Workplace-related anxieties and workplace phobia
A concept of domain-specific mental disorders

Online published at the
Institutional Repository of the Potsdam University:
http://opus.kobv.de/ubp/volltexte/2008/2004/
urn:nbn:de:kobv:517-opus-20048
[http://nbn-resolving.de/urn:nbn:de:kobv:517-opus-20048]

UNIVERSITY OF POTSDAM

Faculty of Human Sciences, Department of Psychology

DOCTORAL THESIS

WORKPLACE-RELATED ANXIETIES AND WORKPLACE PHOBIA

A CONCEPT OF DOMAIN-SPECIFIC MENTAL DISORDERS

for achieving the academic degree of

Doctor of Philosophy

(Dr. Phil.)

Dipl.-Psych.

Beate Muschalla

January 2008

First Consultant: Prof. Dr. Uwe Schaarschmidt
Second Consultant: Prof. Dr. Michael Linden

Date of oral examination: 12.08.2008

ACKNOWLEDGEMENTS

I am very grateful to Prof. Dr. Uwe Schaarschmidt for continuously supervising my thesis in uncomplicated communication and for helpful advice.
I also want to thank Prof. Dr. Michael Linden for the opportunity to carry out this research study in the Rehabilitation Center Seehof, and more over for the exciting debates he patiently fought out with me about this work and issues beyond.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

Background:

Mental disorders in relation to the workplace have been studied intensively in clinical and occupational psychology. But it is rarely spoken of "domain-specific" disorders which - in contrast to conventional mental disorders according to definitions in DSM-IV or ICD-10 – have their own characteristics due to their relation to the workplace. Anxiety in the workplace is a special problem as workplaces are especially prone to provoke anxiety. Thus not only the anxiety reaction has to be studied for itself, but also its relation to work-related aspects: Anxiety in its workplace-related quality has to be defined. Thereby especially the consequences for work performance and work participation must be considered.

Workplace phobia is defined as a phobic anxiety reaction with symptoms of panic occurring when thinking of or approaching the workplace. People suffering from workplace phobia regularly avoid confrontation with the workplace and are often on sick leave.

This study is a part of an extended research program on "workplace-related anxieties and workplace phobia in psychosomatic and cardiologic inpatients" which has been supported by the German pension fund (Deutsche Rentenversicherung Bund DRV).

Objectives:

The primary aim of this study is to define and explore empirically the qualities and comorbidity pattern of workplace-related anxieties and workplace phobia. The leading question is: What characterizes workplace-related anxieties and workplace phobia as domain-specific mental disorders?

Method:

230 patients from an inpatient psychosomatic rehabilitation center were interviewed with (semi-)structured diagnostic interviews: the *Mini-Work-Anxiety-Interview* (Mini-WAI) and the *Mini International Neuropsychiatric Interview* (MINI), in order to explore acute workplace-related anxieties, as well as conventional mental disorders the patients were suffering from. Additionally, the patients filled in the self-rating questionnaires *Job-Anxiety-Scale* (JAS) and the *Symptom Checklist* (SCL-90-R) measuring job-related and general psychosomatic symptom load. Socio-demographic data and data concerning participation in work-specific therapies were derived from the routine diagnostic and medical reports.

Results:

Workplace-related anxieties occurred together with conventional anxiety disorders in 35% of the patients, but they were also occurring without conventional anxiety disorder in others (23%).

Workplace phobia could be found in 17% of the interviewed, any diagnosis of workplace-related anxiety was stated in 58%. 38% of the participants said that their workplace, more than other conditions of their current life, had negative influence onto their acute health status. Workplace phobic patients had the highest scores in job-anxiety (JAS *M*=2,78 (*SD*=0,7) in workplace phobics vs. JAS *M*=1,39 (*SD*=0,9) in non-workplace phobics). Workplace-related adjustment disorders as well as workplace-related social phobias were most often co-occurring with workplace phobia.

Job-anxiety level was significantly correlated with sick leave duration in the past 12 months (*r*=.326***). Patients with workplace phobia were significantly longer on sick leave in the past 12 months (*M*=23,5 weeks (*SD*=17,1)) than patients without workplace phobia (*M*=13,4 weeks (*SD*=16,4)).

Different qualities of workplace-related anxieties lead with different frequencies to work participation disorders in the sense of sick leave and loss or change of the workplace.

Conclusion:

Workplace phobia can be understood as an expression of the severity of perceived job-related symptom load and work participation disorders. Workplace phobia cannot adequately be portrayed by only assessing the general level of psychosomatic symptom load and conventional mental disorders. Workplace-related anxieties and workplace phobia have an own clinical value which is mainly defined by their severe consequences for work performance and work participation. Furthermore, they require special therapeutic attention and treatment instead of a "sick leave" certification by the general health care medicine. Thus, in clinical practice, workplace phobia should be named with an own diagnosis according to ICD-10 chapter V, number F 40.8: "workplace phobia".

Keywords:

workplace phobia, workplace-related anxiety, job-anxiety, anxiety disorders, conventional mental disorders, participation disorders

1 INTRODUCTION

Work and stress reactions or mental disorders have been an important topic in clinical psychology as well as in occupational psychology: research on work stress, burnout, anxiety and depression in the workplace (e.g. Maslach & Jackson 1981; Kawakami et al 1996; Hobson & Beach 2000; Haslam et al 2005) are frequently studied topics.

Although widespread research seems to be carried out in this field, "workplace-related anxieties and workplace phobia" appear as a new complex concept which has not been studied systematically until now.

In the international classification systems of mental disorders, the *Diagnostic and Statistical Manual of Mental Disorders,* DSM-IV (APA 1994), or the *International Classification of Diseases,* ICD-10, chapter V (WHO 1992), several forms of anxiety disorders are distinguished: We know social phobia, agoraphobia, panic disorder, generalized anxiety disorder, hypochondriasis, specific phobias, obsessive compulsive disorder, adjustment disorder with anxiety and posttraumatic or acute stress disorder. These categories do not expect the disorder to be related to a special domain of life, but to occur as a symptom complex "in general" in the person´s current life situation.

The concept of workplace-related anxieties and workplace phobia now leads to the idea that these *workplace-related* anxieties might be something special and thus might be distinguished from *conventional* anxiety disorders. Does it make sense to study workplace-related anxieties as a specific phenomenon? What should make the difference between workplace-related and conventional anxiety disorders? There are several questions arising at this point which will be the topic of this work:

Why is it important to study "workplace-related anxieties and workplace phobia"?

There are several assumptions: Workplace-related anxieties are connected with *complex stimuli conditions* at the workplace. The question is: Is there anything that makes *workplaces* especially prone to provoke anxiety?

Workplace-related anxieties and workplace phobia might occur as a primary and single mental problem, but also as a secondary symptom within a primary conventional mental disorder. In each case, anxiety gets an *own clinical value* in the domain of the workplace.

Workplace-related anxieties lead to special *work performance and work participation disorders* which may have influence on the fitness for work and employability of a person and thus they may cause enormous costs for the society.

Therapy of workplace-related anxieties needs *special intervention forms* different from treatments of specific phobias.

Do we have to distinguish different qualities of workplace-related anxiety?
According to psychiatric classification systems *several forms of anxiety disorders* can be distinguished. The aim is to evaluate whether a similar differentiation is useful in studying workplace-related anxiety. The assumption is that different workplace-related anxiety qualities may lead to work participation disorders in a different way.

What is new about the concept of workplace-related anxieties?
The interface between clinical and occupational psychology and ~ medicine is aimed in this concept. Occupational psychology does not primarly focus onto clinical differentiation of work-related mental stress reactions, but rather on the conditions at the workplace itself. Clinical concepts focus on the symptoms of mental stress reactions using the dimensions and categories of the known "conventional" mental disorders. This work includes the attempt to bring together both perspectives - workplace conditions as well as psychopathology – in one concept.

The aim of this work thus is to present "workplace phobia and workplace-related anxieties" as a concept of "domain-specific mental disorders" with special characteristics giving them an own clinical value and the necessity to be distinguished from "conventional" mental disorders, including anxiety disorders.

What will be presented in this work?
First, the concept of workplace-related anxieties and workplace phobia will be introduced in the theory chapter, including the aspects of description, etiology, nosologic status of workplace phobia and consequences for work participation. Another important aspect will be a view onto the workplace as an anxiety provoking stimulus. Finishing this chapter, treatment requirements for workplace-related anxieties will be mentioned and, in an excursus, an extended understanding of workplace-related adjustment disorders with other affects beside anxiety shall be introduced.
The occurrence of workplace-related anxieties will then be explored empirically in a sample of psychosomatic inpatients. Results will be reported according to the leading research questions of this work summarized in (2.9.2). A brief overview of the clinical and socio-

demographic characteristics of the explored sample will be given in part (3). Furthermore, the study design as well as the used instruments will be described. Thereby, two new developed instruments, the *Mini-Work-Anxiety-Interview* (Mini-WAI) and the self-rating *Job-Anxiety-Scale* (JAS) will be introduced. Results will be presented according to the research questions in (4). Thereby the main interest will be lain onto differential-diagnostic aspects: which factors may characterize workplace-related anxieties and distinguish them from conventional anxiety disorders? The main results will be discussed in chapter (5) referring to the concept and the literature and lead to a brief concluding statement (6). A glossary containing all the relevant concepts and definitions of terminology can be found in the end (8), as well as the instruments for the assessment of workplace-related anxieties (Appendix).

This study is a part of an extended research program which has been supported by the German pension fund (Deutsche Rentenversicherung Bund, DRV) according to § 31 paragraph 1, sentence 1 No. 5 SGB VI. In this project "workplace phobia and workplace-related anxieties in psychosomatic and cardiologic rehabilitation inpatients" are studied.

This work deals with the basic research questions aiming at defining the phenomenon of workplace-related anxieties and workplace phobia, and giving an empirical description of their occurrence in a psychosomatic inpatient population. The relation between workplace-related anxiety and work-related variables, as well as between workplace-related anxiety and the general mental health status shall be explored. It is an exploratory and not an experimental study and therefore it is not aiming at testing hypothesis.

2 THEORETICAL BACKGROUND: WORKPLACE AND ANXIETY

Anxiety disorders are prevalent, disabling, and often untreated in primary care (Kroenke et al 2007). They often impose costs on society - especially in the context of work impairment (Greenberg et al 1999) - and therefore need specific scientific attention. An important characteristic of anxieties is that – depending on preparedness or learning experiences - they may be related to whatever complex or simple stimulus. Stimuli can be objects, persons or situations. Furthermore, an extinction of anxiety or "unlearning" anxiety reactions and cognitions that once have manifested in relation to a special stimulus is very complicated (Davis et al 2006; Bouton 2002; Marks & Tobena 1990). Thus the clinical value of anxieties is not only depending on the intensity or frequency of the anxiety reaction, but also on the quality of the stimulus. The term "workplace-related anxieties" implicates that there are anxieties which are related to a very special stimulus: the workplace.

Most people in our society perceive their *workplace* as a domain of life which affects a great part of their allday lives, their feelings and thoughts – with regard to duration of time, content and in social respect. To have a workplace is seen as important for assuring existence and also self-confidence (DRV 2007). Thus events at the workplace or experiences concerning the workplace regularly have effects on the mental state of a person. Mental disorders in connection with the workplace get more and more importance in our so-called modern societies (e.g. Sperry et al 1994; Mezerai et al 2006; Ames 1996). This is especially to be seen in the context of chronic mental disorders in psychosomatic rehabilitation, namely when long durations of sick leave are occurring. Often there are severe social-medical consequences concerning (un)fitness for work and (un)employability (Linden & Weidner 2005). A systematic scientific research on the connection between mental disorders and workplace is therefore of great importance.

2.1 STATE OF RESEARCH

Anxiety disorders as they are known from the psychiatric classification systems ICD-10 (WHO 1992) or DSM-IV (APA 1994) are a heterogeneous field. We distinguish diverse

qualities of anxieties: Specific (or simple) phobia is an anxiety reaction towards a special stimulus like an animal, an object or a situation. Panic disorders are characterized by suddenly and heavily appearing physiological symptoms like sweating, faster heart beat, trembling, feeling of fainting, which are interpreted as dangerous by the affected person. Often panic disorders go along with agoraphobia, the fear of leaving the place of security, that means fear of leaving home or enter certain places or unknown fields, whereby the fear is to come into a dangerous or painful situation without the possibility to get out. Hypochondriasis is characterized as the fear or better to say the "certainty" to be suffering from a certain illness, like cancer, but there is no medical evidence to confirm this subjective assumption. There is, beside agoraphobia, another so-called "complex" anxiety disorder to be mentioned: the social phobia. People suffering from social phobia are frightened in certain social situations when they feel to be observed and assessed by others. Generalized anxiety disorder means a dysfunctional exaggerated worrying about minor matters and daily hazzles. Posttraumatic stress disorder as well as acute stress reaction may occur after a traumatic life-endangering event.

This states the clinical psychiatric perspective of anxieties: they are not a homogeneous phenomenon, but have to be diagnosed and treated according to the special quality of symptoms, that is psychopathology. It should be kept in mind that anxiety reactions are not from origin dysfunctional, but evolutionary senseful reactions of the individual in order to survive: in recognising a dangerous situation or stimulus, the organism automatically starts a reaction to either flee or fight. The first possibility is – when speaking in clinical terminology – the well known avoidance behavior that is often used by anxiety patients in order to reduce their anxiety symptoms. In the assessment of anxiety disorders like agoraphobia, social phobia and PTSD by structured diagnostic interviews (e.g. MINI, Sheehan et al 1994), avoidance towards the anxiety provoking stimulus is one of the central diagnostic criteria.

The mentioned forms of anxieties have been studied intensively from different perspectives: etiologic and differential diagnostic aspects (Clark et al 2007; Lydiard 2000) have been focused as well as epidemiology (Kawakami et al 1996; Jacobi et al 2004), behavioral and psychopharmacologic treatment developments (Robinson et at 2007; Bisson & Andrew 2007; Bandelow et al 2007) and anxiety in special situations of life, like after traumatic events (Livanou et al 2005). Another often studied topic is the tendency of anxiety disorders to occur in comorbidity with other mental disorders (Albert et al 2007; Campbell et al 2007; Cosci et al 2007) or somatic disorders (Katon et al 2007).

Thus it can be seen that the field of anxiety research is wide and the idea to study anxiety and maybe co-existing mental health problems in the workplace should at first view not appear as a new idea.

Appropriately, there have been done many approaches to study mental health and disorders – including anxiety - in special domains of life, one of those being the workplace. The workplace itself can be characterized by demands, occurring feelings of insufficiency, surveillance and punishment through superiors, accidents or harm to health, or rivalries between colleagues, and is therefore more or less anxiety provoking to the employee.
In traditional and current research in *occupational psychology and ~medicine* related topics are emotional demands, affective reactions towards work-situations and social or objective work-conditions, mobbing, stress, work-satisfaction and work-loads (e.g. Dorman et al 2002; Nagata 2000; Wegge & Neuhaus 2002; Szesny & Thau 2004; Treier 2003; Munir et al 2007; Zapf et al 1996; Leyman 1993; Selye 1983).
In occupational psychology the concept of "strains and claims" (Rohmert 1984) is a concept on the basis of which empirical research on work characteristics has been carried out. An important question is which influence may work factors have on the physiological as well as the mental health status of employees, and therefore which wider reaching effects on work statisfaction, productivity and economic aspects may result. Work strains have thus been defined as objectivly observable external factors affecting the person in his/her working environment, while claims are the individual, directly following consequences which result from these strains *in* the concerned person. Claims are depending on the individual dispositions and coping strategies this person has. In this connection also the role of individual activities and behavior tendencies has been studied. Schaarschmidt et al (1997, 1999, 2001) thus have identified different strategies for overcoming work loads: healthy and adequate coping, overtaxation of oneself, good care and reduced engagement, or resignation and dissatisfaction.
When speaking of "anxiety" in relation to the workplace in empirical occupational health research, "anxiety" has mostly been discussed in the sense of conventional anxiety. This means there was no differentiation between different qualities of workplace-related anxieties or a differentiation between anxiety in general and workplace-related anxiety. Instead, often scales measuring general anxiety level (e.g. in Bilgel et al 2006; Hobson & Beach 2000; Frese 1999; Turnipseed 1998) were used.
Kittner (2003) suggested a classification of "typical anxieties in the job" which focuses on the

content of anxiety and the objects causing anxiety. He distinguishes theoretically different forms of job-related anxieties: fears concerning existence (including anxiety towards loss of job, aging and illness), social anxieties (towards colleagues and superiors) and anxieties concerning achievement (towards changes, concurrence, responsibility, overtaxation, success). In this context he also refers to workaholism as a possible result of job-related anxiety. Manager-anxieties and gender-related anxietes are mentioned as special forms of anxieties in the job and refer to the social position of an employee.

Another important topic is the impact of mental health problems - often appearing as anxiety disorders - on the workplace, in the sense of economic burden (Langlieb & Kahn 2005; Greenberg et al 1999), or the impact on safety in the workplace (Haslam et al 2005b).

The restriction of work performance and work participation due to mental disorders is a main topic of interest in occupational psychology and ~ medicine. Work participation problems may occur in the form of absenteeism (Martin & Matiaske 2002; Nieuwenhuijsen et al 2006) which describes the phenomenon of loss of work days because of frequent or enduring sick leave. Another problem is presenteeism (Sanderson et al 2006) which leads to reduced work productivity when going to work in spite of being seriously unfit for work (Greenberg et al 1999). This may also go along with an increased risk for accidents**.**

Finally, work factors related to mental and health-related distress among employees with (chronic) illnesses and the role of health-related limitations at work are discussed (e.g. Munir et al 2007).

Towards the description of phenomena concerning *health and psychopathology* in connection with the workplace, several studies from clinical perspective have been carried out (Haslam et al 2005; Buddeberg-Fischer et al 2005; Helge 2001; Hobson & Beach 2000; Turnipseed 1998; Kawakami et al 1996; Brodsky 1988). These phenomena are described in the terms of the well-know conventional mental disorders, e.g. depression or anxiety disorders according to ICD-10 or DSM-IV. The posttraumatic stress disorder has also been studied explicitly in the context of the workplace. (MacDonald et al 2003; Laposa et al 2003; Price et al 2005). Furthermore, there are reports about workplace-related anxiety phenomena in special professional settings (Fehm & Schmidt 2006). Thus the current studies mainly focused conventional anxieties occurring in special professional settings.

A first complex analysis of different qualities of specifically defined workplace-related anxieties has been carried out recently (Muschalla 2005; Linden & Muschalla 2007a).

Workplace-related anxieties play a major role in work absenteeism, sick leave and early retirement (Linden et al 2003). Many patients who present somatic symptoms in explaining why they cannot go to work, in reality are trying to avoid work because of workplace-related anxiety. Although workplace-related anxieties therefore cause enormous costs, research and specific descriptions of workplace-related anxieties and especially workplace phobia are rare (Haines et al 2002; Linden & Muschalla 2007b).

A possible reason for the missing empirical research on the complex phenomenon of workplace-related anxieties may be that there have not been practicable instruments to measure special workplace-related anxieties in their different dimensions. In this context, the self-rating questionnaire *Job-Anxiety-Scale* (JAS) has been developed and tested in a pilot study and a following comparative study with orthopaedic and psychosomatic rehabilitation inpatients (Muschalla 2005; Linden et al 2007; Muschalla et al 2007).

2.2 Workplace-related Anxieties: A Complex and Heterogeneous Phenomenon

In contrast to the approach chosen by Kittner who mainly focused on the situational aspects of anxiety in the job and the releases, this work is based on a clinical perspective of workplace-related anxieties. That means workplace-related anxieties are differentiated by their symptomatologic quality and not only by content and context. The basic approach here is a psychopathological one, workplace-related anxieties are described by their clinical, that is their symptomatic characteristics.

Anxiety in the workplace thus may appear in different qualities: workplace-related posttraumatic stress or adjustment disorder, workplace-related situational fears, workplace-related panic reactions, workplace-related specific and unspecific social phobia and workplace-related generalized anxiety. These different qualities of workplace-related anxiety have been studied empirically (Linden & Muschalla 2007a) and it has been found that it is possible to distinguish these different qualities of anxiety.

Workplace phobia has been introduced theoretically as a phobic reaction and avoidance concerning the workplace (Linden et al 2003; Linden & Muschalla 2007b). The concept has been developed over several years of clinical experience in psychosomatic rehabilitation of

patients with chronic mental disorders. Workplace phobia may result from other primary mental disorders or may be directly occurring together with specific workplace-related anxieties. Understanding the development of workplace phobia is very complicated as it mostly has to be recognized as a syndrome within other basic disorders.
In this work the concept of workplace-related anxieties and workplace phobia shall be investigated again more detailed concerning a differentiation of anxiety-qualities and their relations to accompagnying variables.

According to the clinical approach, anxiety reactions concerning the workplace are not only results of workplace conditions or events, but may occur as a secondary symptom within a basic mental disorder, namely when a specific anxiety reaction manifests in connection with the workplace. In the individual case, there is always a complex process of interactions of personality style, learning history, and the current life as well as the workplace situation.

In the following chapters, the characteristics of different qualities of workplace-related anxieties shall be described more detailed. In this context, an etiology model of workplace-related anxieties and workplace phobia will be presented. Furthermore, the situational factors of the stimulus "workplace" will be regarded concerning their disposition to cause anxiety. Then the question of the nosologic status of workplace phobia has to be discussed as well.
Another point of interest beside the psychopathological level are work participation disorders that may result from workplace-related anxieties. In addition, therapeutic interventions for the treatment of workplace phobia and specific workplace-related anxiety qualities will be mentioned.
Beside workplace-related anxieties, there are some other affective reactions which play a role in the concept – these are entitled "workplace-related adjustment disorders with other affects". Under that heading, posttraumatic embitterment reactions, depressive reactions as well as aggressive reactions will be described in an excursus chapter, and will be set into relation to the concept of workplace-related anxiety.
In the end, the concept of domain-specific mental disorders - for which the introduced workplace-related anxieties are standing as the topic of research - will be summarised concisely. Questions of research concerning the empirical exploration of the theoretically described concepts will close this chapter.

2.2.1 Different Qualities of Workplace-Related Anxieties

Studies on workplace-related mental disorders until now focused on (inter)personal and environmental work conditions in order to explain specific phenomena of mental health problems, but they did not always call these mental health problems explicitly "workplace-related [anxiety or depression or others]" (Moore et al 2001; Ryan & Morrow 1992; Helge 2001; Mezerai et al 2006). Instead, often general terms like "anxiety" or "depression" are used (Sanderson & Andrews 2006; Strazdins et al 2004; Turnipseed 1998; Hansen et al 2006) but without domain-specific predicate.
This work suggests that a distinction is appropriate between conventional anxiety disorders and workplace-related anxieties.

As already mentioned above, workplace-related anxieties develop in different ways and appear in different qualities: They can be posttraumatic reactions resulting from a traumatic event at the workplace, situational fears at the workplace including panic-like physiological symptoms, workplace-related social phobias, workplace-related hypochondriac fears, workplace-related anxiety of insufficiency, workplace-related worrying. Like conventional anxieties known from the nomenclature in DSM-IV or ICD-10, they can manifest on different levels: in emotional, cognitive, physiological and motor (behavior) reactions. In some cases, one or more workplace-related anxieties appear together with a manifest workplace phobia with complete avoidance behavior towards the workplace. It has once been shown that workplace-related anxieties are in some persons expression of primary anxiety disorders, but, in other cases they are genuine forms of separate anxiety disorders (Muschalla 2005; Linden & Muschalla 2007a). Workplace-related anxieties thus may occur within the frame of a basic conventional mental disorder or as a single phenomenon arising in the context of the workplace.

The mentioned workplace-related anxieties have been studied with a structured diagnostic interview in the sense of categorial assessment (Linden & Muschalla 2007a), as well as with a self-rating questionnaire following a dimensional approach (Muschalla 2005; Linden et al 2007; Muschalla et al 2007). The behind lying criteria of the different anxiety qualities are similar in both assessment approaches.

After the study which first introduced different qualities of workplace-related anxieties

(Linden & Muschalla 2007a), the classification now has been revised. Workplace-related anxiety qualities are now described more detailed and differentiated. This revision was necessary because we learned from the first investigation that there were exaggerated anxieties concerning health (introduced here as hypochondriac anxieties) and anxieties concerning achievement (introduced as anxiety of insufficiency) which did not sufficiently fit in the other categories. Furthermore, a category of adjustment disorder has been added, because there were several patients who reported their anxiety reaction began after a specific event at the workplace which was not life-endangering, but nevertheless perceived as extremely stressful by them.

Table 1 gives an overview on the different qualities of workplace-related anxieties with a short definition. This introduces the leading criteria according to which workplace-related anxieties will be explored in this study. They are mainly basing on the definitions of workplace-related anxieties from the previous studies, to which specifications have been added.

The qualities of the cognitive, emotional and physiologic symptoms which constitute the workplace-related anxiety reaction are mainly the same as in conventional anxiety disorders according to DSM-IV criteria. The specifity of any workplace-related anxiety is the occurrence of the symptoms in connection with a specific context, namely the workplace.

Workplace-related anxieties may of course occur comorbid with other conventional mental disorders, also anxiety disorders. Anxiety therefore can be experienced

- in the workplace only, or
- in the workplace and in general life or
- in general only, but not specifically at the workplace.

It has already been shown that workplace-related anxieties may in some cases occur together with, but in others also independently from conventional anxiety disorders (Linden & Muschalla 2007a).

All the qualities of workplace-related anxieties are characterized by subjectively experienced severe emotional burden, that is *suffering,* and/or *restrictions in work performance and work achievements*. Beside the leading symptom, this criterion of suffering and/or work-related activity limitation is the main criterion to state a “diagnosis” of a workplace-related anxiety. The operationalized criteria for stating diagnosis of workplace-related anxieties will be explained more in detail in chapter 3, Methods.

Table 1. Differential diagnosis of workplace-related anxieties and workplace phobia

All the following qualities of workplace-related anxieties are characterized by subjectively experienced severe suffering and/or limitations in carrying out activities at work, in the sense of work performance. Work participation disorders in the sense of avoiding the workplace by short time absence, or sick leave, or quitting the workplace may result from each of the different anxieties.

Workplace-related Posttraumatic Stress Disorder (Workplace-related PTSD)
The person had experienced a special event at the workplace which meant acute danger of life for him/herself or another person. There are repetitive intrusive memories which go along with a re-activation of anxiety. The person avoids the dangerous situation and everything which reminds him/her to the event. There are also physiological symptoms and vegetative arousal, the persons tends to be easily frightened and suffers from irritations in emotional perception.

