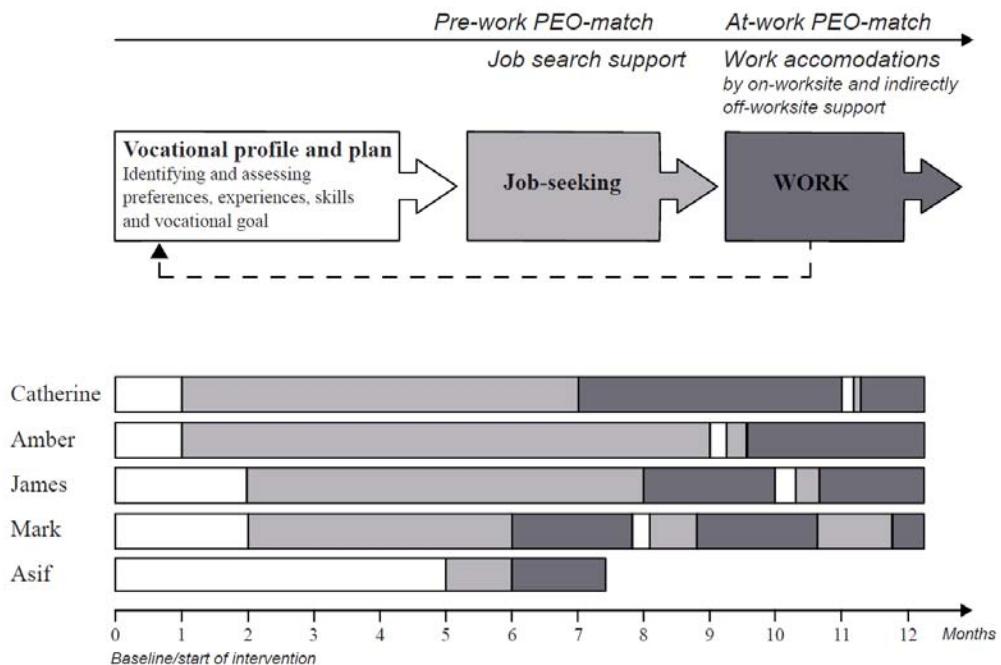


Fig. 2. Illustration of IPS support and process over time, in general and for the different cases.

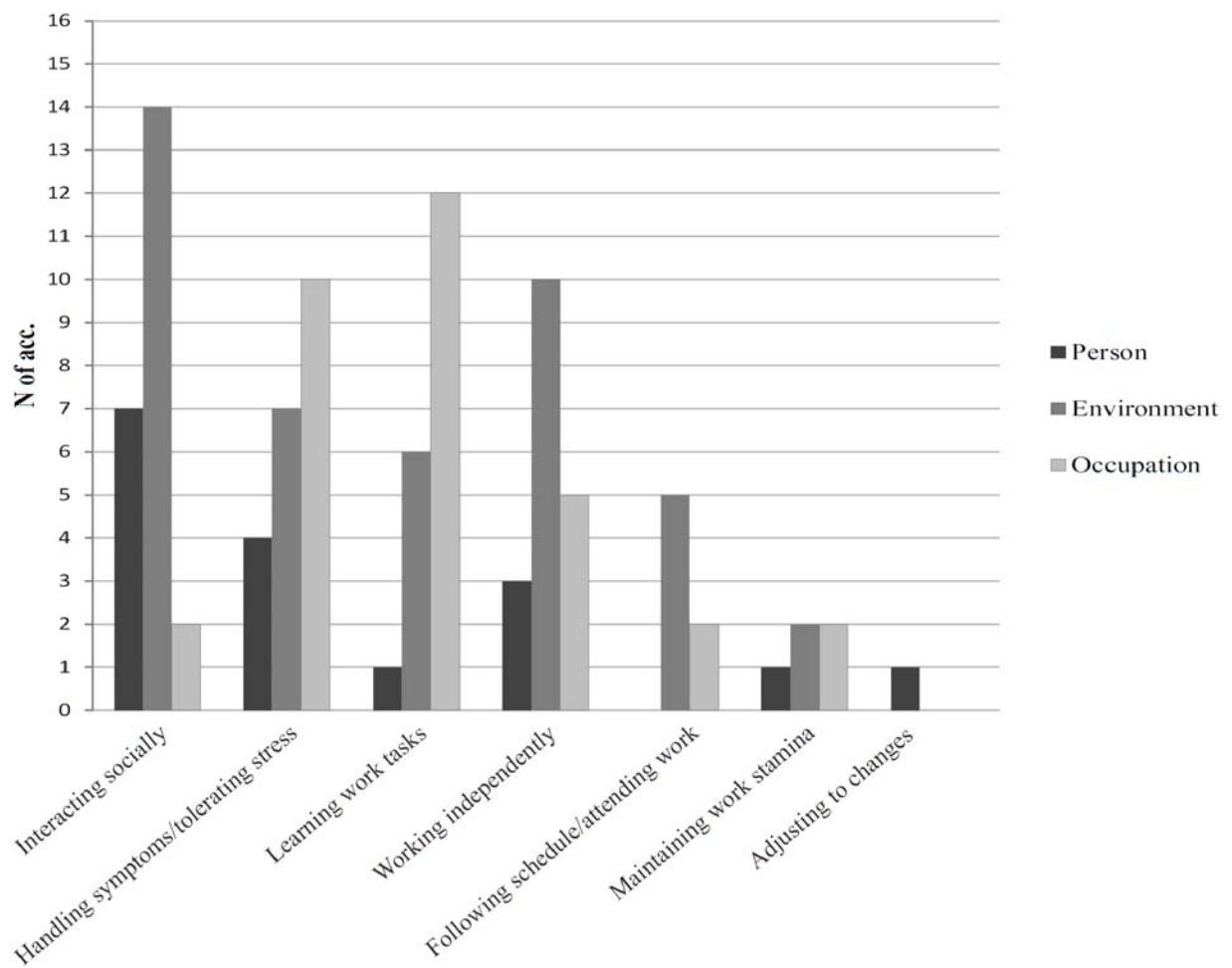


Fig. 3. Frequencies of accommodations by support in the Personal, Environmental, and Occupational spheres for each type of limitation.