Workplace-related Adjustment Disorder with Affect of Anxiety (Workplace-related Adjustment Anxiety)
The person has experienced a special stressful event at the workplace (not endangering life) which in the aftermath caused enduring feelings of anxiety or threat for him/her. This event can be a change of colleagues or superior or behavior of a person, or a change in the structure of the workplace, or a change in contents of work. The person has been suffering from unspecific anxiety including somatic symptoms up from the causing event. (compare Workplace-related Adjustment Disorders, table 3)

Workplace-related Specific Social Phobia
Fear towards specific superiors, specific colleagues, specific clients and interaction situations with them, going along with clear signs for avoidance of these specific contacts. In the case of confrontation or thinking of these persons, phobic anxiety symptoms occur in the form of physiological arousal, feeling of anxiety and danger.
There is a clear emotional suffering because of the symptoms or the avoidance behavior. Symptoms are restricted to the domain of workplace and these specific persons. Often this kind of social anxiety is reported in connection with a mobbing experience.

Workplace-related Unspecific Social Phobia
Unspecific anxiety concerning being observed by others while working, perform oneself in front of colleagues, give speeches, or in interaction situations in general. The person tends to avoid these social situations. When confronted with or thinking of these situations, anxiety symptoms are coming up. There is a clear emotional burden because of the symptoms or the avoidance behavior. Symptoms are restricted to persons at the workplace.

Workplace-related Situational Anxiety
Specific anxiety towards special places or situations at the workplace or work duties, e.g. computer work, climbing on a ladder, doing calculations. The person tries to avoid such places or situations at work. When confronted with or thinking of these situations, cognitive and/or physiological anxiety symptoms are coming up. There is a clear emotional burden because of the symptoms or the avoidance behavior. Symptoms are restricted to specific situations at the workplace.

Workplace-related Hypochondriac Anxiety
Idea of having got or fear of getting a physical or health injury because of the work, or the conditions at work, or the work environment. There is increased self-observation concerning physiological symptoms and increased observation of the conditions at the workplace (temperature, stress, noise).

Workplace-related Anxiety of Insufficiency
Anxiety of insufficiency at work means fear of not sufficiently fulfilling the achievements, doing mistakes, fail at work. Anxieties towards changes at work and workplace-related functional or health-related anxieties are belonging here as well. The latter are fears of failing at work because of somatic illness and resulting capacity disorders which lead to work performance disorders.

Workplace-related Generalized Anxiety (Workplace-related Worrying)
Permanent worrying about daily hazzles and minor matters at work, permanent worry the worst thing could happen, permanent occupation with workplace problems even in freetime and the restriction of other activities because of the workplace-related worrying. Workplace-related anxieties towards the future and existence are a special topic of worrying. This may occur with intensified fears of existence and permanent worries about losing the workplace and in consequence losing social status and financial security.

Table 1. Differential diagnosis of workplace-related anxieties and workplace phobia

Workplace Phobia
Clear feeling of fear towards the workplace as a place, and clear signs of avoidance to approach. When confrontation is not avoidable or even when thinking of the workplace, emotional and physiological anxiety symptoms are coming up, such as thoughts of how to get out of the situation, feeling of danger, accelerated heartbeat, trembling, sweating, heatwaves or showers of cold, breast pressure etc. There is a panic-like reaction. There is a clear suffering because of the symptoms or the avoidance behavior. The symptoms are associated with the workplace situation and are therefore domain-specific. Workplace phobia may appear as a secondary symptom resulting from a conventional mental disorder, but it may also manifest as an alone standing mental disorder, regularly co-occuring with different other workplace-related anxieties or workplace-related adjustment disorders.

The different workplace-related anxieties may occur singularly or in comorbidity. For the diagnostic criteria and lists of symptoms in detail regard the semi-structured interview *Mini-Work-Anxiety-Interview* (Mini-WAI) in the appendix.

The first two qualities of workplace-related anxieties - the *posttraumatic stress disorder* and the *adjustment disorder* with anxiety - are event-related by definition. The other qualities of workplace-related anxieties can but must not by definition go along with a releasing event at the workplace. In the case of a releasing event (e.g. new superior in the department starts mobbing an employee), a comorbidity of adjustment anxiety and an other more specifically characterized workplace-related anxiety quality (e.g. specific social phobia) may occur.

Situational anxiety and *social phobia* have to be distinguished carefully: if an employee gets anxiety symptoms only in a weekly meeting in the conference room, no matter which persons are there, but does not react frightened when speaking to the same persons in his/her office, he/she has not a social phobia, but rather a situational anxiety. If an employee gets symptoms of panic whenever meeting his superior, whether in his office or in the supermarket, he has a specific social phobia towards this superior. If he gets symptoms of anxiety and nervousness when meeting or being observed by or working together with any colleague or superior at his workplace, this person would be said to have a workplace-related unspecific social phobia.

Situational anxiety also has to be distinguished from workplace-related *anxiety of insufficiency* and workplace-related *hypochondriac anxiety*: Anxiety of insufficiency is characterized by doubting one´s own capacities, by negative expectations concerning the own achievements, whereas situational anxiety is independent from achievement expectations. Hypochondriac anxiety focuses special environmental factors or work qualities in the sense of "x (condition) at my workplace makes me sick in the way that it causes y (symptoms)!" This

anxiety must appear as exaggerated, that means that the reported symptoms cannot be expected to occur only because of the reported workplace conditions.

Workplace phobia can be seen as a workplace-related anxiety reaction on a special level, namely – in contrast to the other workplace-related anxieties - including the whole workplace. That means the anxiety reaction is not restricted to special conditions, persons or objects only, but includes the workplace as a whole. It is not to be confused with workplace-related *generalized anxiety (worrying)*. The latter has a specific symptom quality, namely constant active worrying about minor matters even if not being at work, whereas workplace phobia is characterized by avoidance and severe emotional suffering and physiologic panic-like symptoms when beeing at, passing by or thinking of the workplace.

The workplace-related *adjustment disorder* has been adopted from the DSM-IV definition of adjustment disorder. This disorder may also appear with an other affective quality than anxiety. Therefore another category has been added which describes other affective reactions released by workplace-related stressful events.
As both the workplace-related adjustment disorder as well as workplace phobia might get a special position within this concept of workplace-related anxieties, they will be described more detailed in the following passages.

2.2.2 WORKPLACE PHOBIA

Definitions of workplace phobia
The first empirical research study mentioning workplace phobia as a term was the study of Haines and colleagues in 2002. In this work the physiological mechanisms of workplace phobia were studied experimentally.
Workplace phobia was defined operationally in this study. The diagnosis of workplace phobia was stated by clinical judgement. Participants were separated in three groups: workplace phobic, work-stressed and non-work-stressed. Criteria for workplace phobia were

- Self-reported intensive fear when approaching or passing the workplace,
- inability to enter the workplace because of severe anxiety symptoms and
- reduction of symptoms when going away from the workplace.

The aim of this study was to determine if a group of individuals who exhibited phobic avoidance of the workplace could be identified in terms of their psycho-physiological and psychological responses to stressful work events. Work phobic, work stressed, and non-stressed control groups' responses to a stressful work event and a neutral event were compared using personalised guided imagery scripts. Each script was divided into four stages to examine participants' responses as they developed during the course of the event. All participants demonstrated increased psycho-physiological arousal and psychological response to stressful work events in comparison with neutral events. The work phobic group demonstrated a markedly elevated heart rate response and subjective reports of fear that distinguished them from the other groups. The development of the phobic avoidance response was discussed by the authors in terms of learning theory.

Another definition of workplace phobia was suggested by Muschalla (2005). This definition had been arisen from clinical experience with patients in a psychosomatic rehabilitation center who suffered from severe anxiety when thinking or being at their workplace: "Workplace phobia can be remarked when certain stimuli concerning the workplace (persons, objects, situations, or even own thoughts and expectations) do in interaction with the person´s personality and (mental health) constitution lead to severe anxiety reactions and avoidance behavior towards the workplace itself. The anxiety reaction occurs when approaching the workplace or even when thinking of the workplace."
This definition now has to be operationalised in order to be investigated empirically in this study.

Etiology and clinical meaning
Underlying anxieties which are involved in a workplace phobia´s development may be multiple and different in their nature. The above mentioned different qualities of workplace-related anxieties are expected to potentially appear together with (or lead to) workplace phobia. From anxieties which have first and originally manifested at the workplace, a complex system of phobic behavior may develop which exceeds the workplace and generalizes. Thus a primary workplace phobia may result in an agoraphobic symptomatic with avoidance of public places going beyond the domain of workplace.
But also the other way is possible: anxiety or other conventional mental disorders might cause special problems at the workplace and trigger severe symptoms of anxiety or even avoidance

behavior in the context of the workplace. In that sense, workplace phobia may appear as a complication of an underlying primary mental disorder.

No matter which way the etiologic course goes, in each case the workplace phobia is always occurring with an own clinical value, as it leads to specific work performance ~ and work participation disorders.

Workplace phobia as a specific phobia

The question now is which status has workplace phobia in the system(s) of classificatory diagnostic of mental disorders. Can it be understood as an alone standing disorder obtaining an own diagnosis, as a kind of specific phobia? Or does it simply appear as an additional symptom in any primary mental disorder, no matter whether this is anxiety or anything else, and therefore has to be subsumed under a diagnosis of a conventional mental disorder?

Regarding the system of classificatory diagnostic, the term "simple phobia" or "specific phobia" comes to mind. According to the DSM-IV (APA 1994), specific phobia (300.29) is defined by the following diagnostic criteria (table 2):

Table 2. Diagnostic criteria of Specific Phobia (300.29) according to the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV).

A. Marked and persistent fear that is excessive or unreasonable, cued by the presence or anticipation of a specific object or situation (e.g. flying, heights, animals, receiving an injection, seeing blood).
B. Exposure to the phobic stimulus almost invariably provokes an immediate anxiety response, which may take the form of a situationally bound or situationally predisposed panic attack.
C. The person recognizes that the fear is excessive or unreasonable. Note: In children, this feature may be absent.
D. The phobic situation(s) is avoided or else is endured with intense anxiety or distress.
E. The avoidance, anxious anticipation, or distress in the feared situation(s) interferes significantly with the person's normal routine, occupational (or academic) functioning, or social activities or relationships, or there is marked distress about having the phobia.
F. In individuals under age 18 years, the duration is at least 6 months.
G. The anxiety, panic attacks, or phobic avoidance associated with the specific object or situation are not better accounted for by another mental disorder, such as Obsessive-Compulsive Disorder (e.g., fear of dirt in someone with an obsession about contamination), Posttraumatic Stress Disorder (e.g., avoidance of stimuli associated with a severe stressor), Separation Anxiety Disorder (e.g., avoidance of school), Social Phobia (e.g., avoidance of social situations because of fear of embarrassment), Panic Disorder with Agoraphobia, or Agoraphobia without history of Panic Disorder.

Most of these criteria describe well the symptomatic which is associated with the concept of workplace phobia. But criterion C, the recognition of the anxiety being unreasonable and exaggerated, cannot be adopted for workplace phobia, as most patients suffering from workplace-related panic and anxiety describe a reason why they are frightened. They usually do not perceive their anxiety as exaggerated. Workplace phobia may be understood as a phobic anxiety disorder in a special context of life with panic-like reactions when being confronted with the stimulus in vivo or in sensu. Workplace phobia is an anxiety reaction concerning the workplace as a whole, not only specific aspects as described with the diverse workplace-related anxiety qualities (anxiety of insufficiency, social phobias, hypochondriac anxieties, situational anxiety, event-related anxieties, worrying). Workplace phobia may function as a marker of generalization of anxiety and thus a marker of severity of a workplace-related anxiety syndrome.

Workplace-related anxiety and workplace phobia may be the primary and single mental disorder in a person, but it may also appear as a special complication of a basic mental disorder which has manifested before the workplace-related anxiety reaction set in. Workplace phobia is not only defined by a special conglomerate or quality of symptoms, but by work performance and work participation disorders resulting from a workplace phobic avoidance reaction.

Avoidance

Avoidance is by definition an important criterion (table 2, criterion D) of phobic anxiety disorders. Avoidance in the context of mental disorders means that a person tries not to be confronted with a certain stimulus which potentially provokes an anxiety reaction. Avoidance is a classical coping strategy in patients with anxiety disorders. In terms of learning theory, avoidance functions as a negative reinforcement: While avoiding confrontation with the feared stimulus, or avoiding situations in which anxiety symptoms are expected, the level of anxiety is reduced for a short time. But, on long term, anxiety is maintained and may even be forced because the expectation of endangerment is lasting. Avoidance as a coping strategy in anxiety disorders thus is dysfunctional as the patient cannot make the experience of being able to stand the symptoms and the risk that the feared expectations might become true, or even that the expected catastrophy does not occur.

In the case of workplace phobia, avoidance is often to be seen in long-time sick leave or even quitting the workplace.

As in the pilot study (Linden & Muschalla 2007a) the different qualities of workplace-related anxiety have been focused, but not workplace phobia itself, the latter will be a new attempt that has now to be carried out.

EXCURSUS A : WORKPLACE-RELATED ADJUSTMENT DISORDERS WITH OTHER AFFECT

In the ICD-10, chapter V, adjustment disorders are described as „states of subjective suffering and emotional dysfunctions which impair social functions and achievements and occur during the adjustment process after an important change in life, a stressful life event or after a severe somatic illness" (WHO 1992).
Adjustment disorders are frequent disorders which are not easily to be treated because of their multiform appearance due to their diagnostic status (Gur et al 2005; Casey 2001). From clinical experience, we know that the stressful life events are often a change in interpersonal relationships, or a somatic illness, or an event in the workplace situation.
Adjustment disorders can present different affective reactions. Often these are depression and/or anxiety, or aggressivity, or a mixture of diverse affects. As a new quality of affect in the context of adjustment disorder, the posttraumatic embitterment disorder (PTED) has been described and studied (Linden 2003): this is a meant as a subtyp of adjustment disorder and often occurs in connection with a stressful event at the workplace which appears to the person as an injustice and injury of his/her central basic beliefs. Possible injustice events at work which may be release for an embitterment reaction can be social conflicts, experiences of mobbing, a sudden notice, degradation or being taken away competencies in the context of structural or personal changes.

Adjustment disorders might be connected to a change in workplace situation or a related event and thus should be included in the study of workplace-related mental disorders. Table 3 shows the short definitions of the different affective qualities of workplace-related adjustment disorders.

Workplace-related adjustment disorders with anxiety are expected to go along with other qualities of workplace-related anxieties. In case the workplace-related adjustment disorder

appears as the primary mental disorder, accompagnying workplace-related anxieties can be seen as secondarily occurring reactions.

Thus workplace-related adjustment disorders may be expected to appear with diverse affects at the same time. There might be a comorbidity of depression and anxiety, but also embitterment and anxiety or aggressivity. Adjustment disorders might also appear with one dominant affect only.

Table 3. Differential diagnosis of workplace-related adjustment disorders

Workplace-related Adjustment Disorder with Affect of Anxiety (Workplace-related Adjustment Anxiety) *The person has experienced a special stressful event at the workplace (not endangering life) which in the aftermath caused a severe feeling of anxiety for him/her. This event can be a change of colleagues or superior or behavior of a person, or a change in the structure of the workplace, or a change in contents of work. The person has been suffering from unspecific anxiety including somatic symptoms up from the causing event.*
Workplace-related Adjustment Disorder with Affect of Embitterment *The person has experienced a special stressful event at the workplace which meant far-reaching insult or injustice for him/her. There are repetitive intrusive memories which go along with a re-activation of embitterment whenever being confronted with associated key stimuli. When not reminded to or thinking of the workplace, the person shows normal affects. The person avoids the embittering situation, person or place.*
Workplace-related Adjustment Disorder with Affect of Depression *The person has experienced a special stressful event at the workplace which caused a depressive reaction with the feeling of helplessness, negative thoughts about the future and oneself in ones role at work, lowered level of activity and engagement in fulfilling one´s work duties. Workplace-related Anxiety of Insufficiency is often accompanying.*
Workplace-related Adjustment Disorder with Affect of Aggressivity *The person has experienced a special stressful event at the workplace which caused an enduring anger reaction. There are repetitive affective states of anger and ideas to destroy something or hurt somebody. The person either avoids the person or circumstances who caused the conflict or searches for confrontation.*

Although this work is primarly dealing with workplace-related anxiety, the topic of adjustment disorders with other affective qualities shall be explored in order to find out whether other affective reactions occuring in connection with stressful workplace events are connected in a similar way with work participation disorders and sick leave.

2.3 ETIOLOGIC PERSPECTIVE

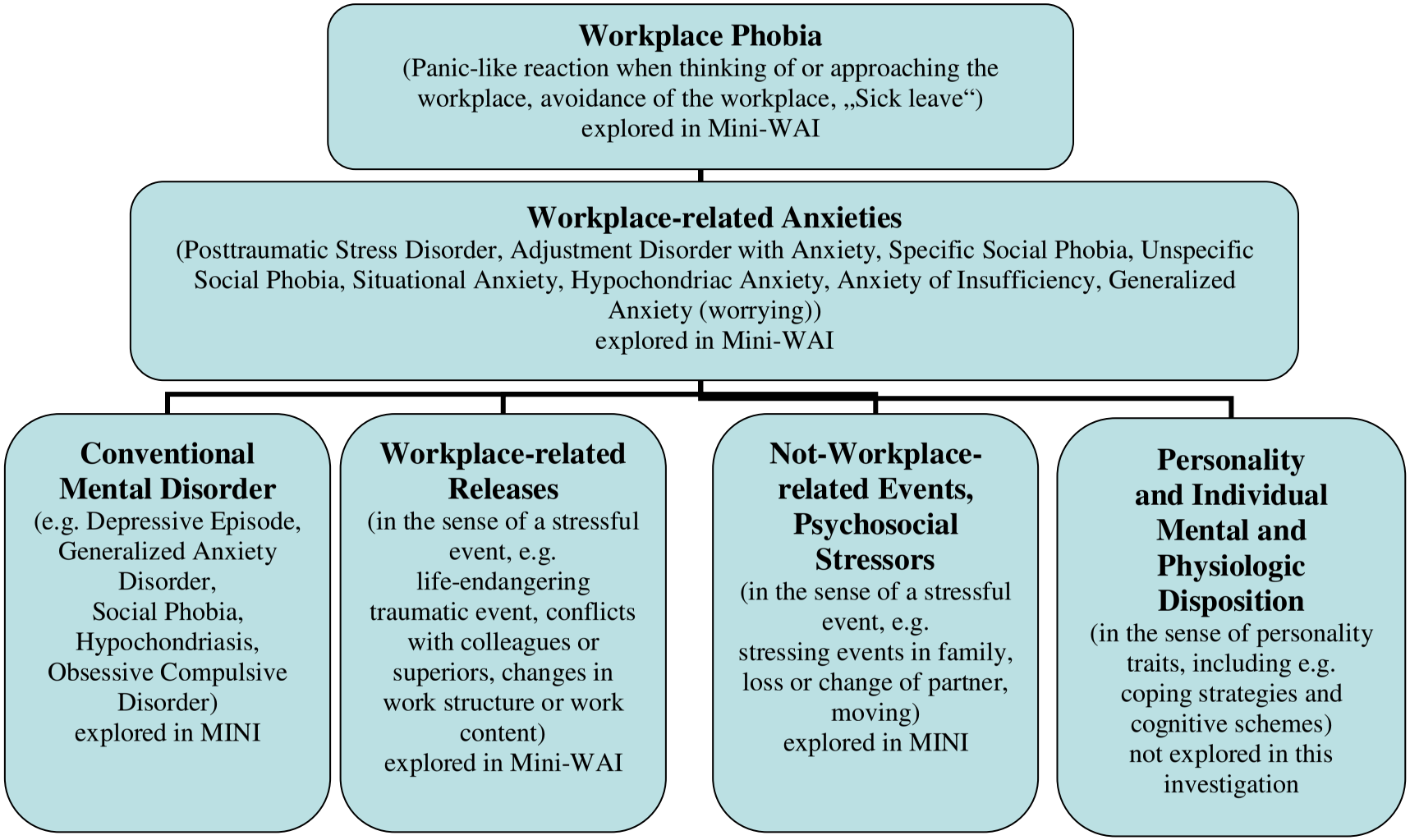
The development of mental diorders is nowadays often described within a bio-psycho-social approach. This is based on the diathesis-stress model, a psychological theory that explains behavior as both a result of biological and genetic factors ("nature"), and life experiences ("nurture"). This theory is often used to describe the development of mental disorders, expecting an interaction of a vulnerable hereditary predisposition, with precipitating events in the environment. It was originally introduced as a means to explain some of the causes of schizophrenia (Zubin & Spring 1977).

Similar multidimensional models have been used for the explanation of the development of workplace-related disorders or work limitations. For example, Ryan & Morrow (1992) have analysed developmental factors of workplace-related disorders like sick building syndromes. They identified both building- (or exposure-) related variables and psychological variables believed to trigger or maintain somatic and neuropsychiatric symptoms. Munir et al (2007) have found that both low psychological well-being and high health-related distress were associated with an increase in work limitations.
For those mental disorders which are by definition connected with a releasing event – that is PTSD and adjustment disorders - the "situational" factor respective the stress-factor is important (e.g. MacDonald et al 2003). But also for mental disorders which do not have to be brought in connection with a releasing event, there have been done attempts to focus this perspective: Mezerai et al (2006) have done so for depression: here it is suggested to regard depression as a workplace accident in the case it can be shown that the depression was triggered by an unforeseen and sudden event due to or at work.

Reasons for workplace phobia can be expected to be various, like in the development of other phobias. A workplace phobia ´s development is expected to be even more complex because of the special stimulus conditions at the workplace. Fundamentally, there are situative as well as individual aspects which have to be taken in consideration when describing the development of workplace-related anxieties and workplace phobia. Demands for achievement and behavior as external factors on the one side ("job strain", e.g. Strazdins et al 2004) and individual competencies and coping stategies as personal factors on the other side (Schaarschmidt & Fischer 2001) have to be seen in interaction. An etiology model for the development of a workplace phobia will be described in the following (figure 1):

Figure 1. Etiology of workplace phobia

In this model personal dispositions (mental disorder, personality and individual disposition) as well as acute workplace-related or non-workplace-related releases and stressors are expected to be in interaction, and unfavourable conditions and dispositions in multiplication may lead to or support the development of workplace-related anxieties and eventually workplace phobia. The assessment instruments mentioned beside (MINI, Mini-WAI) will be introduced in chapter 3, Methods.



According to this model, workplace-related anxieties arise when certain conditions promote the development of these anxieties. That can be either a conventional mental disorder which leads to reduced resilience concerning work demands, or workplace-related releases in the sense of stressful events and changes at work, or other stressful life events which also lead to generally reduced psychological stability and thus increase vulnerability. All these factors must be considered to be in interaction.

Preexisting non-work-related ("conventional") *mental disorders* can give rise to different qualities of anxiety at the workplace. For example, workplace-related anxiety of insufficiency may appear within the context of a depressive episode; workplace-related worrying may be a special expression of a generalized anxiety disorder.

Workplace-related anxieties are often arising after initiative *workplace-related releases* like stressful events (workplace-related adjustment disorders). There may be social conflicts happening at the workplace or the perception of mobbing which may cause anxiety towards certain colleagues or superiors. Beside, changes in work organization, or quality of work may give rise to workplace-related situational anxiety or anxiety of insufficiency.

There might also be *not-workplace-related stressors* in consequence of which the perceived general stress level of a person is rising and anxieties concerning the workplace may be arising more easily. For example: in connection with the death of the partner and the cognition of being responsible for oneself alone, a person could develop anxiety concerning financial existence and workplace-related generalized anxiety in the sense of exaggerated worrying.

The *personality disposition* and behavior tendencies of a person and thereby especially basic believes, attributional systems and interactional habits are another factor which might contribute to the development of workplace-related anxieties in case there is a mismatch between a person´s personality and the work conditions and demands. However, in case a person has adequate coping strategies at his disposal (Schaarschmidt & Fischer 2001) and is mentally healthy and flexible, even stressful events at work must not lead to workplace-related anxieties.

In the single case, the degrees of influence of different etiology factors are varying.

Workplace-related anxiety, although it might first be related to one specific aspect of the work only, may generalize and even affect the whole workplace. In the worst case, the person may try to escape the feared workplace with the help of complete avoidance and may rest on sick leave. In this case, a complex *workplace phobia* has begun to manifest.

Some examples shall illustrate more detailed possible developmental processes in workplace-related anxieties and their interaction with conventional mental disorders or personality dispositions:

Workplace-related Posttraumatic Stress Disorder: Life-endangering events at the workplace, like accidents or a bank robbery can cause the development of a workplace-related stress disorder, whereby intrusions and anxiety reactions are limited to the traumatic workplace-situation. According to the above described model, it is especially the experience of the workplace-related traumatic event which can be identified as the main release of the disorder. In an investigation in workers experiencing PTSD after work injury (MacDonald et al 2003), 82% of the affected had directly experienced the traumatic event while the rest had witnessed the event. A certain vulnerability in the person may contribute to the development of the disorder.

PTSD seems to be connected also to anxiety and depression symptoms and social problems as well: Laposa et al (2003) analysed different forms of work stress in emergency nurses and found that symptoms of posttraumatic stress disorder were significantly associated with interpersonal conflicts and the experience of inadequate support from the hospital administration.

Workplace-related Adjustment Disorders: At workplaces, there is usually low tolerance of deviant behavior. An employee in service, for example, has to be friendly all the time. On the other hand, many people have chosen a profession which fits to their basic personality, like a "serious" book-keeper or a lawyer. In the case the role expectations and work performance cannot be fulfilled any longer - may that be because of personal reasons or because of structural changes at the workplace – there can in consequence arise an adjustment disorder with anxiety or other affective reactions like anger, depression or aggressivity. An example therefore could be a bank employee who has sufficiently carried out his work in the function of a book-keeper for a long time and got problems up from the moment when he was placed into a position in service: here he was not able to always communicate friendly with clients as it was required due to the profile of this job. In this case, a workplace-related release and a special personality disposition can be seen as factors contributing to the development of an adjustment problem.

The event-relatedness is characteristic for adjustment disorders: It has also been stated in reseach literature that certain occupational events, such as major changes in work content or organization may cause or precipate anxiety and/or depressive disorders (Chevalier et al

1996). Adjustment problems can also be expected to result from personality disorders, as an inflexible behavior is the main characteristic of these disorders (see beyond "Personality Disorders").

Workplace-related Posttraumatic Embitterment Disorder: This is a special form of adjustment disorder (Linden 2003). It is described as a special affective reaction following a personally hurting event which often happens in the context of the workplace (mobbing, loss of the job). Examples can be a disparagement by a superior or colleague, the refusal of an outstanding promotion, public disgrace or other events of injustice. The reaction is a feeling of embitterment, subjective perception of insufficiency and helplessness, anger and aggression against the person who caused the injustice as well as against oneself, avoidance of contacts with that "causing person" or with colleagues who were witness of the disparagement. There is a regular tendency to avoid the workplace or even the street or the supermarket in which one could meet colleagues or superiors. This adjustment disorder is seemingly caused by a workplace-related release, namely the traumatic event, but it is also unthinkable without the central injury of specific basic beliefs of the person (personality factor).

Personality Disorders: They are characterized by inflexible behavior in different situations, in the sense of inadequate and enduring distrust, irritability, nervousness, rigidity, obstinacy, emotional distance or emotional instability. These stereotypes of behavior also characterize interactions with superiors and colleagues, and this can lead to problems in social interactions at the workplace. In this case the main reason for maladjustment in most possible workplace situations as well as in other social situations is the inflexibility of behavior. Personality disorders can lead to different mental health problems, mostly affecting the person´s life in general, but eventually in a special way affecting the workplace situation**:** Girardi et al (2007) for example offered an attempt to identify personality characteristics and psychopathological profiles in individuals exposed to mobbing and pointed out to the necessity of longitudinal studies in order to delineate cause-and-effect relationships.

On the other hand, if a person with an accent in personality finds an appropriate workplace and duties which fit his personality trait, he might carry out his work quite appropriately (Cramer & Davidhizar 2000).

Beside personality *disorders*, the aspect of individual personality *disposition* in general should be mentioned as a basic vulnerability factor: There are hints that people who objectively seem

to be well-adaptive to their work requirements might be suffering from vital exhaustion because of overcomittment to work which is due specific unflexible behavior tendencies (Preckel et al 2005). A relation between temperament and job stress was found in Japanese company employees (Sakai et al 2005): it was stated that temperament influences experienced job stress significantly, more than age, gender and job rank. Furthermore, temperament was said to influence interpersonal relationship stressors more than workload-related factors. It was also found that the hyperthymic and melancholic types appeared to be "hyper-adapted" to the workplace.

Social phobia: Social phobic persons react with anxiety when they are forced to expose themselves in social situations. Those persons thus may also get nervous at their workplace when having the idea to be observed while working or when they have to give a report in front of colleagues. Also persons without social anxieties may get fear of special persons at their workplace, often as a consequence of an initial conflict situation at the workplace, often described as mobbing. In the latter case, a specific quality of workplace-related social anxiety has developed due to a workplace-related release, the social conflict or mobbing situation. Nevertheless, here also the coping strategies of a person are an important factor: The appropriateness of the chosen coping behavior (avoidance, confrontation, de-escalation strategies) has an influence on whether a workplace-related social phobia may manifest and even generalize, or whether the person rests healthy.

Agoraphobia: This anxiety disorder is characterized by multiple avoidance behavior, e.g. concerning public places or traffic means. This avoidance behavior can generalise and include special places at the workplace, so that for example a conference room, a scaffold or a vehicle cannot be entered. In the worst case agoraphobia can bring along the inability to overcome the way to the workplace. The other way round, there could have been an event in a special situation at the workplace which was perceived with feelings of anxiety. In consequence, a workplace-related situational anxiety with avoidance may manifest, first concerning the specific situation at the workplace. But this anxiety may be generalizing onto the whole workplace and in the worst case end up in avoidance of leaving the own flat.
Agoraphobia can, but must not be related to workplace-related releases. It is a very complex anxiety disorder where workplace-related releases but also non-workplace-related releases may stand at the origin of the symptoms´ development. In the case a workplace-related anxiety marked the origin of the disorder, the quality of this anxiety should be regarded with

specific attention.

Depressive Disorders: Depression is mostly going along with feelings of insufficiency which may especially in the workplace situation lead to the fear of failure. On the other hand, a reactive depressive episode may occur after an event at the workplace which made the person feel helpless or dissatisfied, like a notice or the announcement of a notice. This could also be understood as a kind of workplace-related adjustment disorder as described above (Chevalier et al 1996, Mezerai et al 2006). In consequence of the event and the maladaptive coping, a depressive reaction with workplace-related anxiety of insufficiency may result, and even generalize towards any other imaginable work situation. Again, possible etiology factors might be a workplace-related relaese but also non-workplace-related releases and of course the individual vulnerability (personality factor).

These examples should have pointed out the fact that there are complicated interactive processes between individual disposition and workplace events and ~ conditions which have to be considered in the development of workplace-related anxieties
Furthermore, workplace-related anxieties may also play an important role in the development of work participation disorders. The concept of work participation disorders is described more detailed in chapter 2.6.

2.4 SITUATIONAL FACTORS: WHY DO WORKPLACES PROVOKE ANXIETY?

The connection between workplace and anxiety has special significance because the structure of workplaces and the organisation of work can be anxiety provoking and be associated with threatening stimuli in special ways:

Demands of achievement and failure of achievement:
Every workplace situation has special demands concerning achievements and behavior. This includes always the possibility of failing. The experience of failing or loosing coping possibilities is an unconditional anxiety provoking stimulus. There can be a real deficit in competency or even the imagination of a possible loss of competency which may cause anxiety.

Accordingly, in the literature we find for example discussions of technology fears in older employees (Beutel et al 2004); Smith et al (1999) report stress reactions in connection with computer interaction in the workplace: these reactions were increased physiological arousal, somatic complaints, especially of the muskoskeletal system; mood disturbances, particularly anxiety, fear and anger, and diminished quality of working life, such as reduced job satisfaction.

Sanne et al (2005) found that high demands, low control and low support in the job are risk factors for the development of anxiety and depression.

The kind of work and achievement seems to be a risk factor for the development of mental disorders as well: It has often been reported that there is a higher risk for employees in human service professions to develop affective and stress related disorders (e.g. Wieclaw 2006).

Nevertheless, concerning hours of work, Hobson and Beach (2000) found in an investigation in a manager population that there was no statistically significant relationship between actual hours of work and psychological health.

Threatening by superiors

Workplaces are usually structured hierarchically, that means there are superiors. Their task is to instruct, supervise and assess co-workers, and therefore also to reward or to punish them. That is why superiors are potentially an anxiety provoking factor by their nature.

In connection with the aspect of superiors, one can also find hints adressed to the management of companies to establish a working atmosphere which makes possible discussing disagreements, also between different levels of hierarchy. Perlow & Williams (2003) conclude that “breaking the silence can bring an outpouring of fresh ideas from all levels of an organization – ideas might just raise the organization´s performance to a whole new level”.

Career and social hierarchy

Also colleagues can be threatening. Human beings are creatures living in herds, there is no formation of a human group without the development of hierarchy, that means there are people with either an alpha-, or a beta- or an omega-position in each group. There are especially rank fights about neighboured rank positions, coming up in the situations of concurrence, like who is going to be promoted, who gets the bigger room, who has to carry out the disliked job etc.

In this context, “The darker side of groups” has been mentioned by Thomas & Hynes (2007). The authors focus on the role of group interaction in the workplace: the impact on anxiety and

group cohesion and on how the manager may recognize negative signs in order to prevent possible social conflicts.

But, in contrast to the possible negative processes that may develop in social interaction at the workplace, there are also warnings concerning the loss of personal face-to-face-interactions at work (Hallowell 1999): while email-communication increases, there is also the risk of social isolation, cause of irritation, misunderstandings. The author concludes that a "strategic use of the human moment adds color to our lives and helps us build confidence and trust at work".

Social conflicts, mobbing

People live together at their workplace in a narrow space, like in an office, and pass most of their daytime together there, maybe more than with their family at home. Therefore it is no wonder that also at the workplace social conflicts are occurring: people like or dislike each other, they support or do not support each other. When there are conflicts and arguments at work, there is often no possibility to avoid these situations - in some cases it can be easier to get separated from one´s partner than from one´s colleagues. This can make conflicts in professional setting in a special way durable and problematic.

Patients in psychosomatic rehabilitation often report mobbing experiences from their workplace. There have been studies on the relation between mental health and bullying at work (Bilgel et al 2006) which found poorest scores on anxiety and depression scales in persons who reported beeing bullied at work. Girardi et al (2007) have studied personality and psychopathological profiles in individuals exposed to mobbing and found two major dimensions: first a passiv-aggressive trait, with depressed mood and difficulty in making decisions, and second a combination of somatic symptoms and need for attention and affection. The relation between dysfunctional workplace organization and mobbing was pointed out in case studies by Albini et al (2003). Yildirim & Yildirim (2007) carried out an investigation in health care nurses exposed to mobbing and found that the most common behaviors exhibited by the participants to escape mobbing were 'to work harder and be more organized' and 'to work more carefully to avoid criticism'. A small number even stated that they 'consider committing suicide sometimes.'

Physical endangerment, danger of accidents

Some workplaces also offer realistic endangerment: work on building sites or in a bank can lead to situations of acute endangerment of life. The relevance of this topic is to be seen in the engagement of professional co-operative associations which offer training seminaries on how

to behave towards a robber in a bank robbery situation. Other professional groups with a higher "threatening potential" are police men, army soldiers (Price et al 2005), fire brigade, teacher or medicines, nurses and psychiatrists. There were studies dealing explicitly with workplace-related posttraumatic stress disorders: resulting from work injury, often happening in the context of armed robbery (MacDonald et al 2003), or in the context of emergency nursery (Laposa et al (2003). In those studies the authors point out to the necessity of further investigation and awareness of administrators towards the extents of workplace stress and PTSD symptoms in their employees. Regarded in a wider context, the topic of physical and nonphysical workplace violence has been discussed and explored in critical care nursery (Alexy & Hutchins 2006).

Beside life-endangering events happening at work, there may be other risk factors for health in the allday work environment: A case report of a specific phobic anxiety related to the inability to smell cyanide in a process operator (Nicholson & Vincenti 1994) illustrated that hazardous substances in the workplace can cause mental disorders in individuals who are unable to detect whether or not a specific hazard is present. Other environmental influences which may contribute to the development of mental disorders are found in cases of sick building syndromes: Nakazawa et al (2005) found that chemical exposure from building materials such as formaldehyde induced a range of symptoms like nausea and headache in an office worker, whereby an increased level of anxiety was related as well.

Endangerment of livelihood

For many people the workplace is the basis for assuring their livelihood. The loss of one´s workplace is often an endangerment of existence. Furthermore, many people define themselves and their social status through their professional identity so that a loss of the workplace is a mental load as well. Even an anticipation of the possibility to loose the workplace or insecurity about extension of contract may cause anxiety: In this regard it was found that both job strain (high demands and low control) as well as job insecurity showed synergistic associations with health, and employees experiencing both had a higher health risk (Strazdins et al 2004).

Also the problem of "downsizing" has been mentioned (Campbell & Pepper 2006): the impact of downszising upon those who survived job cuts and continued working in downsized firms may be destabilizing for the work environment, the remaining employees and the work climate. People react with demoralization, sadness, anxiety and disorientation – whereby these reactions are mostly based on a loss of social cohesion.

After regarding the different factors of influence, the question arises: Which factors might be most important for the explanation of mental disorders related to the workplace?
In a study concerning anxiety at the workplace Koch & Laschinsky (1979) found that "control by superiors", "angry reaction of superiors in the content of failures", the "apprehension not to fulfil the expectation of achievement" and "anxiety concerning the loss of the workplace" correlated with the degree of workplace-related anxiety. Following Bürger & Koch (1995) „demands at work" and „working conditions" stand in front of workplace-related experienced adversely affection, followed by "interpersonal conflicts", "problems with working times" and "threat of loosing the workplace".
On the other hand, explorations have also identified predictors of a healthy workplace in a sample of psychiatrists (Thomsen et al 1998): these "predictors of a positive workplace" were high self-esteem, satisfactory support with work-related problems, lower perceived work load, positive view of leadership, low work-related exhaustion and having a sense of participation in the organization.

2.5 NOSOLOGIC STATUS OF WORKPLACE PHOBIA

In the assessment and diagnosis of illnesses in general and mental disorders in particular one has to make a distinction between symptoms, syndromes and nosologic entities, i.e. diagnostic categories. Diagnoses are hypothetical constructs of disorders which are listed and get a number in ICD-10. They are theoretical constructs or "conclusions" which are derived on the basis of diagnostic algorithms and contain particular symptoms and syndromes. Syndromes are a group of symptoms. They are used to define severity and thresholds. In ICD-10 the B-criteria typically list syndromes. A minimum number is required so that the present status of ill health is severe enough to be qualified as disorder. Instruments to measure syndromes are observer or self-rating scales on depression, anxiety etc (e.g. STAI, Spielberger et al 1981; SCL-90-R by Derogatis, Franke 1995). These syndromes are mostly not illness-specific. For example, it is not possible to distinguish between anxiety and depressive disorders by respective syndrome scales, as they list symptoms which are valid to quantify severity of respective illnesses, but they are still quite unspecific. Sleep disorders, unspecific somatic complaints, feelings of anxiety, or bad mood may be found in depression, anxiety and many

other disorders alike. Finally, there are symptoms, i.e. psychopathological signs. Criterion A in ICD-10 typically demands one or few characteristic symptom(s) which must be present for a certain diagnosis. Psychopathology therefore plays the key role in determining illness.

From the above described context ~ and etiology factors which are important for conceptualising workplace phobia, as well as from its definition, one can draw the conclusion that workplace phobia is a special phobic system more complex than simple phobias. It can often be found as a secondary symptom in the context of different primary disorders. Workplace phobia can result from diverse other qualities of anxiety, which in the end produce a general feeling of anxiety and physiological arousal when thinking of the workplace or approaching. But, in case there is no primary conventional mental disorder, workplace-related anxieties and workplace phobia may also appear as the primary and single mental disorder in person who has been mentally healthy before. In this case, workplace phobia must be expected to be related to a releasing event at work which causes anxiety in the aftermath.

Workplace phobia marks a clinical phenomenon of its own value, with its own special developmental factors and requirements for therapy. Hereby the pecularities of the anxiety provoking stimuli have to be kept in mind:
- The workplace is not a simple marked stimulus like a spider or a tube, but in most cases a very *complex stimulus* with varying situational and interactive elements.
- The avoidance of the workplace regularly has negative *consequences* for the professional and general biographic development of the person.
- The avoidance of the workplace may lead to chronification of the basic disorder, in the way that the perception of insufficiency and imaginations about dangers lead to manifestation of the dysfunctional models the person has in mind.
- The workplace - other than a street or the tube - cannot be entered anonymously at any time. Possibilities of therapeutic exposition training at the workplace are extremely restricted.

Because of these peculiarities, workplace phobias are usually a severe clinical problem, and as a complication of diverse different disorders, they are difficult to treat.
It may happen that within a depressive episode, a secondary workplace phobic syndrome develops while being on sick leave for a long time, and this secondary syndrome maintains even when the depressive symptoms have gone. The workplace phobia has got an own status of a disorder, independently from the depressive disorder. Thus, independent of primary

disorder(s) which the phobia may be based on in the single case, a therapeutic intervention concerning the workplace phobia is necessary. Thus, workplace phobia is not always an alone standing entity of disease in a narrow sense, but a clinical problem of its own value, similar to a school phobia in children (Schlung 1987; Nader 1975). School phobia has not the status of an alone standing illness, but is to be found in the context of diverse behavior problems and disorders like failing school achievements, anxiety disorders, disorders of social behavior or developmental disorders. Nevertheless, it is an educational and therapeutic problem of great frequency and clinical relevance.

With regard to the nosologic system of diseases, workplace phobia can be interpreted as similar to a cerebral insult which may develop in the context of a metabolic syndrome, an arteriosclerosis, a thromboembolie or a tumour. When this sort of additional complication has occurred, a new disease status has arisen which independently from the basic disorder changes the general prognosis. Furthermore, it makes own therapeutic requirements necessary.

Therefore it seems necessary to identify this complication as a workplace-related mental disorder and give it a concrete name, e.g. with an additional diagnosis in the sense of ICD-10, chapter V, "F 40.8: other phobic disorder" – namely: "F 40.8 workplace phobia".

The speciality of this diagnosis is not mainly the quality of its psychopathology, but its occurrence in connection with the complex stimulus workplace and the resulting restrictions in work performance and work participation disorders.

It has to be evaluated empirically now whether workplace phobia is worth to be remarked as an independent diagnosis or not. Should a workplace phobia be subsumed under a (coexisting) conventional mental disorder´s diagnosis, or is it worth to be reported explicitly with an own name?

2.6 WORKPLACE-RELATED ANXIETIES AND WORK PARTICIPATION DISORDERS

Disorders of functioning, capacity and participation

The *International Classification of Functioning, Disability and Health* (ICF, WHO 2001) differentiates between (a) disorders or impairments of functioning: a synonym for symptoms

and psychopathology, and (b) disorders of capacitiy: activity limitation, difficulties in executing daily duties. These disorders of capacity may lead to (c) participation disorders in different domains of life - e.g. in allday life, social relationships, family, work as well as freetime behavior - in the sense that role performance in a special domain cannot be fulfilled sufficiently or the concerned domain cannot be entered.

Workplace-related anxieties go along with subjectively experienced restrictions in carrying out work duties adequately, as well as severe suffering from the symptoms. Some examples shall now illustrate the interaction of the three levels - workplace-related symptoms (functioning), activity (capacity), and work participation/work performance. *Work performance* in this work will be understood in the sense of adequately carrying out one´s work duties, whereas *work participation* means the general aspect of coming to the workplace and staying there during the working day, independent from the fact whether work duties (thus work performance) are fulfilled adequately.

For example, a workplace-related generalized anxiety with worrying during all the working day, concentration problems and high inner tension (symptoms, disorder of functioning) may lead to problems of finishing one´s work in time (work performance disorder) as there are many unnecessary extra-activities carried out during the working process, e.g. repeatedly controlling works that were already finished, or keeping attention on details that not necessarily have to be done, or beginning several things at once and loosing overview (activity limitation, disorder of capacity).

A workplace-related specific social phobia an employee has towards a special colleague might bring along the problem that he decides not to go the team conference (activity limitation, disorder of capacity) in order to avoid trembling and sweating (symptoms, disorder of functioning) when being confronted with the colleague; in consequence he misses information exchange and therefore cannot complete the own work sufficiently (work performance disorder).

In both examples, general work participation as defined above can also (but must not) be restricted: namely in case the person cannot tolerate symptoms and resulting activity limitations any longer and stays away from work on sick leave (work participation disorder).

A workplace phobia is characterized by panic-like reaction with heartbeat, trembling and sweating (symptoms) when only thinking of or approaching the workplace. As any qualities of workplace-related anxieties may occur together with workplace phobia, there are different work performance problems which can be expected, may that be in carrying out specific work

duties, entering specific places or meeting specific people at work. Workplace phobic employees are often on long time sick leave, they maintain avoidance strategies and cannot imagine return to work. Thus they do not even have work performance problems mainly, but they are often completely restricted in work participation which appears as (long time) absence.

Work performance and work participation

There are different levels to be distinguished when regarding work performance and work participation disorders. In the above-described examples with work performance disorders resulting from workplace-related anxieties, these performance disorders did not result in complete work participation disorders in the sense of avoidance of the workplace itself. The latter is to be seen when a person stays away from work because the anxiety has reached a level which subjectively cannot be tolerated any longer.

Work participation disorders can be described on different levels of severity, starting with staying away from work for a short time (not more than some days), or being on sick leave certified by a medicine, or quitting or loosing the job because of the symptoms and resulting work performance and/or participation disorders.

It is not easy to define "generally valid" criteria for assessing work performance disorders resulting from workplace-related anxieties: There are various role profiles according to different professions. Instead, similarly as for work participation disorders, there must be a measure for work performance disorders that might fit for all professional groups.

Work participation disorders in research literature

Regarding literature, there can be found regularly explorations and discussions of work participation disorders in connection with mental health. Often the participation disorders resulting from mental disorders are described with the help of objective indicators like sick leave durations and lost work days or rates of return to work:

Munir et al (2007) have focused on work factors related to psychological and health-related distress and their impact on work limitation, whereby long-term sickness absence was found to be associated. Nieuwenhuijsen et al (2006) were searching for factors predicting sick leave durations in patients with common mental disorders. Workplace-related posttraumatic-stress reactions may result in severe participation disorders, MacDonald et al (2003) found that only 43% of 44 PTSD-suffering employees returned to their job. In another study (Laposa et al

2003) it was found that 20% of PTSD-affected emergency nurses considered changing their jobs as a result from the trauma.

Beside *absence* from work, the phenomenon of restrictions in work performance due to mental disorders in general and work-related distress reactions in particular has been focused. Thus work safety (Haslam et al 2005) has been found to be associated with anxiety and depression in the workplace.
The problems associated with "presenteeism" – which is the phenomenon of lost productivity from attending work when unwell – have to be mentioned here as well: presenteeism has been stated to be a "largely hidden cost of mental disorders in the workplace" (Sanderson et al 2006). The problem of this concept is that there are hardly objective criteria to be found, and there has not been consensus on the optimal self-report measures to use. Interestingly, in the case of "common mental disorders in the workforce" within an epidemiological study (Sanderson & Andrews 2006) it was stated that "depression and anxiety were more consistently associated with presenteeism than with absenteeism".

As mental disorders do not only affect the individual but - in the case of work participation disorders and unfitness for work - the society as well, there is a second perspective which should be mentioned here by the way: This approach aiming at characterizing the consequences of mental disorders onto the society is the *economic perspective*. Under this perspecitive, the interest was lain on examining the treatment costs and frequencies of health care service use which result from mental disorders (Greenberg et al 1999). Anxiety and depression in general are costy in the workplace (Langlieb & Kahn 2005), and within anxiety disorders especially posttraumatic stress disorder and panic were found to have the highest rates of service use.

Defining work participation disorders

The phenomenon of work participation disorders has to be focused in a special way in an empirical study dealing with workplace-related mental disorders. Especially as in phobic anxiety disorders one of the main criteria is avoidance behavior towards the feared stimulus, one can expect workplace-related anxieties to occur together with very specific avoidance – towards the feared work situation (in the case of workplace-related situational anxiety), colleagues or superiors or clients (in the case of workplace-related social phobias) or – in the

case of workplace phobia – the whole workplace as a site. Thus workplace phobia can be expected to regularly result in absence from work, that may be in the form of sick leave - which may also result in longtime absence - or even in finally losing or quitting the workplace.

There is another speciality concerning workplace-related anxieties and resulting work participation disorders: They may faster than conventional anxieties lead to negative consequences, because the workplace is an area where one mostly cannot simply decide to "avoid" special places or persons. Compared with the allday life outside the workplace, in those non-workplace domains it seems to be easier to avoid the feared situations (e.g. the supermarket) and find alternatives for coping (delegating the purchase to the partner) or support in one´s social sourrounding. This is due to the fact that in the non-work domain there are usually not so many obligations one has to follow in a certain manner like at work. Furthermore, the personal freedom for own decisions is wider. Finally, the non-work domain mostly does not impose negative consequences which can soon be existentially relevant, in contrast to the working domain where avoidance and absence is not tolerable as it leads to reduction of work productivity and thus causes costs for the firm.

In conclusion from these different suggestions, one should remember that, in the introduced concept, workplace-related anxieties are expected to cause specific workplace-related functional impairment and activity restrictions which become observable in resulting participation disorders. The criterion of subjectively experienced suffering and/or restrictions in carrying out work duties or daily work activities is one of the main criteria of the diagnosis itself. As this general criterion does not differentiate precisely the two levels of work participation and work performance disorder, these aspects should be explored additionally in detail.

Therefore, "work participation disorders" will be understood as "absence from work" in the following empirical investigation. They appear in a different manner and with different levels of severeness:

- in the form of short time absence for some days without having consulted a medicine, or
- in sick leave times authorized by a medicine, whereby the sick leave must be directly connected with the workplace-related mental problem, or,

- in the worst case, the loss or change of a workplace due to the workplace-related mental disorder.

Defining work performance disorders

As it has been pointed out in the literature (Sanderson et al 2006), it is hard to find consensuable criteria to define self-reported work performance disorders. There could be imagined many different possibilities for in which manner *work performance disorders* may appear at different workplaces. The profile of the work itself and its requirements for the employee´s achievements – thus the context variables – must be considered when defining work performance ~ and work participation disorders: The "professional role" of a person offers the relevant criteria for deciding whether a work performance or work participation disorder does occur or not.

The diagnostic criteria for workplace-related anxieties being stated as a diagnosis include as one obligatory aspect either general restrictions in carrying out work duties and/or suffering from the symptoms. In addition to this global criterion, the quality of work performance disorders could be specified, similarly to the specification of work participation disorders. In an investigation carried out over diverse professional groups, there must be an operationalisation for work performance disorders which allows comparability over different professional settings and domains of work, and which is independent from the content of the work duties. Hereby the general phenomenon of working overtime seems to be an adequate operationalisation. Working overtime is often reported by patients as a strategy to cope with perceived own capacity disorders and activity limitations.

In the literature, working overtime has often been seen as a factor of influence concerning mental health. But it has been expected to be an external factor influencing the mental health state of an employee more than being an individual strategy for coping with problems of work achievement. For example, Uehata (1991) explicitely pointed out that Karoshi, meaning fatal attacks by overload, was one of the work-related diseases mainly triggered by long working hours. But there are also investigations pointing out there is no or only low connection between working hours and mental health: Nishikitani et al (2005) found that although overtime work was associated with physical and mental complaints, sleep duration and the job strain index seemed to be better indicators for physical and mental distress in overload workers. Similarly, Hobson & Beach (2000) had found there was no relation between actual hours of work and psychological health in a sample of managers.

In this work, it is expected that working overtime is not only an organizational and thus external work load factor, but can also be seen as a coping strategy in order to reduce anxiety or cope with the consequences workplace-related anxieties may have concerning fulfilling daily work duties.
In clinical practice we have seen that patients with workplace-related anxieties often report to work overtime or delegate work duties to colleagues: the latter in order to avoid the feared work situation or duty itself, the first in order to reduce anxiety of insufficiency, or working overtime is necessary in order to compensate time of work which have been lost because the person was occupied with the symptoms.

In the context of this work, both

- working overtime and
- delegating works to colleagues

will be regarded as possible forms of work performance disorder.

2.7 THERAPY INTERVENTIONS

The treatment of workplace phobia has to follow two intervention aspects: On the one side the basic disorder or anxiety has to be treated. As there is much literature for the treatment of any mental disorder, this should not be explained in detail here. But on the other side, the workplace phobia itself has to be treated. This is due to the fact that workplace phobia is a secondary syndrome resulting from a primary releasing event and/or a specific basic mental disorder and appears with a special behavioral problem, that is the workplace-related avoidance reaction. In this context one must be aware that in each treatment of phobia the exposition treatment is a necessary part (Hand & Wittchen 1988; Linden & Hautzinger 2005). The special problem about the therapy of workplace phobia is that exposition exercises with graded approaching are difficult or even impossible to be realised. Even if it seems possible, the external circumstances at the workplace cannot be controlled by the therapist so that a planned and therapeutically dosed exposition is not possible. Under such insecure conditions there is even the risk of strengthening the phobia.

Generally utile therapy techniques are descriptions and analysis of situations and behavior, the

development of coping strategies, the revision of self-imposed demands, principles of reframing and anxiety management, clearing of conflicts or exposition in sensu (Linden & Hautzinger 2005). A specific therapeutic instrument may be a "therapeutic working trial" in the sense of a professional capacity test ("Berufliche Belastungserprobung") which has been brought in in several psychosomatic clinics in the recent years (Beutel et al 1998; Hillert et al 2001; Linden et al 2003). The idea is to send patients on a hospitation in chosen co-operating firms and other workplaces similar to the professional setting in which the patient´s problems occurred. This therapeutic working trial seems to be useful especially in the case of workplace-related anxieties which have extended over one special workplace and have generalized to any other possible workplaces.

2.8 Concept of Domain-Specific Mental Disorders

The concept of workplace-related anxieties requires special attention on the developmental circumstances of the disorder: has the disorder only arisen in the context of the workplace (that means has the person not been suffering from an acute conventional mental disorder before) or were there any manifest mental disorders before which could have contributed to the current workplace-related disorder in the sense of a vulnerability factor.

There have already been attempts from other research groups to discuss domain-specifity of mental disorders. Thus workplace-relatedness of specific mental problems has been discussed and explored for several different concepts:
Mezerai et al (2006) have pointed out to the meaning of depression as a result from a workplace event. This concept shows parallels to the above described workplace-related adjustment disorder which in our concept is expected to occur after a stressful event at the workplace and may present in a depressive affect. However, the authors state the idea that there are special risk factors for mental health to be found in the workplace: work overloads, defective communication role conflicts, competitive climate, and tolerance of violence. For a depression recognised as a workplace accident, the employee must show that it was triggered by an unforeseen event due to or at work. The symptomatic goes along with substantial deterioration in functioning at work, that is fulfilling work performance.

Another example for an approach to constitute general versus domain-specific disorders has been given by Moore et al (2001) who dealt with the problem of general and job-related alcohol use. In this study, the authors examined the prevalence and correlates of both general and workplace-related drinking measures using data from a telephone survey of 673 workers in a large municipal bureaucracy. They tested the hypothesis that observed differences across job categories can be explained by compositional difference in terms of demographic variables known to be related to drinking behavior. Results suggest that such factors account for much of the variation in general drinking measures (prior-28-day quantity, CAGE score, indicating risk for dependence), but that significant variation in a workplace-related drinking measure (times ever drank before, during, or just after work) remains even after such factors are controlled.

Beside the conceptualisation of work-related disorders, there are also attempts to develop domain-specific workplace-related treatment forms like a computer training for older employees suggested by Beutel et al (2004): A computer training program was developed specifically oriented towards middle-aged employees, their learning needs and their computer-related fears. This program was based on a pilot study showing a high degree of stress associated with the introduction of computer technology at the workplace in this age group (50-59 years). A survey of 623 patients confirmed that these persons experienced technological change predominantly as disadvantageous or threatening. Participation in the computer training reduced avoidance behaviors and fears, and increased interest and initiative.

The awareness of domain-specifity of mental disorders seems to become popular and leads to more differentiated diagnostic and domain-specific treatment approaches.

When discussing domain-specifity in this work it is meant that

- the “domain-specific disorder” is related to special situational conditions from which the “disorder in general” can be independent
- the “domain-specific disorder” appears similar to the conventional disorder in its symptomatic qualities (and eventually on the first view seems to be “the same”)
- the “domain-specific disorder” can be defined by the consequences of the symptoms in the special domain: workplace-related anxieties thus cause suffering, work performance and work participation disorders
- the “domain-specific disorder” has special requirements for treatment.

In this work it shall be explored empirically whether workplace-related anxieties and workplace phobia can be understood as domain-specific disorders in the sense of this definition.

Syndromes or disorders?

Disorders are concepts of diseases and are named with a certain diagnosis. A syndrome is characterized by a special arrangement of symptoms, that means symptoms occurring at the same time. A syndrome can be a part of diverse disorders. Syndromes do not allow differential diagnosis. They are a marker of severity of the disorder.

Throughout the following text it will be spoken of "workplace-related mental disorders" or "workplace-related anxiety disorders" and "conventional mental disorders". The nosologic status of the theoretically introduced workplace-related mental disorders has to be explored empirically in this investigation. It will be seen from the results whether workplace-related anxieties, adjustment disorders and workplace phobia can be distinguished from conventional mental disorders.

Within this exploratory study, the main attention will be set on categorial diagnostic findings from structured diagnostic interviews. Data from a self-rating questionnaire on job-anxiety will be used as additional information in the exploration of the phenomenon. As self-rating questionnaires do not allow stating a diagnosis, these data can be understood a subjective rating of severity and thus describing the syndrome of job-anxiety a person perceives. In the following chapter the operationalisation of workplace-related anxiety and adjustment disorders will be described in detail.

2.9 SUMMARY OF THEORETICAL BACKGROUND AND RESEARCH QUESTIONS

2.9.1 SUMMARY

There is a lack of research regarding the interface between occupational and clinical psychology and ~ medicine concerning the topic anxiety in the context of work.

Workplace-related anxieties are expected to appear in different qualities: workplace-related posttraumatic stress disorder, workplace-related adjustment disorders, workplace-related situational anxiety, workplace-related specific and unspecific social phobia, workplace-related

hypochondriac anxiety, workplace-related anxiety of insufficiency, workplace-related generalized anxiety and workplace phobia. The common characteristics of all workplace-related anxieties are subjectively experienced severe suffering and/or restriction in fulfilling daily duties at work, thus activity limitation. This may be seen in specific work performance disorders like working overtime or delegating work duties to colleagues. Workplace-related anxieties may also be connected with work participation disorders in the sense of absence from work or quitting the workplace as a result from the experienced symptom load.
Workplace phobia is a complex phobic reaction towards the whole workplace as a stimulus. Patients with workplace phobia get into states of physiological arousal when thinking of or coming near their workplace. Avoidance is a frequently used strategy for reducing the symptoms and anxiety level. Avoidance in workplace phobics is often realized with a medical sick leave certification. Workplace phobia thus can be expected to have a special clinical value. It is a new quality of disorder which leads to existentially important consequences.
Workplace-related anxieties and workplace phobia may arise within the context of a conventional mental disorder a person has been suffering from before, but they can also occur as the primary and single mental disorder. The latter can especially be expected to occur in the context of workplace-related adjustment disorders which appear after a special stressful (but not life-endangering) event that has happened at the workplace.

2.9.2 QUESTIONS OF RESEARCH

This work aims at presenting a concept of domain-specific mental disorders – namely workplace-related anxieties and workplace phobia. It has to be shown that workplace-related anxieties are something different than conventional anxiety disorders.
Thus workplace-related anxieties are explored in their relation to conventional anxiety disorders and other mental disorders. Therefore both workplace-related mental disorders as well as conventional mental disorders shall be assessed in patients from a psychosomatic rehabilitation center. Workplace-related anxieties shall also be analysed in relation to accompagnying socio-demographic and work context variables.

In the theoretical background, several aspects have been described which are expected to give evidence for the specific nosologic status of workplace-related anxieties: the qualities and comorbidity pattern of workplace-related anxieties, their relevance for work participation

disorders, their etiology and treatment requirements, as well as certain conditions which can make workplaces become anxiety provoking stimuli.
Keeping these aspects in mind, the following questions of research are arising:

Questions of research:

1. Are *workplace-related anxieties* always occurring together with conventional anxiety disorders or *can they manifest* as *a primary and single anxiety disorder*?
2. Is it possible to distinguish empirically between *different qualities of workplace-related anxieties*? Which comorbidity pattern can be seen in workplace-related anxieties?
3. Do different workplace-related anxieties have different effects on *work performance* and *work-participation*?
4. Which *variables are related to workplace-related anxieties*: gender, age, general psychosomatic symptom load, profession, degree of self-experienced influence and control on the work, cognitive fitness? Are there any hints towards what might be risk factors for high experienced job-anxiety?
5. *Excursus A:* Are there special characteristics to be found in patients with *workplace-related adjustment disorders* with other affects than anxiety?
6. In which way does *workplace phobia* manifest? Which kinds of workplace-related anxieties appear together with workplace phobia and which do not? Is workplace phobia always appearing together with other workplace-related anxiety qualities?
7. According to an *etiologic perspective,* do participants perceive their workplace-related or their conventional mental disorders being the primary disorder*?*
8. Do patients with (different qualities of) workplace-related anxieties get (different) *work-specific treatments* in psychosomatic rehabilitation?

The contents of these questions will be operationalized methodically and investigated empirically in the following chapters.

3 METHODS

According to the questions of research, an exploratory study on workplace-related anxieties and adjustment disorders as well as conventional mental disorders has been carried out in an unselected inpatient population of the Rehabilitation Center Seehof, department of Behavioral Therapy and Psychosomatics. Instruments were (semi-)structured diagnostic interviews and self-rating questionnaires.
The socio-demographic and professional characteristics of the sample of participants will be described in this chapter as well as the clinical setting in which the study was done. Next the study design will be introduced including brief descriptions of the used instruments.

A glossary containing all the relevant concepts and definitions of terminology which are used throughout the manuscript can be found in the end (8).

The data reported and discussed in this work are a part of a broader investigation within a research project on "workplace-related anxieties in psychosomatic and cardiologic rehabilitation inpatients" supported by the German pension fund.

3.1 SAMPLE

The sample of the study included 230 inpatients from the Department of Behavioral Therapy and Psychosomatics of the Rehabilitation Center Seehof who participated in the diagnostic interview. 71% of the interviewed were women. With an average age of 46 years, they were a bit younger than the male participants who were aged on average 48.
In table 4 characteristics of occupational situation and sick leave duration in the sample are shown.
Patients coming to the clinic are mostly associated with the German pension fund. Accordingly, 94% of the participants were employees in their current or last professional setting. 25% of the explored patients were out of work at the time of their stay, the rate was higher in women than in men. 66% of the patients had a professional education. Only 6% had no professional certificate, 24% in contrast had a university diploma.

Men were more often working in technological domains (38, whereas women were mainly employed in office jobs and public service domains (30%) and health care professions (18%). The severity of illness and chronicity with which many patients were coming into the rehabilitation were also to be seen in the duration of unfitness for work: 40% of the patients were on sick leave before the stay, 25% even longer than 20 weeks.

Table 4. Socio-demographic data and characteristics of the occupational situation in the sample of psychosomatic inpatients (*N*= 230)

	Men		**Women**		**All**	
N	66	28,7%	164	71,3%	230	100%
Age in years						
M	48,4		46,3		46,9	
SD	9,6		8,85		9,0	
Range	28-66		21-61		21-66	
	N	**%**	**N**	**%**	**N**	**%**
Professional status						
Professional education	35	53	116	70,7	151	65,7
Master of profession	9	13,6	0	0	9	3,9
University diploma	20	30,3	36	22	56	24,3
Without professional education	2	3	11	6,7	13	5,7
In professional education/studies	0	0	1	0,6	1	0,4
Current or last profession						
Labourer	0	0	4	2,4	4	1,7
Blue collar-worker	2	3	1	0,6	3	1,3
White collar worker	55	83,4	154	93,9	209	90,9
High qualified leading employee	6	9,1	2	1,2	8	3,5
self-employed	3	4,5	3	1,8	6	2,5
Current professional situation						
Working fulltime	45	68,2	74	45,1	119	51,7
Working parttime	1	1,5	35	21,3	36	15,6
Unemployed	15	22,7	42	25,6	57	24,7
Pension on time	2	3	6	3,7	8	3,5
Pensioner and working	1	1,5	0	0	1	0,4
Others (housewife/man, in professional education, professional reintegration, 2nd labour market)	2	3	7	4,2	9	4,1
Professional domain						
Industrial production, technology and manufacturing	25	37,9	11	6,7	36	15,7
Health care services	4	6,1	29	17,7	33	14,3
Education and culture	7	10,6	15	9,1	22	9,6
Trade, market, bank, insurances	17	25,8	56	34,1	73	31,7
Office and administration	11	16,7	49	29,9	60	26,1
Others	2	3	4	2,4	6	2,6
Duration of sick leave last 12 months						
None	9	13,6	38	23,2	47	20,4
Up to 2 weeks	9	13,6	19	11,6	28	12,2
>2-6 weeks	9	13,6	34	20,7	43	18,7
>6-20 weeks	12	18,2	30	18,3	42	18,3
>20-52 weeks	27	40,9	43	26,2	70	30,4

3.2 CLINICAL SETTING

Psychosomatic patients are on rehabilitation stay in the clinic on average for six weeks. The program consists of single- and group-psychotherapy which are carried out by medicines and psychologic psychotherapists in co-operation with sport-therapists, social workers and ergo-therapists. Therapists are working together in a team, that is why all therapists know the specific problem of each patient; the coordination of the treatments and their contents for a patient is done in team conferences.

In the context of the individual management of workplace problems and in view of professional reintegration there are, if necessary, intensified contacts with social workers, practical working-expositions at real workplaces outside the clinic in the sense of a "therapeutic working trial", and as additional group therapy there are offerts of indicative work-specific groups concerning the topics "time management", "conflict management at the workplace", "profession and chance" (a job application training). All these groups are focusing current practical work-related issues.

Work-specific group therapies

Work-specific therapy modules are additional treatment modules added to the two single and two group psychotherapy modules each patient gets in the usual treatment program. There are three work-specific group therapies: conflict management, time management and a training for job application.

The "*conflict management"* group is a training program for better getting along with conflict and "mobbing" situations at the workplace using role plays and offering verbal strategies to improve the own communication style.

"Time management" aims at patients who have problems with the amount or structure of their work and have difficulties in organizing their daily duties. They should learn to identify possibilities of reducing unnecessary activities like exaggerated controlling, or learn to make lists of priorities or "saying no" adequately when being overtaxed with additional work by colleagues.

In the *job application training* called "profession and chance" patients are participating who are currently out of work or who plan to quit their workplace and search a new one. Contents of this group are developing application materials, as well as training for application talk situations in role plays.

There is the possibility to take part in all of the work-specific groups parallel or with shift in time during the 6-weeks rehabilitation stay. Patients participating in a work-specific group have been introduced to it and advised by their psychotherapist in single setting. The group programs usually start some days after the patient has arrived.
Concerning the single therapy setting, it may be possible that work-related problems are treated as a topic in the single modules with the psychotherapist or with a social worker or in both single therapy settings.

Therapeutic working trial
Patients with severe work participation disorders, whether they have a workplace or not, have the possibility to take part in a therapeutic working trial. This is a specific form of individual exposition training carried out at a real existing workplace, but under protective conditions: The trial is prepared by therapists during the course of a patient´s rehabilitation. The administrators of the firm in which the trial takes place are informed about the therapeutic aims. The duration of such practical trials is ranging from one day to a week, with difference in working hours per day. Patients go into the exposition with a certain task according to their very work performance ~ and participation disorder, in order to either train specific capacities or for diagnostic reasons. Therapeutic working trials are carried out in firms near the clinic, for example in a tea-shop, in the clinics cuisine, or in a nursery.

3.3 STUDY DESIGN AND DATA COLLECTION

In the context of the study, 230 patients from the Department of Behavioral Therapy and Psychosomatics of the Rehabilitation Center Seehof in Teltow were interviewed concerning their subjective experience of workplace-related disorders and conventional mental disorders.
Data were assessed with the help of the following instruments which in the following will be described in detail.

- The structured diagnostic interview *Mini International Neuropsychiatric Interview* MINI (Sheehan et al 1994)
- the adopted version for the assessment of workplace-related anxieties and adjustment disorders *Mini-Work-Anxiety-Interview* (Mini-WAI, Linden & Muschalla 2007a)

- the *Job-Anxiety-Scale* (JAS, Muschalla 2005; Linden et al 2007) for the assessment of severity and quality of experienced job-anxiety
- the self-rating scale *Symptom-Checklist* SCL-90-R (Franke 1995) for the assessment of general psychosomatic symptom load, including three dimensions of anxiety: phobic anxiety, social insecurity, general anxiety.
- Additionally, data which were assessed in the clinical routine as well as free text data from the medical reports were used for analysis: routine diagnostic contains the intelligence test *Intelligence Structure Analysis* ISA (Bulheller et al 2002) and socio-demographic data as well as work-related variables. From the medical report information about patients´ participation in different therapy modules can be derived.

Data collection was carried out in the time from the middle of December 2006 until the end of April 2007. It was a standardized process, in which participants were all recruited in the same way and the study interview was in each case done in the same scheme with the same questions.

Participants were patients from the clinic. The interview was the only situation in which participants met the interviewer. All patients admitted in the Department of Behavioral Therapy and Psychosomatics were potential participants. The patients were first informed about the sense of the study and the voluntarity of participation with an information paper they got at the day of arrival, then they were invited by phone to take part in the study. They were told that there will be a diagnostic interview of 30-45 minutes of duration dealing with general and work-related symptomatics, and that they will be given a questionnaire to fill in after the interview.

The interviews were all carried out by the author of this thesis. She is psychologist and working as psychotherapist in the Department of Behavior Therapy and Psychosomatics and carried out the study beside her allday clinical work. She is trained in diagnostic of mental disorders and execution of the structured diagnostic interview. Only those patients were included who were not simultaneously patients of the interviewer.

All participants were interviewed in a single conversation setting. In the beginning, they were told about the content of the study, about the aim to find out which kinds of symptoms occur in the patient and in which domain they are experienced: whether in general, that means in all life situations including the workplace, or only at the workplace, or only in situations outside the workplace.

Participants were then instructed to answer the following questions concerning different symptoms by saying „Yes“ or „No”, depending if the patient currently suffers from it or not. In the course of the interview, the interviewer had to ask for differentiation of the situations and domains in which the symptoms had manifested. If there were difficulties in understanding, the content of the questions was explained freely by the interviewer. It had to be made sure that the patient answers the questions according to the specific context (domain of workplace or domain of general life outside work).
After the interview, the participants were given the questionnaire and the interviewer explained its structure.
Concrete formulations like “anxiety” or “workplace-related anxieties” were avoided throughout the instructions and the interview. Participants who were interested in the results of the study were given the email-address of the research group to ask for information after the study is finished.

The interview was done once in the beginning of a patients stay, that means latest until the fourth day after admission. The self-rating questionnaire containing a part of socio-demographic data, *Job-Anxiety-Scale* (JAS) and the *Short Questionnaire for Job Analysis* (KFZA) (Appendix B) was given to the patients right after the interview. One week before the end of their stay, only the JAS was given to the patients again. There was on average a period of five weeks between the two ratings and this period can be expected to be acceptable for measuring possible changes in the degree of job-anxiety symptom load.

3.3.1 Socio-demographic and Additional Data from the Routine Diagnostic and Medical Report

Routine diagnostic questionnaires and test
Patients go through routine test diagnostic in the beginning and in the end of their rehabilitation stay. This includes questionnaires on symptoms and a test of cognitive performance, presented in PC versions.
Beside some other self-rating questionnaires, patients fill in the *Symptom-Checklist* (SCL-90-R) one day after admission. The SCL-90-R is filled in two or three days before dismission again. These data allow a direct comparison of degrees of severity of acute psychosomatic symptom load.

Furthermore, duration of sick leave in weeks before the stay, sick leave times (in weeks) in the past 12 months and the status of fitness for work (unfit for work or fit for work) when coming into and when leaving the clinic are explored with standardized questionnaires used by the therapists for each patient.

The *Intelligence-Structure-Analysis* (ISA) is done in the first days of the patient´s stay and gives a description of the cognitive fitness status the patient performs at the beginning of the therapy.

Documentation of therapy contents and the medical report

Data concerning the *participation in work-specific therapy* modules is derived from the medical report and the TimeBase® electronic diary system[1] which includes all the therapeutic appointments a patient has got during the rehabilitation.

Participation in work-specific groups was assessed categorially in two steps: First it was looked up in the medical report letter whether there was a passage written concerning participation in work-specific groups. If yes, it was checked in TimeBase® how often a patient had got work-specific group therapies. If a patient had two or more appointments in a certain work-specific group during his stay, it was counted as "yes, the patient participated in work-specific group therapy x", if not, there was "no participation in group x". This was done for each work-specific group therapy.

Data concerning the *contents of therapy*, especially concerning the work-specific single therapy conversations in the domain of socio-therapy, was derived in detail from the medical report. This report is written by the psychotherapist of the patient during the patient´s stay. Beside anamnesis, diagnostic and medical aspects, all therapies a patient had participated in are listed and described in this report, with additional information concerning their course and results for the patient.

Data were derived with the method of content analysis. It was assessed whether a patient had single conversations with a socio-therapist in which workplace-related problems were focused which were oriented towards

- recreating a patient´s fitness for work and organizing return to work or
- solving conflicts at a concrete current workplace or
- support to find a new workplace.

"Workplace-related problems" was operationalized finding keywords and sentences like "we

[1] ©Magrathea Informatik GmbH 2007. www.magrathea.eu

analysed the workplace conflict", "we contacted administrators/superiors from the current workplace", "we planned or prepared (re)integration at the old workplace/into a new job", "the patient did a test for profession choice".
In contrast, in case under the heading of single setting socio-therapy, there were only topics mentioned like "the patient was given adresses for outpatient group therapies for [any kind of mental disorder or social problem without work-specific aspects]", or "general information was given concerning demand forms for social well fare" or "a follow-up-demand form for keeping the handicap degree because of the mental or somatic functional impairment", thus in case it was found that the patient had no workplace-related problem or demand, single socio-therapy contact was not counted as a "work-specific therapy content".

A similar procedure was done concerning the therapeutic working trials. It was searched for evidence in the passage of socio-therapy whether a therapeutic working trial has been described or not. Evidence for stating "The patient has done a therapeutic working trial" was the occurrence of a passage describing the form, naming the workplace, the course and the results of the "therapeutic working trial".

Data concerning work-specific therapy participation was explored in categorial form: it was stated whether or not the patient had participated in

- single socio-therapy with work-specific content
- work-specific group therapy
- a therapeutical working trial.

Furthermore, the three case descriptions given in *Excursus B* are based on information from the medical reports. They are translated extracts and summaries taken from the relevant passages in the medical report.

3.4 INSTRUMENTS

In the following the instruments used for the assessment of workplace-related anxieties as well as those assessing general psychosomatic symptom load and conventional mental disorders will be described. These are the above mentioned questionnaires and diagnostic

interviews. Furthermore, it will be described in which way the interview was carried out and how the categorization of professions has been done.

3.4.1 MINI INTERNATIONAL NEUROPSYCHIATRIC INTERVIEW (MINI)

The structured diagnostic interview *Mini International Neuropsychiatric Interview* MINI (Sheehan et al 1994) is an instrument to explore diagnosis of mental disorders on the basis of the DSM-IV, axis I (APA 1994). The interview contains the following diagnostic categories:

A. Episode of major depression
B. Dysthymia
C. Manic (hypomanic) episode
D. Panic disorder
E. Agoraphobia
F. Social phobia
G. Obsessive compulsive disorder (OCD)
H. Generalized anxiety disorder
I. Alcohol problem (addiction or abuse)
J. Problem with drugs (addiction or abuse)
K. Psychosis
L. Anorexia nervosa
M. Bulimia nervosa
N. Risk of suicide / Suicide trial in lifetime
O. Posttraumatic stress disorder (PTSD)
P. Somatization disorder
Q. Adjustment disorder
R. Personality disorder (not assessed in this investigation; see chapter 3.4.3)
S. Anxiety and depression mixed
T. Hypochondriasis

In the beginning of each diagnostic category, there are two questions concerning the main characteristic i.e. the leading symptom of the disorder. If the patient answers this item with "yes", the interviewer continues asking questions concerning accelerating symptoms

according to the disorder to make sure the diagnosis can be stated. If the patient answers "No" in the leading symptoms question or in other obligatory items, the next category is explored. Diagnosis are stated for acute currently manifest disorders, with a duration of at least two weeks (A), the last month (D, E, F, G, N, O), the last three or six months (H, L, M).
Furthermore, there is the possibility to explore recurring disorders in a life-time-perspective and state the so-called "lifetime-diagnosis"[2]. In this case, it is asked whether the symptoms had occurred at any time in life, if there was a chronic or recurring course over lifetime or if symptoms had already been experienced earlier to the same degree like in the acute state.
The interview was carried out with the German version 4.4. Only the acute diagnosis and suicide trials in lifetime were explored. Personality disorders have not been assessed.

3.4.2 MINI-WORK-ANXIETY-INTERVIEW (MINI-WAI)

The Mini-WAI is the part of the interview in which workplace-related anxieties and other workplace-related adjustment disorders are assessed differentially. This second version of the Mini-WAI is an extended version of the *Mini-Work-Anxiety-Interview* which was already developed and used in a pilot study (Muschalla 2005; Linden & Muschalla 2007a) and which did only focus on the assessment of different qualities of workplace-related anxieties. Additionally to the categories of workplace-related anxiety, the new extended Mini-WAI includes a category of workplace-related adjustment disorders: with affect of depression, embitterment and aggression. This makes possible to assess not only workplace-related anxiety qualities but also other affective qualities a patient might experience as a reaction to a stressful event at work. The main interest is nevertheless lying on the assessment of workplace-related anxiety qualities, therefore the additional category is written in brackets.

[2] The German version 4.4 of the original English interview was modified and completed for purposes of research by the Research Group of Outpatient Therapy of the Free University Berlin. The addition concerns the invention of the life-time-diagnosis.

Categories of workplace-related mental disorders

The Mini-WAI (full version in Appendix A) allows to explore the following workplace-related anxieties and adjustment disorders:

PTSD	Workplace-related Posttraumatic Stress Disorder
ARA	Workplace-related Adjustment Disorder with Anxiety
[ARS	Workplace-related Adjustment Disorder with Other Affects]
SSP	Workplace-related Specific Social Phobia
USP	Workplace-related Unspecific Social Phobia
SA	Workplace-related Situational Anxiety
H	Workplace-related Hypochondriac Anxiety
IA	Workplace-related Anxiety of Insufficiency
GA	Workplace-related Generalized Anxiety (worrying)
WP	Workplace Phobia

When constructing the questions and criteria for the workplace-related mental disorders, the leading questions and supplementary criteria of the MINI-diagnosis were adopted and specified for the workplace situation.

Table 5a and 5b show the leading questions for the workplace-related anxiety categories and workplace phobia as well as workplace-related adjustment disorders in comparison to the leading questions of the conventional mental disorders explored with the MINI.

There was no category of simple phobia in the MINI interview. Thus when developing the Mini-WAI category of workplace phobia, criteria were adopted from the MINI category of agoraphobia as it referred to “places or situations” and the workplace is a place including diverse situations. Furthermore, as agoraphobia is often appearing together with panic disorder, the symptoms of panic attack were adopted and included in the category of workplace phobia as obligatory symptoms.

Table 5a. The leading questions of anxiety diagnosis in the *MINI International Neuropsychiatric Interview* (MINI) and the *Mini-Work-Anxiety-Interview* (Mini-WAI)

MINI Anxiety Disorders	**Mini-WAI Workplace-related Anxieties**
Posttraumatic Stress Disorder "Have you ever experienced an unusually traumatic or stressful, life-endangering event (i.e. physical assault, fires, …)? During the last month, have you re-experienced this event in a distressing way (i.e. dreams, intense recollections, flashbacks,…)? Have you avoided thinking about the event?"	*Workplace-related Posttraumatic Stress Disorder* "At your workplace, have you ever experienced a life-endangering event? (for example an accident, attack, fire or other catastrophy, sudden death of a person) Did you react with intensified threat, helplessness and fear? Have you re-experienced this event in the past month in a stressful manner? (for example in repeating dreams, intensified memories, flashbacks or physical reactions)?"
Adjustment Disorder "Do you have irritations in your feelings or behavior as a result of a stressful life event? Which event was it?" (excl.: the stressful event has happened at the workplace or was associated with the workplace)	*Workplace-related Adjustment Disorder* "Do you have irritations in your feelings or behavior as a result of a stressful event at your workplace? (Examples for stressful events: new superior, new colleague(s), new kinds of work, changes in circumstances at work, transfer into another department, conflicts with colleagues) Which kind of event was it? [ ] structural change in place or times of work, [ ] changes in quality or quantity of the work itself [ ] social conflict or changes in personnel
Social Phobia "In the last month, were you fearful or embarrassed being the focus of attention or fearful of being humiliated? This includes things like speaking in public, eating in public, writing while someone watches, or being in social situations? Do you fear so much these situations that you avoid them or endure them with marked distress?"	*Workplace-related Specific Social Phobia* "At your workplace, are there special persons or groups of persons towards whom you feel in a special way frightened, unsure and tense while you normally do not have problems with other colleagues/superiors/clients?" *Workplace-related Unspecific Social Phobia* "Do you feel in a special way nervous, tense or frightened at your workplace when being in social situations, e.g. speaking in front of colleagues, eating in the canteen or working while another person is watching you?"
Agoraphobia "Have you ever been particularly uneasy in places or situations from which escape might be difficult or embarrassing, or help might not be available, like being in a crowd, standing in a line, being alone away from home, crossing a bridge, or travelling in bus, train or car? Did you fear so much these places that you tried to avoid them, needed the presence of a companion or you endured them with marked distress?"	*Workplace-related Situational Anxiety* "Do you feel frightened and nervous in special situations or at special places when being at your workplace? Or even if you think about them?" (excl. social situations – these have to be explored under the heading of Workplace-related Social Phobias)
Hypochondriasis "During the past 6 months, have you worried about your health status very often?....Do you have the idea that your worries about having a severe illness are a bit exaggerated?"	*Workplace-related Hypochondriac Anxiety* "Do you have evidence that your health is negatively influenced by your workplace or the kind of work? Are you permanently worrying about a possible or actual endangerment of health at the workplace or because of your symptoms?"
Obsessive Compulsive Disorder (OCD) „During the past month, have you been suffering from repetedly reoccurring unpleasant thoughts? Did these ideas provoke doubts and the feeling of having done things wrong or in a way a catastrophy might result?"	*Workplace-related Anxiety of Insufficiency* "Do you permanently feel overtaxed with your work or do you often have doubts to fulfil your duties at work adequately or not to reach your achievements?"
Generalized Anxiety Disorder „During the past 6 months, have you been worrying very much about minor matters and daily hazzles (money, family, health of your children, things happening in household)?"	*Workplace-related Generalized Anxiety (Worrying)* "When thinking of your workplace and work, would you say about yourself that you worry too much and persistently about minor matters at work (like what could go wrong, whether everything is done perfectly, what may come up next), about what most other colleagues do not worry so much?"

Table 5b. The leading questions of anxiety diagnosis in the *MINI International Neuropsychiatric Interview* (MINI) and the *Mini-Work-Anxiety-Interview* (Mini-WAI)

MINI **Anxiety disorders**	**Mini-WAI** **Workplace-related anxieties**
Agoraphobia... "Have you ever been particularly uneasy in places or situations from which escape might be difficult or embarrassing, or help might not be available, like being in a crowd, standing in a line, being alone away from home, crossing a bridge, or travelling in bus, train or car? Did you fear so much these places that you tried to avoid them, needed the presence of a companion or you endured them with marked distress?"	*Workplace Phobia* "When being at or thinking of your workplace in general, do you feel in special way nervous, tense and/or frightened? Do you try to leave your workplace whenever possible or do you avoid going past your workplace if you can?
...with Panic Disorder "Have you, on more than one occasion, had more than once spells or attacks when you suddenly felt anxious, frightened, uncomfortable or uneasy in a situation where most people would not feel that way?"	When being at your workplace or thinking of it or going to your workplace, do you regularly have states with several symptoms like...?
[list of physical anxiety symptoms following, these are the DSM-IV panic disorder symptoms]	[list of physical anxiety symptoms following, these are DSM-IV panic disorder symptoms]
"skipping, racing or pounding of your heart?	skipping, racing or pounding of your heart?
sweating or clammy hands?	sweating or clammy hands?
trembling or shaking?	trembling or shaking?
shortness of breath or difficulty breathing?	shortness of breath or difficulty breathing?
a choking sensation or a lump in your throat?	a choking sensation or a lump in your throat?
chest pain, pressure or discomfort?	chest pain, pressure or discomfort?
nausea, stomach problems or sudden diarrhea?	nausea, stomach problems or sudden diarrhea?
feeling dizzy, unsteady, lightheaded or faint?	feeling dizzy, unsteady, lightheaded or faint?
things around you feeling strange, unreal, detached or unfamiliar, or did you feel outside of or detached from part or all of your body?	things around you feeling strange, unreal, detached or unfamiliar, or did you feel outside of or detached from part or all of your body?
fear that you were losing control or going crazy?	fear that you were losing control or going crazy?
fear that you were dying?	fear that you were dying?
tingling or numbness in parts of your body?	tingling or numbness in parts of your body?
hot flushes or chills?"	hot flushes or chills?"
	[At least 4 symptoms are obligatory to state the diagnosis of workplace phobia.]

The *order of categories* of workplace-related anxieties and adjustment disorder in the Mini-WAI is directed from the most specific to the most unspecific anxiety. Thereby first the event-related syndromes are checked (workplace-related PTSD and adjustment disorder), followed by first specific and then unspecific social phobia etc., leading in the end to generalized anxiety as the form of anxiety which is not related to single specific stimuli at the workplace but is present in whatever situation.

Workplace phobia is the last category assessed in the interview, this is due to the assumption that – after getting an overview on the quality of anxieties a person experiences in relation to the workplace - the interviewer has to identify the degree of generalization of workplace-related anxiety: has anxiety that much extended that it embraces the whole workplace and

leads to physiological reactions as well as avoidance concerning the workplace itself as a stimulus?
Thus workplace phobia might get a special position between the other qualities of workplace-related (anxiety) disorders, it could function as an evidence for severity of workplace-related anxiety.

Work participation disorders

For stating the diagnosis of any workplace-related mental disorder in the *Mini-Work-Anxiety-Interview,* an obligatory criterion is severe subjective suffering from the symptoms and/or work performance problems in the sense that carrying out daily work duties is restricted. In case a diagnosis has been stated, it must further be explored whether this quality of workplace-related disorder caused participation disorders in the sense of absence from work.
These participation disorders resulting from workplace-related anxieties and adjustment disorders are explored for each workplace-related diagnostic category in the following way:
In the end of the category, after the diagnostic criteria, thus when questions concerning relevant symptoms have been checked and in case the diagnosis then has been stated "yes", it is asked
(0) whether there were no participation disorders resulting from the symptoms (no participation disorder)
(1) whether the symptoms lead to staying away from work for one or more days without going to the medicine for demanding a sick leave certificate (short time absence), or
(2) whether the symptoms lead to sick leave with medical certificate (sick leave) and/or
(3) whether the workplace was lost or changed because of the workplace-related disorder - either by a notice or by quitting the job with own initiative or by a transfer to another workplace within a bigger entrepreneurship (loss or change of workplace).
This is a hierarchical list of participation disorders ranging from (0) no participation disorder over (1) being a light participation restriction to (3) being the most severe form of work participation disorder.

Additionally to these *work participation disorders* expressing absence from the workplace where the anxiety has manifested, a second question is asked concerning *work performance disorder,* focusing on limitations in carrying out work duties when being at the workplace. These performance disorders are delegating works to colleagues and/or working overtime.

In the following data analysis and discussions, the two terms have to be distinguished (table 5c).

Table 5c. Question on work participation disorders and question on work performance disorders in the *Mini-Work-Anxiety-Interview* (Mini-WAI)

Work Performance Disorder: "In consequence of the symptoms, were you forced to work overtime regularly? or Were you forced to delegate parts of your work to colleagues in order to make sure all the work is completed?" Work Participation Disorders: "Have you ever – because of these symptoms – stayed away from your workplace for a short time? Have you been on sick leave because of these symptoms? Did this lead to change or loss of the workplace (no matter if self initiated or not)?"

Global rating concerning work load

In the end of the Mini-WAI, after all categories of workplace-related mental disorders have been checked, a global rating is asked concerning the influence the workplace is expected to have onto the patient´s experienced general health status. The following question and instruction is given to the patient:

"When thinking of your acute mental and somatic complaints, to what degree would you say are they related to the workplace – in the sense that they are provoked, caused or forced by the workplace? Please give a percentage according to your subjective estimation: _____ percent"

This global rating shall be a measure for the general experienced work load, that is an experienced negative influence of the work onto the own health status. Thereby 0% would mean the workplace and work do not have any negative influence onto health status, a percentage of 100% would mean a person estimates the complaints he/she has as totally caused and forced by the workplace conditions. A rating of 50% would mean the workplace is to the same amount causing or forcing illness symptoms like other domains in the patient´s life.

Reliability and validity of Mini-WAI

For measuring the reliability of the Mini-WAI interview, interrater-reliability is currently assessed within a next investigation carried out in a cardiologic patient sample, whereby the same instruments are used. The interrater-reliability is determined by assessing the judges of the interviewer and a trained co-rater participating in the interview situation. Measures of

agreement were calculated in Spearman correlation analysis. Diagnosis as well as work participation disorders are investigated concerning their reliability. The over-all interrater-reliability of the interview is currently .95 over all diagnostic categories (Muschalla et al in preparation).

Concerning the validity of the Mini-WAI, it can be referred to the given face validity of the criteria of the different workplace-related anxieties. They have been adopted from the complementary categories of anxiety disorders in DSM-IV, and concerning their formulations they were specified onto the workplace situation. The important obligatory diagnostic criteria of suffering and/or activity restrictions were used in each category of workplace-related mental disorder.

3.4.3 Carrying out the Diagnostic Interview (Mini-WAI and MINI)

Carrying out the interview

In both parts of the interview acute diagnosis are assessed. The complete interview is carried out in the following sequence: First the Mini-WAI is done, after that the MINI assessing the conventional mental disorders. Before switching from Mini-WAI to the exploration of conventional mental disorders with the MINI, the following instruction is given to the patient: "I will now ask you some questions concerning general mental complaints. These questions refer to your life in general, that means not to the special workplace-situation. So please answer these questions in reference to your mental health status in general."

Etiology rating

In the end of the whole diagnostic interview, participants are asked to give an order by time of the explored disorders: which of the acute conventional and workplace-related mental disorders was occurring first and which was following later? There are four possible answers:

1. There is no interaction between the acute conventional mental disorder and workplace-related disorders or there were no mental problems at all (which could be assessed in the interview categories)
2. The patient is sure the acute mental problems started at the workplace before eventually generalizing onto other domains of life (workplace-related anxieties occurred first, conventional mental disorders appeared secondarily).

3. The patient is sure mental problems occurred first outside the workplace situation before eventually affecting the workplace-situation as a secondary syndrome with a specific quality (conventional mental disorders appeared first, workplace-related mental disorders followed).
4. The patient cannot say whether symptoms occurred at the workplace or outside the work situation first, as there were several stressful life events or releasing factors at the same time. Thus the patient expected an interaction of all possible etiology factors and recognized symptoms in and outside the workplace situation.

MINI and Mini-WAI diagnosis: Differential diagnostic aspects

Comparing the diagnostic leading questions of the MINI and the Mini-WAI (tables 5a,b), one can see that the symptomatic quality of the workplace-related mental disorders (assessed in the Mini-WAI) has in core been adopted from the conventional anxiety diagnosis (as assessd in the MINI). But, there are also differences between the conventional diagnosis and the workplace-related ones. One difference regards the criteria of time. In contrast to MINI diagnosis, for most workplace-related anxieties there are no strict criteria of time or duration, in the sense that a syndrome must have been lasting for a certain number of weeks or months. This seems not necessary in workplace-related mental disorders as the most important aspects here are the functional impairment, suffering, and work performance and work participation disorders (for the latter see passage beyond).

Concerning the quality of symptomatology, for each workplace-related anxiety disorder one can find a corresponding category of conventional anxiety disorder. The symptom quality (cognitive, emotional, physiological) of the workplace-related anxieties has mainly been adopted from criteria of the conventional mental disorders.

This is to be seen, for example, in the checklists of symptoms belonging to a certain disorder, e.g. the physiological symptoms occurring in *panic* disorder are also symptoms occurring within a workplace phobic reaction. Workplace phobia in fact inludes symptoms adopted from the conventional agoraphobia and panic categories.

In the case of *hypochondriac anxiety*, in both - workplace-related and conventional - disorders one criterion is a checking behavior which means focusing one´s attention to possible health endangerment either in the environment or in the own body functions (“Are there any symptoms in/on my body?”).

For *generalized anxiety* the main criterion is the constant worrying: in conventional disorder as worrying concerning different domains of allday life, in the form of workplace-related worrying only worrying about workplace-related matters. Persons who suffer from worrying concerning allday life and concerning the workplace, the latter leading to restrictions in work activities and work performance and/or severe suffering – get both diagnosis.

In the case of *social phobia*, conventional social phobia means anxiety and avoidance towards small groups, interaction processes and achievement situations; workplace-related social phobia is based on anxiety reactions towards specific persons, namely colleagues, superiors or clients at work. A person who suffers from social anxiety at the workplace because of a mobbing experience must not be sociophobic in general life: in family or with friends or in a sports group. Thus the symptoms are the same (negative anticipation, physiological arousal, inner tension and avoidance) but the context makes the difference between a conventional social phobia and a workplace-related social phobia. A special distinction between conventional social phobia and workplace-related social phobia has been operationalised with the question "Do you feel this anxiety being exaggerated or senseless?" To answer this question with "yes" is obligatory in conventional social phobia, whereas in specific workplace-related social phobia it is not obligatory as patients often answer this question with "no". This is due to their perception of a realistic endangerment when threatened in a mobbing situation.

For the assessment of *posttraumatic stress disorder*, it is important to clear the context in which the event has taken place. A posttraumatic stress disorder in the workplace must not be stated again as a conventional posttraumatic disorder because of its development and manifestation in a very context, the workplace. Only if a person has experienced different traumatic events, having taken place at the workplace and in another domain of life, there might be a comorbidity of both conventional and workplace-related posttraumatic stress disorder.

The same must be kept in mind when assessing the category of *adjustment disorder*. A workplace-related event means in consequence a workplace-related adjustment disorder, in contrast to a non-workplace-related stressful event which is here to be assessed in the context of a conventional adjustment disorder. This is important for the interpretation of comorbidities between conventional mental disorders and workplace-related mental disorders later on.

Workplace-related situational anxiety corresponds to conventional agoraphobia, seen from the criteria of tension and avoidance or security-searching behavior.

In the category of *workplace-related adjustment disorder*, it is asked which was the event which caused the enduring dysfunctional emotional reaction. There are three answering categories into which the event can fit in: a social conflict, a structural change in place or times of work, or changes in quality or quantity of the work itself. The patient is asked to describe the situation of the "stressful event" and the interviewer is free to add exploratory questions to specify the essential meaning of the event in order to choose the appropriate category for the event.

Workplace-related anxiety of insufficiency is characterized by doubts to fulfill daily work duties adequately, feeling of overtaxation, or fears of changes at work. This doubting appears with a certain similarity to the phenomenon of doubting which may play a role in *obsessive compulsive disorders.* Obsessive compulsive disorders have often been described as the "disorder of doubting" (Ecker 1999). Here, doubting leads to compensatory compulsory actitivities like repeated controlling or cognitive rituals to reduce the feeling of insecurity. But obsessive compulsive disorder contains symptomatic qualities which are not a main characteristic of workplace-related anxiety of insufficiency, like the ritualization seen in obsessive compulsory behavior. Therefore the symptomatologic similarities between obsessive compulsive disorder and workplace-related anxiety of insufficiency are not as strong as those in workplace-related social phobia versus conventional social phobia, workplace-related adjustment disorder and conventional adjustment disorder or workplace-related generalized anxiety versus conventional generalized anxiety disorder.

Workplace-related anxieties and adjustment reactions are called "disorders", like the conventional mental disorders. Disorders are concepts of illness and are named as a certain diagnosis. Workplace-related anxieties and adjustment disorders are not an internationally accepted construct yet, but they are clearly defined in this work and can be assessed with a structured diagnostic algorithm, in the same way as conventional mental disorders can be assessed. As the assumption is that "workplace-related" disorders may constitue an own quality of disease, even when occurring within the frame of a conventional mental disorder, it is necassary to equally call them disorders.

Differential diagnostic aspects in categories of Mini-WAI

There are some specialities to be regarded within the Mini-WAI categories: one speciality is the distinction between *workplace-related specific* and *workplace-related unspecific social phobia*. The difference is whether there are only one or some specific persons at the

workplace who are perceived as endangering (specific social phobia), or whether all people contacted at work are associated with feelings of anxiety (unspecific social phobia).
Next, the category of *workplace-related situational anxiety* has to be distinguished from *workplace phobia*. In situational anxiety, there are only one or a few special distinct situations at work which regularly cause anxiety, whereby the workplace as a whole is not associated with severe anxiety and panic symptoms. Anxiety is only provoked when the special situations occur or are anticipated. In contrast, workplace phobia causes symptoms of anxiety when only thinking of the workplace in general, walking past the workplace or entering. There are no specific isolated situations, but the whole workplace is associated with danger.

Research diagnosis from MINI and Mini-WAI in contrast to clinical diagnosis
It shall be kept in mind that the stated "diagnosis" which will be spoken of in the results and discussion part are to be understood as a result from a structured search for information on certain diagnostic criteria in an interview. These information are mainly given by the participant answering the structured interview´s questions. Additionally, in the observer-rating questions, the interviewer´s impression is important for remarking the criterion being fulfilled or not. These "research diagnosis" resulting from the interview must not be confused with clinically stated diagnosis arisen from a complex specific anamnesis of behavior and psychopathological findings. When spoken of "diagnosis" in the following chapters, this term refers to the research diagnosis assessed with MINI and Mini-WAI.

In the MINI interview DSM-IV axis-I-diagnosis are assessed. Additionally, a diagnosis of *personality disorder* can be stated refering to the rater´s impression of the participant´s behavior in the interview situation. In the literature, there are doubts concerning the validity of personality diagnostic carried out with structured diagnostic interviews: Current research points out that retest- and interrater-reliability of certain personality disorder diagnosis is weak (Mestel 2007) and therefore these diagnosis often must be expected to be invalid. In the context of this investigation, the diagnosis of personality disorder could be endangered in validity when judging a person´s behavioral flexibility from one single interview situation only. In order to avoid invalid personality diagnosis, the assessment of the category personality disorder was left out in this work.

Categorising profession

The concrete currently or last carried out profession of the patient is assessed in the interview. For data analysis, the following five categories have been grouped according to the criterion "work contents". Each of the diverse professions which have been explored in the interview can be subsumed in one of these:

- *Administration and office jobs ("Office")*: this category includes all professions which are mainly office work with dominantly computer work, writing, carrying out phone calls, daily contacts to colleagues but also independent work duties to be carried out on ones own.
- *Gastronomy, services, trade, banks and insurances ("Services")*: this category includes employees working in small, middle or large trade markets in contact with clients, handling with wares, calculating bills, carrying out service and consultation talks with clients. It includes all possible service domains with multitask work demands. Also self-employed service offerers like web-designer are included.
- *Education and culture ("Education"):* teachers in primary and secondary school as well as university and research employees, social workers and therapists. Additionally one self-employed artist (singer) was included.
- *Health care profession ("Health care"):* this category includes employees in medical settings: surgeries, hospital, outpatient nursery.
- *Production and technology ("Production/technology"):* domain of technical production as well as manufacturing, all professions dealing with production processes and diverse material, often work with machines.

3.4.4 JOB-ANXIETY-SCALE (JAS)

The *Job-Anxiety-Scale* (JAS, original "Job-Angst-Skala", Muschalla 2005; Linden et al 2007) allows describing the complexity of job-related anxieties in detail, to recognize which dimensions of job-anxieties are reaching high scores, which aspects are inter-correlated to what degree. With this knowledge about the quality and relative severity of symptoms, there can be drawn conclusions for an efficient treatment.

The scale offers on the one hand a differentiated approach to diverse aspects of the complex concept of job-anxiety; on the other hand it has succeeded as a reliable instrument to describe the phenomenon of job-anxiety on a more general level. As it has already been shown,

workplace-related anxieties are not a homogeneous phenomenon, but show different characteristics, which are divided into five main dimensions i.e. 14 subscales in the *Job-Anxiety-Scale* (Table 6).

Table 6. Main dimensions and subscales of the *Job-Anxiety-Scale* (JAS)

Dimension	**Subscales**
Stimulus-related anxiety and avoidance behavior	- Anticipatory anxiety - Phobic avoidance - Conditioned anxiety - Global workplace-anxiety
Social anxieties and cognition of mobbing	- Fear of exploitation - Social anxiety - Cognition of mobbing and threat
Health- and body-related anxieties	- Hypochondriac anxiety - Panic and physiological symptoms - Function-related anxieties
Cognition of insufficiency	- General cognition of insufficiency - Fear of changes
Job-related worrying	- Worrying in the sense of job-related general anxiety - Anxiety concerning existence

Stimulus-related anxieties and avoidance behavior include anticipatory anxieties with general feelings of strain when being at the workplace or in anticipation of situations or events at the workplace. Phobic avoidance behavior can occur in connection with special working conditions or in social situations, at the workplace itself or also at public places outside the workplace. The avoidance may also affect the workplace itself in form of fast fleeing away after the work or going on sick-leave. Conditioned anxieties result from bad experiences at the workplace which were associated with anxiety.

Social anxieties concern the anticipation and avoidance of social situations with colleagues or superiors. Cognition of mobbing can be characterized by the apprehension of being exploited or threatened by special persons at work.

Health- and body-related anxieties mean hypochondriac worries and the conviction that the quality of work or working conditions endanger health. Functional anxieties express fears of working dissatisfyingly because of restrictions due to physiological diseases.

Cognition of insufficiency contain worries because of insufficient qualification, work overload, lacks in competency and knowledge and mistakes resulting from these.

Furthermore, anxieties of changes belong here like fears towards taking new tasks, structural or personal changes in the firm and the insecurity about what will come up next.
Workplace-related worries mean a tendency for generalized worrying about minor matters concerning the workplace or work content, thinking about work-duties in free time with unpleasant feelings, as well as restrictions in daily life activities because of the fears concerning work issues. Anxiety towards the future (or anxiety concerning existence) belongs here as well as fear of loosing one´s social reputation.

The *Job-Anxiety-Scale* has been developed and revised in two studies until now (Muschalla 2005; Linden et al 2007). The pool of 70 items was derived from clinical experience with patients reporting severe workplace-related anxieties, as well as from internationally accepted general criteria of anxiety disorders. The items have to be rated on a Likert-scale from 0 (no agreement) to 4 (full agreement).
Retest reliability of the scale is .815, Cronbach´s alpha .98. The dimensions have been derived from factor analysis. The scale has been validated with the Mini-WAI interview as criterion (Muschalla 2005; Linden & Muschalla 2007b). The *Job-Anxiety-Scale* is given to patients with the title „Questionnaire on Workplace-Problems“ which examines „situations, thoughts and feelings one can have experienced at the workplace”. Patients are asked to refer to their current or – if they were currently unemployed – to their last workplace. In case there was more than one job, they were asked to refer to the workplace which was most important for them and had most influence on their daily life and well-being.

3.4.5 SHORT QUESTIONNAIRE FOR JOB ANALYSIS (KFZA)

The *Short Questionnaire for Job Analysis* (original: “Kurz-Fragebogen zur Arbeitsanalyse” KFZA; Prümper et al 1995) is a self-rating questionnaire used in the study to explore the situational aspects of the participant´s work situation. This questions integrates items from other established job analysis instruments like the *Instrument for Stress-related Job Analysis* (ISTA, Semmer 1984), the *Questionnaire on Stress-Conditions at Work* (Frese 1992), *Questionnaire for Social Support* (Frese 1989), *Job Diagnostic Survey* (JDS, Hackman & Oldham 1975), *Subjective Job Analyzing* (SAA, Udris & Alioth 1980) and *Working Climate* (v. Rosenstiel et al 1982). The questionnaire contains 26 items in which the following 11 factors could be identified by factor analysis: Scope of action, variability, holistic job, social

support, co-operation, qualitative stress at work, quantitative stress at work, interruptions while working, environmental stress, information and participation, and benefits. These are also the dimensions into which the items of the questionnaire are now grouped together.
In the context of this study, the KFZA dimensions should give hints to the special working conditions a person experiences. This way, the complementary situation-centered aspect of the work is explored in opposition to the person-centered aspect of psychopathology which is assessed with the *Job-Anxiety-Scale*. The job analysis questionnaire is given to the patient together with the JAS, the items of KFZA are listed right after the JAS items, with a short introductory passage introducing the job analysis questions: Patients are explicitely asked to fill in the job analysis questionnaire "according to [their] work itself", as far as possible "independently from emotional reactions". This should remind the patient that in this part of the questionnaire the content and context of the work is meant, rather than the own behavior, thoughts and feelings towards the workplace as assessed with the JAS items.

3.4.6 SYMPTOM CHECKLIST (SCL-90-R)

The *Symptom Checklist* in revised version (SCL-90-R, Franke 1995) is a self-rating questionnaire which measures the subjectively perceived burden a person suffers because of physiological and psychological symptoms within a period of seven days.
The questionnaire explores general psychosomatic symptom load on different scales: somatization, compulsiveness, unsureness in social contacts, depressive tendencies, general anxiety, aggressiveness, phobic anxiety, paranoid thinking and psychotizism.
Patients have to judge 90 items concerning symptoms they are suffering from on a scale from 0 (never occurring) to 3 (occurring heavily).

3.4.7 INTELLIGENCE STRUCTURE ANALYSIS (ISA)

The *Intelligence Structure Analysis* (ISA, Bulheller et al 2002) is a multidimensional intelligence test carried out by the patients in a computer-supported version. Groups of tasks are completing sentences, finding similarities, continuing rows of numbers, recognizing relations, memorising of wares, recognizing cubes, practical calculating, defining concepts and putting together figures. The results of the different tasks are summarized in the following

domains of cognitive capacities: verbal intelligence, numerical intelligence, figural-spatial imagination and the ability for verbal reminding.
The ISA can give hints to possible deficits in a specific capacity domain or a general deficit in cognitive functions. However, results from the ISA as assessed in this standardized clinical setting always have to be interpreted as a performance achievement and may be influenced by other factors beside the pure cognitive capacities.

3.5 DATA ANALYSIS

Data were analysed using the *Statistical Package for Social Sciences* 12.0 (SPSS). T-Tests for independent samples and variance analysis were used to investigate differences. Pearsons linear correlations were carried out for the analysis of relations between interval variables. Spearman rank correlations were calculated for analysis of relations with ordinal variables. A Two-Step Cluster Analysis was done for exploration of homogeneous subgroups of participants within the sample.
All statistical tests were two-sided and the alpha-level was set to be less than 0.05 (**) or in single cases 0.01 (***) or 0.10 (*). In the following chapter of results, if not differently reported, significances are based on a 0.05 level.

1. Basicly, frequency analysis have been carried out over the categories of conventional mental disorders and workplace-related anxieties and adjustment disorders. The same was done for the items and dimensions of the self-rating questionnaires JAS, SCL-90-R and KFZA. Hereby tables of frequencies and descriptive markers (means and standard deviation) have been calculated.

2. Bivariate correlations analysis have been done to identify the connections between job-anxiety (JAS) and general psychosomatic symptom load (SCL-90-R) and diverse work-characteristic variables (subscales of KFZA, sick leave duration, professional degree and status). Therefore Pearson and Spearman correlations were used. In these correlation analysis with the self-rating questionnaires, global scores were used as well as the scores of the subscales and dimensions.

3. Furthermore mean differences have been calculated with T-Tests for independent samples and analysis of variance (ANOVA) in order to identify differences in general psychosomatic symptom load and job-anxiety in different sub groups of the sample. Variables of comparison were for example gender, the fitness for work status, employment status, comorbidity pattern. All analysis of variance have been carried out with Post-Hoc-Tests (Bonferroni alpha-correction).

4. An exploratory Two-Step-Cluster-Analysis has been calculated in order to identify natural groups of participants with similarities concerning certain relevant socio-demographic and work-related variables.

4 RESULTS

The results will be presented according to the questions of research. In the first chapters (4.1-4.4), there will be given descriptions on frequencies and distributions of workplace-related and conventional mental disorders assessed with the interviews (MINI and Mini-WAI). Thereby comorbidities between workplace-related and conventional mental disorders will be described, as well as comorbidities inbetween workplace-related anxieties and inbetween conventional anxiety disorders.

It should be kept in mind that all reported frequencies of diagnosis are not to be understood as epidemiological findings, as the aim of the study is not to explore absolute frequencies of workplace-related anxieties in the general population, but the pattern of diagnosis, comorbidities and relations between different disorders and degrees of symptom load.

Effects on work participation caused by workplace-related anxieties then will be analysed in chapter 4.5. Hereby also relations between sick leave duration and the symptom load reported by the patients in the self-rating questionnaires are explored.

Next, correlates of workplace-related anxieties will be analysed: which variables are related to workplace-related anxieties and job-anxiety level in a special way (4.6)? A cluster analysis will be used for exploring whether there can be identified homogeneous groups of participants according to certain important variables.

An *Excursus (A)* will be focusing the topic of workplace-related anxieties and adjustment disorders with other affects in order to explore which status workplace-related adjustment disorders with other affects get within the concept of workplace-related mental disorders.

The etiologic development of the workplace-related and conventional mental disorders as reported by the patient will be described in another chapter (4.7). Participation in work-specific therapies during rehabilitation stay will be regarded as well (4.8), with respect to relations with job-anxiety. The diagnosis of workplace phobia will be regarded concerning possible specialities in comparison to the other workplace-related anxiety qualities (4.9).

When it is spoken of job-anxiety in the following, it is referred to the dimensional results from the *Job-Anxiety-Scale*; speaking of workplace-related anxiety, the categorial data from the *Mini-WAI* interview are meant. Mentioning conventional mental disorders or conventional anxieties, the diagnosis from the *MINI* interview are meant.

In the end of each paragraph a short summary will be given concerning the most important results. In the end of the chapter, results will be summarized referring to the questions of research. The most important results will then be discussed in chapter 5.

4.1 Workplace-related Anxieties and Conventional Anxiety or other Mental Disorders

Question of research: Are workplace-related anxieties always occurring together with conventional anxiety disorders or can they manifest as a primary and single anxiety disorder?

Workplace-related anxiety and conventional anxiety disorders

Table 7a shows the pattern of comorbidities between workplace-related anxieties and conventional anxiety disorder. "Conventional anxiety diagnosis" from the MINI were agoraphobia, panic disorder, social phobia, obsessive compulsive disorder, generalized anxiety disorder, posttraumatic stress disorder and hypochondriasis.

The criterion "patient with ...(diagnosis)" was fulfilled when a patient had at least one diagnosis in the corresponding domain.

Table 7a. Comorbidities of workplace-related anxieties and conventional anxiety disorders according to Mini-WAI and MINI in psychosomatic inpatients (*N*=230).
"Conventional anxiety diagnosis" from the MINI are agoraphobia, panic disorder, social phobia, obsessive compulsive disorder, generalized anxiety disorder, posttraumatic stress disorder and hypochondriasis.
"Workplace-related anxieties" assessed with the Mini-WAI are workplace-related posttraumatic stress disorder, workplace-related adjustment disorder with anxiety, workplace-related specific or unspecific social phobia, workplace-related situational anxiety, workplace-related hypochondriac anxiety, workplace-related anxiety of insufficiency, workplace-related generalized anxiety, workplace phobia.

	Patients with workplace-related anxieties (N = 134)	**Patients without workplace-related anxieties (N = 96)**	
Patients with conventional anxiety disorder [N = 117]	35,2% [69,2%] (60,4%)	**15,7%** [30,8%] (37,5%)	50,9% [100%]
Patients without conventional anxiety disorder [N= 113]	**23%** [46,9%] (39,6%)	26,1% [53,1%] (62,5%)	49,1% [100%]
	58,2% (100%)	41,8% (100%)	100%

38,7% of the interviewed patients reported to suffer from anxieties either in relation to the workplace only or from conventional anxiety without workplace-related anxiety. 35,2% of the patients were suffering from both workplace-related as well as conventional anxiety at once. It can be seen that there are also patients who did only suffer from either the first or the latter, thus 23% suffered from workplace-related anxiety only, without comorbid conventional anxiety diagnosis, and 15,7% had a conventional anxiety diagnosis but no workplace-related anxiety.

About half of the patients had any kind of conventional anxiety disorder and over the half (58,2%) suffered from workplace-related anxiety. From those who had no conventional anxiety disorder, 46,9% suffered from workplace-related anxiety. On the other hand, 30,8% of the patients with conventional anxiety were free from workplace-related anxiety.

Workplace-related mental disorders and conventional mental disorders

Regarding the distribution of conventional mental disorders and workplace-related mental disorders (workplace-related anxieties and adjustment disorders with other affects) as an extended conglomerat of diagnosis, a similar picture can be seen (table 7b).

More than the half of the interviewed (56,1%) showed mental problems in both the workplace context and in general. Two thirds of the patients (67%) who had a conventional mental disorder suffered from a workplace-related mental disorder as well.

More than the half (56,4%) of those 39 patients who did not get any conventional diagnosis in the MINI had a workplace-related mental disorder.

Table 7b. Comorbidities of workplace-related mental disorders and conventional mental disorders (including anxiety disorders) according to Mini-WAI and MINI in psychosomatic inpatients (*N*=230).
Diagnosis of "conventional mental disorders" from the MINI are episode of major depression, dysthymia, manic (hypomanic) episode, panic disorder, agoraphobia, social phobia, obsessive compulsive disorder, generalized anxiety disorder, alcohol problem (addiction or abuse), problem with drugs (addiction or abuse), psychosis, anorexia nervosa, bulimia nervosa, risk of suicide / suicide trial in lifetime, posttraumatic stress disorder (PTSD), somatization disorder, adjustment disorder, hypochondriasis.
Diagnosis of "workplace-related mental disorders" assessed with the Mini-WAI are workplace-related posttraumatic stress disorder, workplace-related adjustment disorder with anxiety, workplace-related adjustment disorder with other affect, workplace-related specific or unspecific social phobia, workplace-related situational anxiety, workplace-related hypochondriac anxiety, workplace-related anxiety of insufficiency, workplace-related generalized anxiety, workplace phobia.

	Patients with workplace-related mental disorders (N=151)	**Patients without workplace-related mental disorders (N=79)**	
Patients with conventional mental disorder [N=191]	56,1 % [67%] (85,4%)	**27,0%** [33%] (78,5%)	83% [100%]
Patients without conventional mental disorder [N=39]	**9,6%** [56,4%] (14,6%)	7,4% [43,6%] (21,5%)	17% [100%]
	65,7% (100%)	34,3% (100%)	100%

These findings show that workplace-related anxieties or adjustment disorders with other affects may occur together with other conventional mental disorders in some persons, but may also occur as a primary and single phenomenon in others.

4.2 Conventional Mental Disorders and their Comorbidities

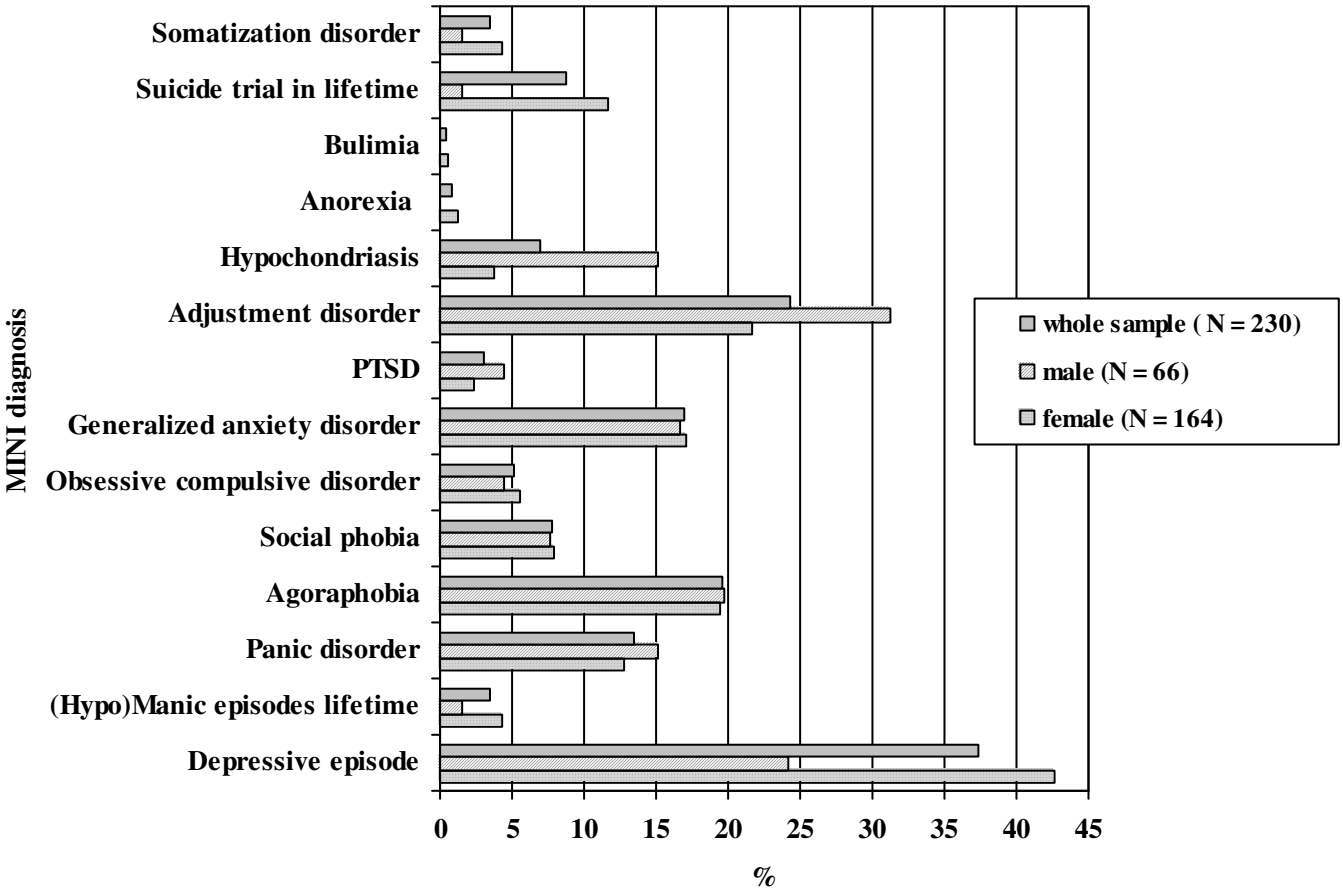
As a basis for understanding further data analysis, first a global overview of the distribution of mental disorders in the sample shall be given. In the following, it will be focused on anxiety disorders because they will be especially relevant for later analysis.

Distribution of conventional mental disorders

Figure 2 shows the distribution of conventional mental disorder diagnosis in the sample which were assessed with the structured diagnostic MINI interview. Multiple diagnosis occurred

regularly; 29,6% of the patients had one diagnosis, 41,3% got two or three diagnosis of acute mental disorders, 12,1% had four up to six diagnosis. 17% of the participating patients had got no diagnosis from MINI.

Figure 2. Diagnosis of conventional mental disorders according to the *Mini International Neuropsychiatric Interview* (MINI) in psychosomatic inpatients (*N*=230)



The most frequent mental disorders in female patients were affective and anxiety disorders: depressive episodes (42,7%) and adjustment disorders (21,6%), followed by agoraphobia (19,5%), panic disorder (12,8%) and generalized anxiety disorder (17,1%). In male patients there are adjustment disorders (30,8%) to be mentioned as most frequently occurring disorders, followed by depressive episodes (24,2%), agoraphobia (19,7%) and generalized anxiety disorder (16,7%).

Concerning the frequency of appearance of each diagnosis, there were significant differences between men and women only in hypochondriasis and depression: Men did significantly more

often than women suffer from hypochondriac anxieties (15% versus 2%; *p*=.016**) whereas the rate of depression was higher in women than in men (42,7% versus 24,2%; *p*=.006**). Comorbidities in the conventional diagnosis occurred regularly. 29,6% of the patients had one alone standing diagnosis, but 41,3% got two or three diagnosis of acute mental disorders, 12,1% had four up to six diagnosis.

Comorbidities in conventional anxiety disorders

In table 8 the comorbidities of the conventional anxiety and adjustment disorders are shown.191 patients had got diagnosis from the MINI, 123 (53,4% of all interviewed) patients had at least two conventional diagnosis. Not all the assessed conventional diagnosis are presented here in detail, as this should be an overview of anxiety and adjustment disorders only and their comorbidities inbetween.

Table 8. Comorbidities of conventional anxiety and adjustment disorders according to MINI in psychosomatic inpatients suffering from mental disorders (*N*=191)

Patients with… did also suffer from a comorbid…	**PTSD (N=7)**	**Adjust-ment disorder (N=55)**	**Agora-phobia (N=45)**	**Panic disorder (N=31)**	**Social phobia (N=18)**	**Obsessive compulsive disorder (N=12)**	**Hypo-chon-driasis (N=16)**	**Gene-ralized anxiety (N=39)**	**At least two conventional mental disorders (N=123)**
PTSD		1 1,8%	3 6,7%	4 12,9%	0	1 8,3%	0	0	5 4,1%
Adjustment disorder	1 14,3%		7 15,9%	4 12,9%	1 5,6%	1 8,3%	5 31,3%	7 18,4%	39 32,2%
Agoraphobia	3 42,9%	7 12,7%		23 74,2%	13 72,2%	5 41,7%	2 12,5%	8 20,5%	41 33,3%
Panic disorder	4 57,1%	4 7,3%	23 51,1%		6 33,3%	2 16,7%	2 12,5%	7 17,9%	29 23,6%
Social phobia	0	1 1,8%	13 28,9%	6 19,4%		2 25%	0	5 12,8%	18 14,6%
Obsessive compulsive disorder	1 14,3%	1 1,8%	5 11,1%	2 6,5%	3 16,7%		0	6 15,4%	12 9,8%%
Hypochondriasis	0	5 9,1%	2 4,4%	2 6,5%	0	0		1 2,6%	13 10,6%
Generalized anxiety	0	7 12,7%	8 17,8%	7 22,6%	5 27,8%	6 50%	1 6,3%		29 23,6%%
Comorbid conventional anxiety diagnosis	4 57,1%	13 23,6%	34 75,6%	26 83,9%	15 83,3%	9 75%	7 43,8%	14 35,9%	88 71,5%

In 71,5% of those patients with comorbidities in the conventional diagnosis we found an anxiety disorder.

Adjustment disorder and agoraphobia were most frequently occurring diagnosis within this choice of conventional mental disorders, followed by panic disorder and generalized anxiety disorder. Panic disorder and social phobia were each in more than 80% of cases going along with a second anxiety disorder. Also in agoraphobic and obsessive compulsive patients there were regularly occurring comorbid anxiety diagnosis (in about 75% each). About the half of patients suffering from PTSD did also fulfill criteria of another anxiety disorder.
Adjustment disorders and generalized anxiety disorder were least often comorbid with other conventional anxiety diagnosis.

74,2% of the patients with panic disorder suffered from a comorbid agraphobia and 51,1% of those with an agoraphobia also had a panic disorder. Agoraphobia was also often co-ocurring in patients with social phobia (72,2%),
Patients with PTSD regularly had an agoraphobic (42,9%) and/or panic disorder (57,1%) comorbidity, but rarely did agoraphobia- and panic- patients suffer from a posttraumatic stress disorder, released by a life-endangering event.
Half of the patients with obsessive compulsive disorder did also fulfill criteria of a generalized anxiety disorder, but only a few (14,5%) from those patients suffering from generalized anxiety disorder had an obsessive compulsive disorder at the same time.

Symptom load in the self-rating

Additional to the categorial diagnosis assessed with the MINI, the results from the SCL-90-R may further illustrate the severity of symptom load as reported by the patients themselves. Table 9 shows the means of the different dimensions of psychosomatic symptom load measured with SCL-90-R.

Table 9. Levels of general psychosomatic symptom load in different dimensions according to the *Symptom Checklist* (SCL-90-R) in psychosomatic inpatients (*N*=226). Means of the dimensions (standard deviation). Rating from 0-3 (symptom has never occurred – symptom has been occurring heavily in the past week)

Symptom Checklist Dimensions	**Men (N=65)**	**Women (N=161)**	**All (N=226)**
SCL Global Severity Index (GSI)	1,12 (0,67)	1,23 (0,67)	1,2 (0,67)
SCL Somatization	1,05 (0,71)	1,25 (0,72)	1,19 (0,72)
SCL Compulsiveness	1,49 (0,89)	1,5 (0,87)	1,5 (0,87)
SCL Unsureness in social contacts	1,0 (0,8)	1,19 (0,86)	1,14 (0,85)
SCL Depressive tendencies	1,52 (0,89)	1,69 (0,87)	1,64 (0,88)
SCL General anxiety	1,21 (0,81)	1,32 (0,82)	1,29 (0,82)
SCL Aggressiveness	0,77 (0,67)	0,95 (0,62)	0,9 (0,64)
SCL Phobic anxiety	0,81 (0,9)	0,88 (1,0)	0,86 (0,98)
SCL Paranoid thinking	1,03 (0,82)	1,05 (0,79)	1,04 (0,79)
SCL Psychotizism	0,74 (0,67)	0,67 (0,67)	0,69 (0,67)

In both men and women the highest subscale scores occurred in depressivity, followed by obsessive compulsive tendencies, general anxiety and somatization. The lowest scores were found in the dimension of psychotizism. There were no significant differences between men and women in the level of symptom load.

Patients with no diagnosis from the interview had a significantly lower general psychosomatic symptom load in the SCL-90-R GSI score (*N*=39, *M*=0,76 (*SD*=0,5), *p*=.000) than patients who had got at least one diagnosis of a mental disorder (*N*=187; *M*=1,29 (*SD*=0,7)). Also patients with more than one diagnosis had a markably higher GSI score (*N*=120, *M*=1,37 (*SD*=0,7), *p*=.088) than those with one diagnosis (*N*=67, *M*=1,15 (*SD*=0,7)).

The self-ratings on psychosomatic symptom load will be analysed more detailed in specific contexts in the next chapters.

Agoraphobia and panic were regularly occurring comorbid. They were also the most frequently occurring conventional anxiety disorders in the sample. PTSD is a seldom occurring disorder, co-occurring with agoraphobia and panic. In nearly ¾ of those patients with more than one conventional mental disorder, at least one of the diagnosis was an anxiety diagnosis. Agoraphobia and panic as well as social phobia and obsessive compulsive disorder were each at least in 75% of cases co-occurring with another anxiety disorder.

From the self-rating it can be seen that items on depression, on general anxiety and on obsessive compulsive tendencies get moderate scores in men and women.

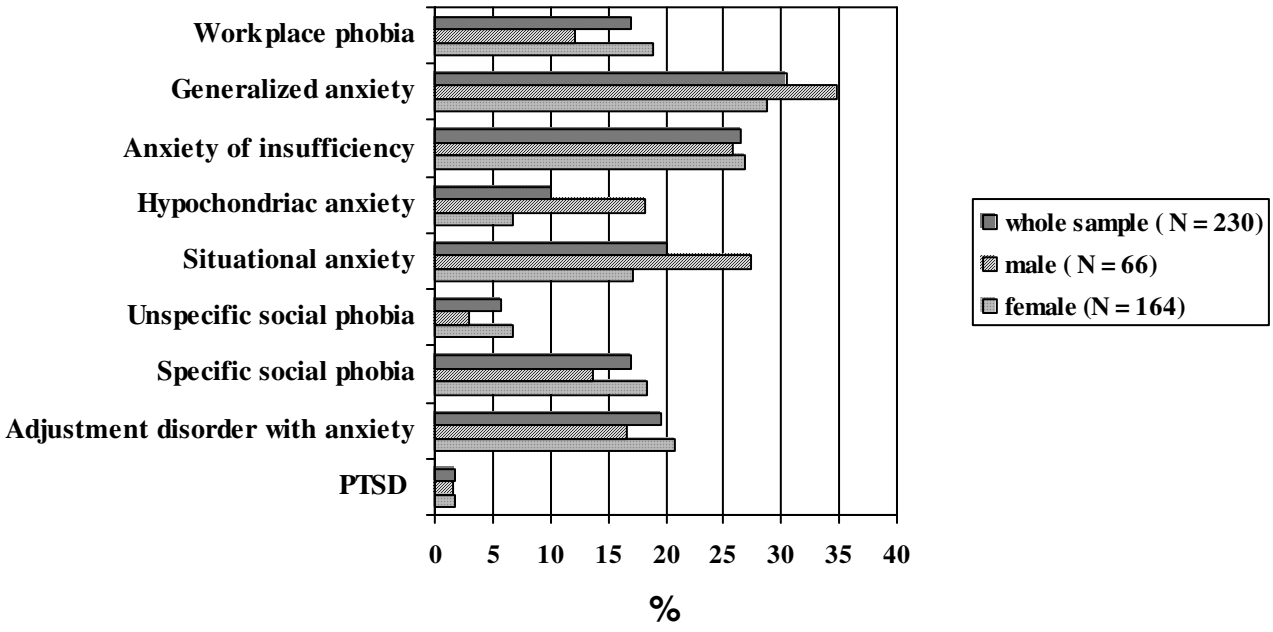
4.3 Different Qualities of Workplace-related Anxieties and their Comorbidities

The second question of research is whether it is possible to distinguish empirically between different qualities of workplace-related anxieties. And: which comorbidity pattern can be seen in workplace-related anxieties?

Distribution of workplace-related anxieties

First a short overview should be given on the findings concerning workplace-related anxieties and adjustment disorders with anxiety. Figure 3 shows the distribution of workplace-related anxieties in the sample.

Figure 3. Distribution of workplace-related anxieties assessed with *Mini-Work-Anxiety-Interview* (Mini-WAI) in psychosomatic inpatients (*N*=230)



This distribution shows that generalized anxiety occurred most frequently in both men and women (30,4%), followed by anxiety of insufficiency (26%).

There were no differences between men and women except for the category of hypochondriac anxiety, here men (18,2%) were significantly more often concerned than women (6,7%).

Specific social phobia (17%) occurred more often than unspecific social phobia (5,7%).

Compared with the other workplace-related anxieties, workplace-related PTSD was a seldom phenomenon.

Number of diagnosis

41,8% of the participants had no workplace-related anxiety diagnosis, 24,3% obtained one, 29,1% had two or three diagnosis and 4,7% fulfilled the criteria of four or five workplace-related anxiety diagnosis.

Patients with a manifest workplace phobia (*N*=39) had on average 2,5 (*SD*=1,25) comorbid workplace-related anxiety diagnosis beside the workplace phobia diagnosis. Patients who suffered from workplace-related anxiety but without workplace phobia (*N*=134) had on average 1,9 (*SD*=1,0) diagnosis.

Patients with workplace-related situational anxieties had on average 2,43 (*SD*=1,0) workplace-related diagnosis in sum, those with generalized anxiety 2,49 (*SD*=0,9), with anxiety of insufficiency 2,44 (*SD*=1,0), with hypochondriac anxiety 2,26 (*SD*=1,2), with an adjustment disorder with anxiety 2,27 (*SD*=1,1), with PTSD 2,25 (*SD*=1,0). Workplace-related social phobias show a tendency to occur with more accompanying anxieties: Patients with specific social phobia had on average 2,74 (*SD*=1,1) diagnosis and those with unspecific social phobia even 3,23 (*SD*=1,1).

Thus all of the workplace-related anxieties occur in comorbidities regularly.

Single workplace-related anxiety qualities

Regarding workplace-related anxiety diagnosis in the 56 patients who were affected by one workplace-related anxiety quality[3] only, there can be found similar distribution and frequencies like in the over all distribution shown above. Anxiety of insufficiency (25%), generalized anxiety (19,6%), adjustment disorder with anxiety (19,6%) and situational anxiety (19,6%) were most frequently occurring diagnosis, followed by hypochondriac anxiety (14,3%) and specific social phobia (8,9%). Less often were PTSD and unspecific social phobia at the workplace (both 1,8%).

Pattern of workplace-related anxiety diagnosis

Table 10 presents the comorbidities between the different qualities of workplace-related anxieties.

[3] Hereby the workplace-related anxiety qualities are meant, excluding workplace phobia which was always occurring together with at least one diagnosis of a workplace-related mental disorder. Workplace phobia is therefore expected to have a specific status as an expression of severity of workplace-related anxiety, this will be explored in detail and discussed later.

Table 10. Comorbidities of workplace-related anxieties according to the Mini-WAI in psychosomatic inpatients (*N*=230)

Patients with workplace-related… did also suffer from a comorbid workplace-related…	**PTSD (N=4)**	**Adjust-ment disorder with anxiety (N=45)**	**Situatio-nal anxiety (N=46)**	**Specific social phobia (N=39)**	**Unspecific social phobia (N=13)**	**Anxiety of insuffi-ciency (N=61)**	**Hypo-chon-driac anxiety (N=23)**	**Gene-ralised anxiety (N=70)**	**Work-place phobia (N=39)**
PTSD		1 2,2%	2 4,3%	0 0%	1 7,7%	1 1,6%	0 0%	1 1,4%	2 5,1%
Adjustment disorder	1 25%		16 43,8%	20 51,3%	6 46,2%	22 26,1%	10 43,5%	24 34,3%	25 64,1%
Situational anxiety	2 50%	16 35,6%		12 30,8%	2 15,4%	17 27,9%	7 30,4%	27 38,6%	13 33,3%
Specific social phobia	0 0%	20 44,4%	12 26,1%		6 46,2%	20 32,8%	4 17,4%	25 35,7%	20 51,3%
Unspecific social phobia	1 25%	6 13,3%	2 4,3%	6 15,4%		8 13,1%	3 13,0%	7 10%	11 28,2%
Anxiety of insufficiency	1 25%	22 48,9%	13 28,3%	20 51,3%	8 61,5%		7 30,4%	35 50%	23 59%
Hypochondriac anxiety	0 0%	10 22,2%	7 15,2%	4 10,3%	3 23,1%	7 11,5%		10 14,3%	7 17,9%
Generalized anxiety	1 25%	24 53,3%	27 58,7%	25 64,1%	7 53,8%	35 57,4%	10 43,5%		20 51,3%
Workplace phobia	2 50%	25 55,6%	13 28,3%	20 51,3%	11 84,6%	23 37,7%	7 30,4%	20 28,6%	
Any comorbid workplace-related anxiety	3 75%	33 73,3%	35 76,1%	33 84,6%	13 92,3%	47 77%	15 65,2%	59 84,3%	32 82,1%

From these results, tendencies can be seen which qualities of workplace-related anxieties tend to appear together with which, and how often they were connected with a workplace phobia. For the latter, it can be seen that mainly workplace-related social phobias as well as adjustment disorders occurred with workplace phobia, whereas generalized anxiety, situational anxieties or hypochondriac anxieties were less often occurring together with workplace phobia.

In several workplace-related anxieties, there were high comorbidity rates with workplace-related generalized anxiety: adjustment disorders, social phobias, situational anxiety as well as anxiety of insufficiency came along with workplace-related worrying in more than 50%. Social phobias did also tend to occur together with anxiety of insufficiency. Workplace phobia went along with adjustment disorders in many cases, but did also appear together with specific social phobia, anxiety of insufficiency and generalized worrying.

For all of the explored workplace-related anxiety qualities there were high comorbidity rates, that means each workplace-related anxiety was in at least 65% of cases combined with a second workplace-related anxiety.

But, comorbidity rates were varying: 65% of those patients suffering from workplace-related hypochondriac anxiety reported another accompagnying workplace-related anxiety, 92% of those with a workplace-related unspecific social phobia had another workplace-related anxiety.

17,9% of the patients with workplace phobia did not have a comorbid workplace-related anxiety, but an adjustment disorder with other affect.

The phenomenon of workplace phobia will be explored more detailed in the chapter 4.9.

Job-anxiety in the self-rating

In addition to the diagnosis from the diagnostic interview Mini-WAI, the patients´ self-ratings concerning experienced symptom load at the workplace shall be briefly reported here (table 11).

Table 11. Levels of job-anxiety in different dimensions according to the JAS in psychosomatic inpatients in the beginning of rehabilitation (*N*=212). Means of the subscales and dimensions (standard deviation). Rating from 0-4 (no agreement at all – total agreement)

Job-Anxiety-Scale **Dimensions and subscales**	**Men** **(N=60)**	**Women** **(N=152)**	**All** **(N=212)**
JAS Mean score	1,64 (0,98)	1,63 (1,04)	1,63 (1,02)
JAS Stimulus-related anxiety and avoidance behavior	1,51 (1,1)	1,57 (1,26)	1,55 (1,21)
- anticipatory anxiety	1,85 (1,25)	1,84 (1,36)	1,85 (1,33)
- phobic avoidance	1,11 (1,19)	1,31 (1,37)	1,26 (1,32)
- conditioned anxiety	1,64 (1,2)	1,57 (1,3)	1,59 (1,26)
- global workplace-anxiety	1,57 (1,46)	1,69 (1,57)	1,66 (1,53)
JAS Social anxiety and cognition of mobbing	1,24 (0,92)	1,26 (1,0)	1,25 (0,98)
- fear of exploitation	1,29 (0,98)	1,32 (1,11)	1,31 (1,08)
- social anxiety	1,44 (1,12)	1,41 (1,11)	1,42 (1,11)
- cognition of mobbing and threat	0,84 (0,96)	0,9 (1,12)	0,88 (1,08)
JAS Health-and body-related anxieties	2,06 (1,16)	1,97 (1,28)	2,0 (1,24)
- hypochondriac anxieties	2,18 (1,33)	1,98 (1,4)	2,04 (1,4)
- panic and physiological symptoms	1,73 (1,28)	1,76 (1,42)	1,75 (1,38)
- function-related anxieties	2,23 (1,28)	2,26 (2,29)	2,25 (1,28)
JAS Cognition of insufficiency	1,67 (1,15)	1,61 (1,1)	1,63 (1,11)
- general cognition of insufficiency	1,69 (1,15)	1,63 (1,1)	1,65 (1,11)
- fear of changes	1,64 (1,24)	1,58 (1,22)	1,6 (1,22)
JAS Work-related worrying	2,11 (1,0)	2,1 (1,03)	2,1 (1,02)
- worrying (in the sense of job-related general anxiety)	2,06 (1,21)	1,88 (1,29)	1,93 (1,27)
- anxiety concerning existence	2,16 (1,03)	2,32 (1,1)	2,28 (1,08)

It can be seen that the highest average scores occurred in the dimensions of worrying and health-related job-anxiety, whereas the dimension of social anxiety got the lowest scores. Especially in reporting about experienced mobbing and threatening at work patients appeared reserved with lower scores (*M*=0,84-0,9), compared to other subscales like anxiety concerning existence (*M*=2,28) or function-related anxieties (*M*=2,25). In none of the JAS-dimensions and -subscales significant differences were to be found between men and women. The self-ratings on job-anxiety levels will be used for further analysis - referring to specific research questions - in the next chapters.

As the results show, workplace-related anxieties may occur in different comorbid pattern with on average two or three workplace-related diagnosis. There may be only one quality of workplace-related anxiety in one person, but in most cases there were more. This was especially to be seen in those cases who have developed a workplace phobia. Anxieties which tend to occur together most often were generalized anxiety in the sense of worrying and anxiety of insufficiency. Social phobias often went along with anxiety of insufficiency, generalized worrying and workplace phobia. Similar findings could be stated for adjustment disorder. Each of the workplace-related anxiety qualities was in more than 60% of cases comorbid with another workplace-related anxiety.
In the job-anxiety self-rating results, patients scored higher in worrying and health-related anxieties than in cognitions of mobbing and (social) threat.

4.4 Comorbidities between Workplace-related Anxieties and Conventional Mental Disorders

In this chapter, a detailed analysis of the comorbidities between conventional anxieties and other mental disorders and workplace-related anxieties shall be undertaken.

Table 12 shows the comorbidities of workplace-related anxiety diagnosis and conventional mental disorders assessed with *MINI International Neuropsychiatric Interview* and *MINI-Work-Anxiety-Interview.*

Depression

More than half of the patients with the diagnosis of a depressive episode had a comorbid conventional anxiety diagnosis as well. On the other hand, 39,3% of those patients with at least one kind of conventional anxiety had a comorbid depression diagnosis.

Depression was found as a comorbid diagnosis in about half of those patients with workplace-related social phobias. 60,7% of patients with workplace-related anxiety of insufficiency fulfilled the criteria of depression, from those with depression 43% suffered from workplace-related anxiety of insufficiency.

Depressive patients had in 26,7% of cases a workplace phobia, those patients with workplace phobia got in 59% a diagnosis of depressive episode from the interview.

Generalized anxiety

Most of the patients with a conventional generalized anxiety diagnosis did also suffer from worrying at the workplace (71,8%), whereas from those with a workplace-related generalized anxiety less than the half (40%) had a comorbid generalized anxiety.

Social phobia

About half of the patients with conventional social phobia were suffering from workplace-related anxiety of insufficiency and workplace-related generalized anxiety (worrying). Vice versa, patients with workplace-related anxiety of insufficiency and those with workplace-related generalized anxiety had in ca. 15% a conventional social phobia.

12,8% of the patients with a workplace-related specific social phobia also fulfilled the criteria of a conventional social phobia, among those with a workplace-related unspecific social phobia 61,5% did so.

Most of patients with workplace-related specific social phobia (76,9%) had a conventional adjustment disorder which was thus not related to the workplace.

Hypochondriasis, PTSD, Obsessive Compulsive Disorder

Compared with other anxiety diagnosis like social phobia, agoraphobia, there were low comorbidity rates between hypochondriasis and workplace-related anxieties, ranging between 0-25% for the different workplace-related anxiety comorbidities.

A similar finding can be made for conventional PTSD. Since there were only four patients with workplace-related PTSD and seven with a non-workplace-related (thus conventional)

PTSD, these results have to be interpreted carefully as the pattern of comorbidities here can be resulting by accident.

Obsessive compulsive disorder was in 50% of cases going along with workplace-related situational anxiety and in 66,7% with workplace-related generalized anxiety. Five out of eight of the patients with both OCD and workplace-related generalized anxiety reported that their mental problems began independently from the workplace situation, thus the conventional mental disorder manifested before the workplace-related symptoms began[4].

Conventional anxiety and mental disorders

From those 39 patients who did not have any conventional mental diagnosis at all, there were more than 20% who had a workplace-related adjustment disorder, or a workplace-related specific social phobia or a workplace-related generalized anxiety.

Conventional anxiety diagnosis most often occurred as agoraphobia (38,5%) and generalized anxiety (32%), followed by panic disorder, hypochondriasis, obsessive compulsive disorder and PTSD. 69,2% of the patients with conventional anxiety diagnosis did also suffer from a workplace-related anxiety.

From the conventional anxieties especially panic disorder and social phobia (>80%) as well as agoraphobia and obsessive compulsive disorder (75%) had comorbid conventional anxieties, whereas generalized anxiety and hypochondriasis (36% and 44% with comorbid anxiety) tend to occur more often as a single anxiety diagnosis. A similar result was to be seen for the conventional adjustment disorder.

Workplace phobia and workplace-related anxieties

Workplace phobia was more often comorbid with depression (59%) than with most of the conventional anxiety disorders. Alone, agoraphobia occurred in 41% of the patients who suffer from workplace phobia. 12,8% of those patients with workplace phobia did not have any conventional diagnosis.

Patients with workplace-related anxiety did most often suffer from generalized anxiety, followed by anxiety of insufficiency, situational anxiety and adjustment disorder with anxiety. It can be seen that in all workplace-related anxieties there was a strong tendency to occur together with other workplace-related anxieties. This is to be found especially for the workplace-related social phobias and workplace-related generalized anxiety.

[4] Other aspects of etiology will be focused in an extra chapter (4.7).

Workplace phobia – according to the theoretic assumptions - is expected to appear in comorbidity with workplace-related anxieties. Here 82,1% of the workplace phobic patients had workplace-related anxieties[5] beside the phobia, the remaining 17,9% had a single adjustment disorder with anxiety and/or another affect.

Single workplace-related anxiety and conventional mental disorders

Out of the 56 patients with one single workplace-related anxiety diagnosis, 85,7% obtained an additional conventional diagnosis from the MINI. 57,1% of them got more than one diagnosis, 28,6% one conventional diagnosis, which in each case was an anxiety diagnosis. Regarding comorbidities in anxiety, 28,6% of these patients with comorbid conventional diagnosis suffered from one conventional anxiety diagnosis, 19,6% from more than one and 51,8% had no conventional anxiety diagnosis but another conventional mental disorder, like 30,4% a depressive episode.

Many patients with workplace-related anxiety diagnosis did also suffer from a depressive episode. Workplace phobia was more often comorbid with depression than with most of the conventional anxiety disorders.

Qualities of conventional anxiety and their corresponding workplace-related anxieties were not occurring together coherently: For example, most of the patients with a conventional generalized anxiety diagnosis did also suffer from worrying at the workplace, whereas from those with a workplace-related generalized anxiety less than the half had a comorbid generalized anxiety.

Patients with a single workplace-related anxiety diagnosis, that means with one special anxiety quality only, did in most cases suffer from comorbid conventional mental disorders, mainly anxiety disorders and depressive episodes.

[5] Workplace-related posttraumatic stress disorder, workplace-related specific or unspecific social phobia, workplace-related situational anxiety, workplace-related hypochondriac anxiety, workplace-related anxiety of insufficiency.

Table 12. Comorbidities of workplace-related anxieties and conventional mental disorders according to MINI and Mini-WAI in psychosomatic inpatients (*N*=230)
Percentage of workplace-related anxiety per conventional mental disorder (in brackets) and percentage of conventional mental disorder per workplace-related anxiety
Example how to read the table: 3,2% of patients who have got a conventional panic disorder according to MINI do also report a workplace-related PTSD syndrome according to Mini-WAI. 25% of those patients in which a workplace-related PTSD is stated do also suffer from a panic disorder according to MINI.

Conventional mental disorder **Workplace-related anxiety**	**Depressive episode (N=85)**	**Adjust-ment disorder (N=55)**	**Panic disorder (N=31)**	**Agora-phobia (N=45)**	**Social phobia (N=18)**	**Genera-lised anxiety disorder (N=39)**	**Hypo-chon-driasis (N=16)**	**Obsessive compulsive disorder (N=12)**	**PTSD (N=7)**	**Any [Comorbid] workplace-related anxiety (N=134)**	**Patients without con-ventional diagnosis (N=39)**
PTSD N=4	(0%) 0%	(0%) 0%	(3,2%) 25%	(4,4%) 50%	(0%) 0%	(0%) 0%	(0%) 0%	(0%) 0%	(0%) 0%	(3%) 75%	(2,6%) 25%
Adjustment disorder with anxiety N=45	(23,3%) 44,4%	(10,9%) 14%	(22,6%) 15,6%	(28,9%) 28,9%	(22,2%) 8,9%	(28,2%) 24,4%	(12,5%) 4,4%	(33,3%) 8,9%	(14,3%) 2,2%	(32,8%) 73,3%	(20,5%) 17,8%
Situational anxiety N=46	(22,1%) 41.3%	(14,5%) 18,6%	(32,3%) 21,7%	(33,3%) 32,6%	(33,3%) 13%	(25,6%) 21,7%	(25%) 8,7%	(50%) 13%	(28,6%) 4,3%	(34,3%) 76,1%	(17,9%) 15,2%
Specific social phobia N=39	(22,1%) 48,7%	(14,5%) 76,9%	(22,6%) 17,9%	(26,7%) 30,8%	(27,8%) 12,8%	(20,5%) 20,5%	(12,5%) 5,1%	(25%) 7,7%	(28,6%) 5,1%	(28,4%) 84,6%	(23,1%) 23,1%
Unspecific social phobia N=13	(8,1%) 53,8%	(1,8%) 7,7%	(16,1%) 38,5%	(13,3%) 46,2%	(44,4%) 61,5%	(7,7%) 23,1%	(0%) 0%	(0%) 0%	(0%) 0%	(9,7%) 92,3%	(2,6%) 7,7%
Anxiety of insufficiency N=61	(43,0%) 60,7%	(21,8%) 20,3%	(45,2%) 23,0%	(46,7%) 34,4%	(50,0%) 14,8%	(33,3%) 21,3%	(12,5%) 3,3%	(25%) 4,9%	(28,6%) 3,3%	(45,5%) 77%	(15,4%) 9,8%
Hypochondriac anxiety N=23	(7%) 26,1%	(9,1%) 22,7%	(12,9%) 17,4%	(11,1%) 21,7%	(11,1%) 8,7%	(7,7%) 13%	(25%) 17,4%	(8,3%) 4,3%	(0%) 0%	(17,2%) 65,2%	(5,1%) 8,7%
Generalized anxiety N=70	(33,7%) 41,4%	(20,0%) 16,4%	(48,4%) 21,4%	(44,4%) 28,6%	(55,6%) 14,3%	(71,8%) 40%	(18,8%) 4,3%	(66,7%) 11,4%	(42,9%) 4,3%	(52,2%) 84,3%	(28,2%) 15,7%
Workplace phobia N=39	(26,7%) 59%	(12,7%) 18,9%	(22,6%) 17,9%	(35,6%) 41%	(38,9%) 17,9%	(20,5%) 20,5%	(6,3%) 2,6%	(16,7%) 5,1%	(0%) 0%	(26,9%) 82,1%	(12,8%) 12,8%
Any (comorbid) conventional anxiety diagnosis N=117	(53,5%) 39,3%	(38,2%) 18,3%	(83,9%) 26,5%	(75,6%) 38,5%	(83,3%) 15,4%	(35,9%) 31,6%	(43,8%) 13,7%	(75%) 10,3%	(57,1%) 5,1%	(60,4%) 69,2%	(0%) 0%

4.5 WORKPLACE-RELATED ANXIETIES AND WORK PARTICIPATION DISORDERS

Question of research: Do different workplace-related anxieties have different effects on work performance and work participation?

For stating the diagnosis of any workplace-related anxiety in the *Mini-Work-Anxiety-Interview,* an obligatory criterion was either suffering from the symptoms heavily and/or restrictions in carrying out daily work duties. In case a diagnosis had been stated it was further explored for this diagnostic category whether this kind of workplace-related disorder caused *participation disorders* in the sense of absence from work. Absence was operationalized on three levels being either

- staying away from the workplace for a short time for one or some days, or
- sick leave certified by a medicine, or even
- the loss or change of the workplace.

On the level of *performance disorders* while being at work, it was explored whether a person

- delegated work to colleagues or
- worked overtime

regularly in order to compensate negative consequences resulting from the symptoms of the workplace-related mental disorder.

First a brief descriptive overview on the frequencies of work participation disorders and sick leave durations in the investigated sample shall be given (table 13a):

Table 13a. Work participation disorders according to Mini-WAI and sick leave duration in psychosomatic inpatients (*N*=230). Means (standard deviation) are reported for the sick leave duration, percentages are reported for the categories of participation disorder at current or last workplace.

Work participation disorder	**Men (N=66)**	**Women (N=164)**	**All (N=230)**
Sick leave duration in weeks in the past 12 months before rehabilitation	19,3 (18,3)	13,4 (16,1)	15,1 (16,9)
Sick leave duration in weeks directly before rehabilitation	19,8 (29,4)	11,7 (27,4)	14,3 (28,2)
Short time absence	6,1%	4,4%	4,9%
Sick leave	39,4%	27%	30,7%
Loss or change of workplace	6,1%	5,7%	5,8%
No participation disorder	48,5%	62,9%	58,7%

It can be seen that less than the half of all interviewed patients had work participation disorders in the sense of absence times. In both women and men work participation disorders due to workplace-related mental disorders were mostly appearing in the form of sick leave certified by a medicine. Men were on average staying on sick leave longer than women, and they did also more often report participation disorders due to workplace-related mental disorders. 30,4% of the sample were on sick leave in the past 12 months for longer than 20 weeks (compare table 4), whereby this was found relatively more often in men than in women.

The now arising question is: Do different qualities of workplace-related anxieties have different effects on work performance and work participation?

Table 13b shows the general distribution of work performance and work participation disorders according to the different workplace-related mental disorders. It can be seen that patients with adjustment disorder and workplace phobia mostly had both performance and participation disorder, or participation disorder only. Patients with situational anxiety and generalized anxiety did most often report work performance disorder, without participation disorder with absence.

Table 13b. Work participation disorders and work performance disorders in psychosomatic inpatients with workplace-related mental disorders according to the Mini-WAI (*N*=151)

From the patients with diagnosis of .... **...X (%) suffer from work participation or work performance problems**	**Work participation disorder (short time absence, sick leave or loss or change of workplace) without delegating and work overtime**	**Work performance disorder (delegating or work overtime) without work participation disorder**	**Both work performance and work participation disorder**
Workplace-related PTSD (N=4)	0 0%	0 0%	2 50%
Workplace-related adjustment disorder with anxiety (N=45)	13 28,8%	4 8,8%	18 40%
Workplace-related adjustment disorder with other affect (N=59)	25 42,4%	4 6,8%	15 25,4%
Workplace-related specific social phobia (N=39)	8 20,5%	4 10,3%	8 20,5%
Workplace-related unspecific social phobia (N=13)	0 0%	3 23,1%	5 38,5%
Workplace-related situational anxiety (N=46)	2 4,3%	24 52,2%	12 26,1%
Workplace-related hypochondriac anxiety (N=23)	9 39,1%	2 8,7%	6 26,1%
Workplace-related anxiety of insufficiency (N=61)	14 23%	15 24,6%	18 29,5%
Workplace-related generalized anxiety resp. Worrying (N=70)	5 7,1%	30 42,8%	10 14,3%
Workplace phobia (N=39)	18 46,2%	2 5,1%	14 35,9%

Workplace-related anxieties and work performance disorders

Next the distribution of work performance disorders will be regarded (table 13c).

Independently from participation disorders with absence from the workplace, there can be restrictions in role performance at work, often to be seen in difficulties to carry out the own work duties adequately. In this investigated sample, patients with workplace-related hypochondriac anxiety and social phobias less often reported working overtime. Instead, they tended to delegate works to colleagues, similar to patients with situational anxiety. The same can be stated for patients with workplace phobia. Patients with generalized anxiety did most often report working overtime in order to compensate the capacity limitations caused by the symptoms. For patients with adjustment disorders it cannot clearly be seen whether there are trends of rather working overtime or delegating, there was also a certain number who used both strategies of compensation.

Table 13c. Work performance disorders in psychosomatic inpatients with workplace-related mental disorders according to Mini-WAI (*N*=151)

From the patients with diagnosis of	**...X (%) suffer from work performance problems**	**Delegating works to colleagues**	**Working overtime**	**Delegating and working overtime**
Workplace-related PTSD		2	0	0
(N=4)		50%	0%	0%
Workplace-related adjustment disorder with anxiety		7	9	6
(N=45)		15,6%	20%	13,3%
Workplace-related adjustment disorder with other affect		5	5	9
(N=59)		8,5%	8,5%	18,3%
Workplace-related specific social phobia		6	4	2
(N=39)		15,4%	10,3%	5,1%
Workplace-related unspecific social phobia		5	0	3
(N=13)		38,5%	0%	23,1%
Workplace-related situational anxiety		18	8	10
(N=46)		39,1%	17,4%	21,7%
Workplace-related hypochondriac anxiety		6	0	2
(N=23)		26,1%	0%	8,7%
Workplace-related anxiety of insufficiency		7	14	12
(N=61)		11,5%	23%	19,6%
Workplace-related generalized anxiety resp. Worrying		4	28	8
(N=70)		5,7%	40%	11,4%
Workplace phobia		14	0	2
(N=39)		35,9%	0%	5,1%

Workplace-related anxieties and work participation disorders

Tabel 13d gives an overview on the frequencies of work participation disorders with absence occurring in connection with workplace-related anxieties and adjustment disorders.

Table 13d. Work participation disorders with absence from work in psychosomatic inpatients with workplace-related disorders according to Mini-WAI (*N*=151)

From the patients with diagnosis of ....X (%) suffer from work participation problems	**No participation problem**	**Short time absence**	**Sick leave**	**Loss or change of workplace**
Workplace-related PTSD (N=4)	2 50%	0 0%	2 50%	0 0%
Workplace-related adjustment disorder with anxiety (N=45)	14 31,1%	14 31,1%	27 60%	4 8,9%
Workplace-related adjustment disorder with other affect (N=59)	19 32,2%	19 32,2%	35 59,3%	11 18,6%
Workplace-related specific social phobia (N=39)	23 59%	7 17,9%	15 38,5%	5 12,8%
Workplace-related unspecific social phobia (N=13)	8 61,5%	3 23,1%	5 38,5%	1 7,7%
Workplace-related situational anxiety (N=46)	32 69,6%	5 10,9%	13 28,3%	0 0%
Workplace-related hypochondriac anxiety (N=23)	8 34,8%	6 26,1%	13 56,5%	0 0%
Workplace-related anxiety of insufficiency (N=61)	29 47,5%	15 24,6%	29 47,5%	4 6,5%
Workplace-related generalized anxiety resp. Worrying (N=70)	55 78,6%	9 8,6%	10 12,9%	0 0%
Workplace phobia (N=39)	7 17,9%	13 33,3%	31 79,5%	8 20,5%

From these data it can be seen that work participation disorders were varying in frequency in the different anxiety categories: The main part of patients with workplace-related generalized anxiety did not report participation disorders due to worrying which is characteristic for this quality of anxiety. Similarly, situational anxiety did not lead to absence in nearly 70% of the affected.

In anxieties of insufficiency and hypochondriac anxiety, as well as in workplace-related adjustment disorders, there are higher rates of participation disorders resulting from the symptoms: In these categories, more than half of the affected reported that they have or had participation disorders at the workplace where these symptoms manifested. Highest rates of participation disorders were to be seen in patients with workplace-related

adjustment disorder after a stressful event at the workplace: nearly 70% of those with a workplace-related adjustment disorder had work participation disorders.

Loss or change of the workplace as the most severe consequence resulting from a workplace-related mental disorder was found in a number of patients with workplace-related adjustment disorders, as well as in those suffering from workplace-related social phobias and anxiety of insufficiency.

From the four patients with workplace-related PTSD, half of them had no participation disorder in consequence of the traumatic event, the other half was on sick leave because of their anxiety reaction.

Workplace phobia and work participation disorder

In comparison to the other workplace-related anxiety and adjustment disorders, patients with workplace phobia did most often suffer from work participation disorders: they reported most often a workplace loss or change (20,5%), and 82,1% of the workplace phobic had been on sick leave or absent for a short time without medical consultation. Seven out of 39 patients with workplace phobia had continued attending their workplace while suffering from symptoms of anxiety during the working days.

Single workplace-related anxiety and work participation disorder

56,4% out of the 56 patients who had one single standing workplace-related anxiety diagnosis reported no participation disorders, 34% were on sick leave and 3,6% had lost or changed their workplace.

Regarding the different qualities of workplace-related anxieties, there are similar results like those above calculated for the whole sample: From 11 patients with situational workplace-related anxiety, one person was on sick leave; three out of 11 patients affected by generalized anxiety were on short time absence and no one on sick leave. One out of five with specific social phobia was on sick leave and another had lost his workplace, as well as the person with an unspecific social phobia. Three out of six with adjustment disorder with anxiety (without another specifying quality of workplace-related anxiety) had already been on sick leave in consequence of the stressful event. Half of the eight patients with hypochondriac anxiety had been on sick leave because of the symptoms as well as six out of 14 with anxiety of insufficiency.

Level of job-anxiety and duration of absence from work

JAS mean score (*r*=.357**, .326**) as well as SCL-90-R Global Severity Index (*r*=.158*, .149*) both showed significant correlations with duration of acute sick leave and sick leave duration in the past 12 months. As there was a remarkable relation between the JAS and SCL scores (*r*=.416**), it can be assumed that there are interactions between them influencing their predictor values towards the criterion variable sick leave. Therefore it should additionally be explored in partial correlation which relation do general psychosomatic symptom load and job-anxiety show to the sick leave duration when cleaned from the influence of the other predictor variable. In this analysis JAS mean still correlated significantly with acute sick leave duration (*r*=.281**) as well as with sick leave duration in the past 12 months (*r*=.308**) whereas this could no longer be found for the SCL-90-R Global Severity Index (*r*=.121, .105).

Workplace-related anxieties and conventional anxieties and sick leave

Table 14 shows the times of sick leave duration in patients with different profiles of anxiety diagnosis. It can be seen that patients without anxiety diagnosis were as often on sick leave before rehabilitation as patients with conventional anxiety disorder, but patients with workplace-related anxiety were significantly more often on sick leave before rehabilitation than the other patients.

Table 14. Profiles of anxiety diagnosis according to MINI and Mini-WAI and duration of sick leave in psychosomatic inpatients (*N*=230). Means (standard deviation). Significance of difference calculated by ANOVA (Bonferoni-correction)

[a] Patients with workplace-related anxiety diagnosis versus patients with conventional anxiety diagnosis

[b] Patients with workplace-related anxiety and conventional anxiety diagnosis versus patients with conventional anxiety diagnosis

[c] Patients with workplace-related anxiety and conventional anxiety diagnosis versus patients with workplace-related anxiety diagnosis

Profile of Anxiety-diagnosis **Sick leave**	**Patients without anxiety diagnosis (N=60)**	**Patients with workplace-related anxiety diagnosis (N=53)**	**Patients with conventional anxiety diagnosis (N=36)**	**Patients with workplace-related anxiety and conventional anxiety diagnosis (N=81)**	**Significance of difference**
On sick leave before rehabilitation (%)	25%	53%	22%	53%	[a].019** [b].012** [c]1.000
Sick leave duration before rehabilitation in weeks	7,15 (15,3)	15,3 (24,9)	13,9 (45,9)	18,4 (26,8)	[a]1.000 [b]1.000 [c]1.000
Sick leave duration in the past 12 months in weeks	9,8 (14,8)	16,3 (15,2)	13,0 (17,5)	19,2 (18,3)	[a]1.000 [b].383 [c]1.000

Patients with workplace-related anxieties were more often on sick leave before rehabilitation than patients without workplace-related anxiety.
There were differences among the different workplace-related anxieties concerning work participation disorders: While adjustment disorders often lead to participation disorders in the sense of sick leave or even loss of the workplace, generalized anxiety or worrying did not so often affect work participation.
Furthermore, sick leave duration was significantly correlated with the level of self-reported job-anxiety.
Patients with workplace phobia were mainly affected by participation disorders, 82% of them reacted with sick leave absence or even a final breaking off from the workplace.

4.6 CORRELATES OF WORKPLACE-RELATED ANXIETIES

Questions of research: Which variables are related to workplace-related anxieties: gender, age, general psychosomatic symptom load, profession, degree of self-experienced influence and control on the work, cognitive fitness?
Are there any hints towards what might be risk factors for high experienced job-anxiety?

Workplace-related anxieties and gender and age

There were no differences between men and women concerning the frequencies of the seperate workplace-related anxieties, except in workplace-related hypochondriac anxiety: here men (18,2%) were significantly more often concerned than women (6,7%).

Table 15. Workplace-related anxieties and general psychosomatic symptom load: Differences between male and female psychosomatic inpatients (*N*=230). Means (standard deviation). Significance of difference calculated by T-test for independent samples.

	Men (N=66)	**Women (N=164)**	**Significance of difference**
SCL GS	1,12 (0,7)	1,26 (0,7)	.198
JAS Mean score	1,64 (1,0)	1,63 (1,0)	.944
Number of workplace-related anxiety diagnosis (Mini-WAI)	1,27 (1,3)	1,1 (1,2)	.352
Number of conventional mental disorder diagnosis (MINI)	2,1 (1,4)	1,7 (1,4)	.065

Regarding workplace-related anxieties and general psychosomatic symptom load (table 15) there were no significant differences between men and women.
However, concerning workplace-related anxiety, women and men did not differ in both assessment variations (self-rating and interview), but concerning conventional mental disorders, men tendentially had more diagnosis than women.

Age did not show any significant correlations neither with the self-reported experienced work load (r=.107) nor with the number of workplace-related anxiety diagnosis (r=-.016). There was no linear relation between age and level of job-anxiety measured with the *Job-Anxiety-Scale* (mean score, r=.075).
But, the same was found for the number of conventional mental disorders´ diagnosis and level of self-reported psychosomatic symptom load according to the SCL-90-R Global Severity Index: there were no significant correlations with age.

Workplace-related anxieties and profession

The level of job-anxiety (JAS) as well as general psychosomatic symptom load (SCL-90-R) was analysed concerning differences between employed and unemployed patients. Those patients who were currently out of work scored significantly higher in the global scores of both scales (employed JAS M=1,5 (SD=1,0), unemployed JAS M=1,9 (SD=1,0); employed SCL GSI=1,14 (SD=0,6), unemployed SCL GSI=1,42 (SD=0,7)). Within the employed, patients who were on sick leave before coming into rehabilitation were scoring significantly higher than those who directly came from their workplace (sick leave JAS M=2,2 (SD=1,0), fit for work JAS M=1,2; (SD=0,8) sick leave SCL GSI=1,3 (SD=0,6), fit for work SCL GSI=1,04 (SD=0,6)).
There were no significant linear correlations between the level of job-anxiety and professional status, that means the degree of professional education (ranking from: 0 = no professional education, 1 = in professional education, 2 = professional certificate as worker, 3 = master of profession, 4 = university diploma or doctorate). The same can be found for the SCL-90-R subscales.

Figure 4. Workplace-related anxieties according to Mini-WAI in different professional groups of psychosomatic inpatients (*N*=224). Percentages are shown.

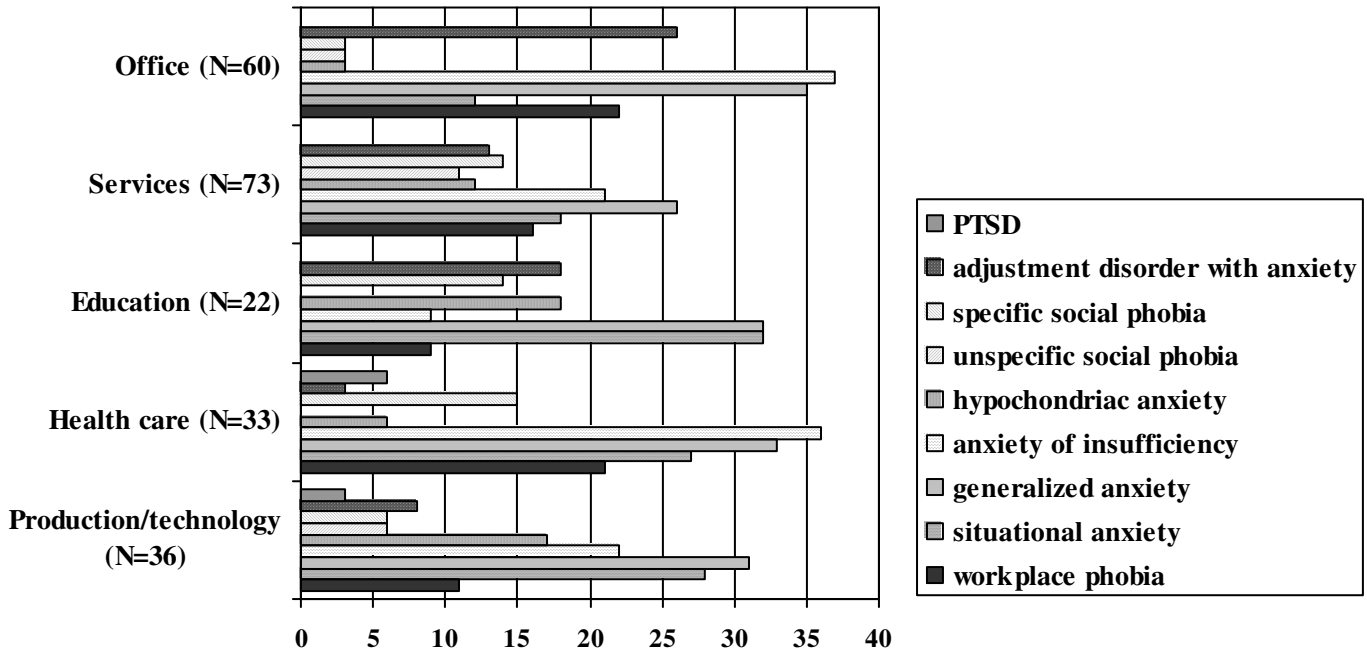


Figure 4 shows the distribution of workplace-related anxieties in the different professional groups. It can be seen that workplace-related generalized anxiety was in all professional settings one of the most frequent qualities of anxiety. Over 30% of the employees in health care profession as well as in office jobs were suffering from anxiety of insufficiency. Compared with the other groups, employees in the education and culture domain were relatively rarely suffering from anxiety of insufficiency. A traumatic event with following workplace-related PTSD was reported by participants working in the domain of production and technology and in health care professions. Specific social phobias occurred in office jobs more often than in other domains, least often in production and technology. Compared to other workplace-related anxieties, hypochondriac anxiety played a relatively little role, but occurred with some more than 15% in patients coming from educational professions and technology domains. The overall intergroup differences were significant on a 5%-level for the categories of workplace-related specific social phobia and workplace-related anxiety of insufficiency and on a 10%-level for workplace-related unspecific social phobia, workplace-related PTSD and workplace-related adjustment disorder. Within these results, the difference in frequency of workplace-related specific social phobias in the domain of administration and office jobs versus the domain of technology, production and manufactoring was most obvious. Workplace phobia was most often to be found in employees from health care and in office jobs (>20%) and least often in the domain of education and culture (9%).

The same analysis of difference were calculated for all categories of conventional diagnosis assessed with MINI. Differences between the five groups were only found in adjustment disorder and hypochondriasis. Adjustment disorders were significantly more often found in patients coming from the professional domain of technology, production and manufactoring (39%) than in those patients working in the domain of culture and education (14%) and those from trade, services and gastronomy (15%). Hypochondriasis was significantly more often present in the domain of technology (19%) than in trade, services and gastronomy (4%) and administration or office jobs (5%).

Workplace characteristics

Characteristics of the workplace and the work itself as seen by the employee have been explored with the *Short Questionnaire for Job Analysis* (KFZA) on several dimensions. Table 16 shows the degrees of agreement the patients gave concerning the different aspects of work quality in their current or last workplace.

Table 16. Workplace characteristics according to *the Short Questionnaire forJob Analysis* (KFZA) reported by psychosomatic inpatients (*N*=211). Means of the dimensions (standard deviation). Rating from 0-4 (no agreement– high agreement)

Short Questionnaire for Job Analysis: Dimensions of work characteristics	**Men (N=60)**	**Women (N=151)**	**All (N=211)**
Scope of action	2,38 (1,21)	2,0 (1,22)	2,11 (1,23)
Variability	2,76 (0,94)	2,55 (1,07)	2,61 (1,04)
Holistic job	2,33 (1,18)	2,32 (1,23)	2,32 (1,21)
Social support	2,04 (1,12)	2,05 (1,17)	2,05 (1,15)
Co-operation	2,23 (0,96)	2,21 (0,98)	2,22 (0,97)
Qualitative stress at work	1,73 (1,26)	1,53 (1,24)	1,58 (1,24)
Quantitative stress at work	3,06 (1,04)	2,59 (1,51)	2,72 (1,18)
Interruptions while working	2,28 (1,16)	1,98 (1,21)	2,05 (1,25)
Environmental stress	1,74 (1,45)	1,72 (1,37)	1,73 (1,39)
Information and participation	1,81 (1,08)	1,79 (1,03)	1,8 (1,04)
Benefits	1,42 (1,1)	1,23 (1,01)	1,28 (1,04)

It can be seen that the participants reported higher levels of quantitative stress at work than qualitative stress. Agreement concerning recognizing the work duties as varying and holistic was in the upper part of the rating-scale, but not in a same way extended in the dimension receiving benefits from work. Environmental stress and irritations because of interruptions while working got on average middle scores. Concerning experienced scope of action and quantitative stress at work, men had reached significantly higher scores than women.

Workplace-related anxieties and workplace characteristics

Table 17a shows the correlations between the symptomatic loads and work characteristics as reported by the patients in the self-rating questionnaires.

Here it can be seen that both general psychosomatic symptom load and job-anxiety level (measured with SCL-90-R and JAS) showed significant correlations with the different dimensions of work characterstics (KFZA); however, job-anxiety showed more narrow relations (correlations $r>.400$) than the general psychosomatic symptom load.

Thus it can be said that the lower the experienced scope of action in the work, the higher was the level of experienced job-anxiety. Similarly: when experiencing less social support at the workplace through colleagues and superiors, the level of job-anxiety was higher. The more a person had experienced quantitative work stress and interruptions, the more he or she reported suffering from job-anxiety.

Neither the job-anxiety level (JAS mean score) nor the general psychosomatic symptom load (SCL-90-R GSI) were significantly correlated with hours of work per week or overtime work. The experienced work load showed significant but little correlation with the number of working hours per week ($r=.180^{**}$).

Table 17b shows the relations of hours of work and experienced work load with the different dimensions of workplace characteristics as experienced by the employee. There were mild correlations between hours of work/overtime working and interruptions while working, as well as quantitative stress at work. There were no significant correlations between working hours and social support. Patients with lower social support, higher quantitative stress at work and more interruptions while working reported a higher level of experienced work load.

Table 17a. Correlations between symptom load (SCL Global Severety Index (GSI) and JAS mean score) and experienced workplace conditions (KFZA) in psychosomatic inpatients (*N*=212). Pearson Correlation.

note: *p<.05, **p<.01. KFZA and JAS items rating from 0-4 (no agreement– high agreement), SCL items rating from 0-3 (no symptom load – severe symptom load).

KFZA Subscales	**Scope of action**	**Variability**	**Holistic job**	**Social support**	**Co-operation**	**Qualitative stress at work**	**Quantitative stress at work**	**Inter-ruptions while working**	**Environ-mental stress**	**Information and participation**	**Benefits**
Psychopathology SCL and JAS											
SCL GSI	-.246**	-.131	-.151*	-.194**	-.197**	-.152*	-.231*	.110	.262**	-.215**	-.149
SCL Unsureness in social contacts	-.179*	-.204**	-.133	-.171*	-.178*	.121	.164*	.081	.232**	-.152**	-.200**
SCL General anxiety	-.192*	-.040	-.108	-.177*	-.132	.140	.278**	.184*	.276**	-.176*	-.061
SCL Phobic anxiety	-.212**	-.128	-.078	-.182*	-.150*	.099	.170*	.118	.294**	-.220**	-.133
JAS Mean score	-.433**	-.164*	-.165*	-.575**	-.320**	.325**	.463**	.404**	.379**	-.306**	-.172*

Table 17b. Correlations between hours of work, overtime,experienced work load and experienced workplace conditions (KFZA) in psychosomatic inpatients (*N*=212). Pearson Correlation.

note: *p<.05, **p<.01. KFZA items rating from 0-4 (no agreement– high agreement), number of hours of work and overtime hours per week, experienced work load rating from 0-100

KFZA Subscales	**Scope of action**	**Variability**	**Holistic job**	**Social support**	**Co-operation**	**Qualitative stress at work**	**Quantitative stress at work**	**Inter-ruptions while working**	**Environ-mental stress**	**Information and participation**	**Benefits**
Hours of work per week	.203**	.125	.035	-.113	.023	.031	.303**	.273**	-.044	-.042	.107
Overtime hours of work/week	.051	.087	.134	-.068	-.023	.077	.343**	.292**	-.001	-.129	-.055
Experienced work load	-.358**	-.152**	-.236**	-.572**	-.345**	.279**	.402**	.426**	.325**	-.336**	-.216**

Table 18. Correlations between dimensions of job-anxiety (JAS) and general psychosomatic symptom load (SCL-90-R) in psychosomatic inpatients (*N*=192). Pearson correlation.

note: *p<.05, **p<.01. JAS items rating from 0-4 (no agreement– high agreement), SCL items rating from 0-3 (no symptom load – severe symptom load).

JAS Dimensions	SCL GSI	SCL Somati-zation	SCL Com-pulsive-ness	SCL Unsure-ness in social contact	SCL De-pressive tendencies	SCL General anxiety	SCL Aggres-siveness	SCL Phobic anxiety	SCL Paranoid thinking	SCL Psychoti-zism
JAS Mean score	.416**	.315**	.391**	.364**	.365**	.425**	.196**	.403**	.339**	.248**
JAS Stimulus-related anxiety and avoidance behavior	.385**	.316**	.353**	.314**	.338**	.403**	.203**	.395**	.292**	.192*
JAS Social anxieties and cognition of mobbing	.422**	.264**	.396**	.420**	.379**	.405**	.210**	.395**	.407**	.270**
JAS Health-and body-related anxieties	.370**	.330**	.352**	.282**	.300**	.394**	.185*	.394**	.271**	.197*
JAS Cognition of insufficiency	.374**	.304**	.382**	.323**	.316**	.387**	.160*	.349**	.272**	.239**
JAS Job-related worrying	.354**	.227**	.304**	.322**	.342**	.358**	.115	.301**	.306**	.264**

Level of job-anxiety and general psychosomatic symptom load

Table 18 shows the correlations between the subscales of JAS and SCL-90-R. It can be seen that for nearly all subscales (except JAS worrying and SCL aggressivity) there were significant moderate correlations, highest correlations (r>.400) could be found between Job-Anxiety-Scales and SCL anxiety subscales: feeling unsure in social contacts, phobic anxiety and general anxiety. Paranoid thinking was markably correlated (r=.407) with job-related social anxieties.

Level of job-anxiety and sick leave and work load

Setting into relation the duration of sick leave in the past 12 months and self-reported symptom load (table 19), there can be seen that all JAS dimensions except worrying showed high significant moderate correlations. Concerning the question to what degree the workplace has a negative influence on the person´s general health status ("experienced work load"), there were high correlations to be found over all JAS dimensions. Thus, the higher the level of job-anxiety, the higher the degree of experienced causal influence of the workplace.

For the subscales of SCL-90-R there were markably lower correlations with sick leave as well as with work load. Duration of sick leave showed low but significant connections with depressivity, general anxiety and phobic anxiety. Only paranoid thinking had a significant correlation with experienced work load on a 5%-level.

Table 19. Correlations between symptom load (JAS, SCL) and sick leave, work load, professional degree and cognitive fitness (*Intelligence Structure Analysis,* ISA) in psychosomatic inpatients (N=212). Pearson correlation.
note: *p<.05, **p<.01.

Dimension of psychopathology	Duration of sick leave in past 12 months	Experienced work load	ISA Global score
SCL Global Severity Index	.184*	.232*	-.194**
SCL Somatization	.157*	.155*	-.187*
SCL Compulsiveness	.125	.204*	-.170*
SCL Unsureness in social contacts	.064	.187*	-.099
SCL Depressive tendencies	.149**	.172*	-.186*
SCL General anxiety	.190**	.172*	-.205**
SCL Aggressiveness	-.046	.063	-.069
SCL Phobic anxiety	.207**	.166*	-.294**
SCL Paranoid thinking	.075	.244**	-.059
SCL Psychotizism	.080	.074	-.151
JAS Mean score	.326**	.759**	-.238**
JAS Stimulus-related anxiety and avoidance	.334**	.745**	-.247**
JAS Social anxieties and cognition of mobbing	.265**	.666**	-.189*
JAS Health-and body-related anxieties	.398**	.785**	-.208**
JAS Cognition of insufficiency	.304**	.692**	-.269**
JAS Job-related worrying	.171*	.588**	-.159*

Level of job-anxiety and cognitive fitness

For both JAS and SCL-90-R there were mild correlations to be seen between the subscales and the cognitive fitness performance measured with the ISA (table 18). Again the anxiety scales in the SCL-90-R (general anxiety and phobic anxiety) showed low significant correlations with the ISA global score, and in the JAS only worrying and social anxiety were not significant on a 5%-level.

Workplace-related anxities appeared independently from age in this sample. The aspect of gender did only show an influence in the category of workplace-related hypochondriac anxiety, here men were more often affected than women. However, the same difference was to be found for the conventional diagnosis of hypochondriasis.

In different professional domains, different qualities of workplace-related anxieties seem to appear with different frequencies. Such differences could be found less often in conventional mental disorders.

The self-reported level of job-anxiety showed significant middle correlations with the experienced work situation: the higher the experienced work load and interruptions of work and the lower the social support and scope of action, the higher was the level of job-anxiety.

There were middle correlations between the general anxiety level and job-anxiety dimensions. There were middle correlations between duration of sick leave and JAS dimensions, as well as between sick leave duration and depression and anxiety scales in the general psychosomatic symptoms´ measure. All JAS-dimensions were highly correlated with the experienced work load, SCL-90-R subscales did not show these narrow connections with the work load level.

Some aspects of job-anxiety as well as the general anxiety subscales were lightly connected with the cognitive fitness performance.

4.6.1 CLUSTERING PARTICIPANTS INTO HOMEGENEOUS GROUPS

In order to find out whether there are natural groups of patients within this clinical sample who can be described by certain similarities, an exploratory Two-Step-Cluster-Analysis was carried out. The question behind is which pattern of characteristics constitute homogeneous groups of patients, whereby socio-demographic as well as clinical characteristics should be taken into consideration.

In the literature, there have been repetedly discussions of several aspects which play a role in mental health problems: *Gender* is said to play a role for the probability of occurrence of certain mental disorders like anxiety and depression (e.g. Jacobi et al 2004; Halbreich & Kahn 2007) or even somatoform symptoms (Kroenke & Spitzer 1998). *Age* might play a role in workplace-related anxieties more than in conventional mental disorders (Beutel et al 2004) as it is also related to the idea that one hardly finds a new a job when being "too old" or that one might no longer fulfill the demands concerning flexibility in the job when being older (Kittner 2003). The *professional domain* in which the person is working was found to be connected with the occurrence of mental disorders in general (Wieclaw 2006). Furthermore, profession plays an important role when thinking about the aim of rehabilitation, namely occupational reintegration (DRV 2007; Kobelt et al 2006), whereby research was also focusing specific professional groups (e.g. Hillert et al 2001; Schaarschmidt et al 1999; Beutel et al 2004).

The aim of a cluster analysis in the context of this investigation is to find a variante for characterizing groups of patients according to aspects which are relevant for psychosomatic rehabilitation treatment which is oriented towards occupational reintegration and fitness for work. Therefore, beside the mentioned socio-demographic and professional aspects, the symptomatic quality of the disorder (Sanderson & Andrews 2006), its consequences for work participation (Greenberg et al 1999) and its domain-specifity (Linden & Muschalla 2007a; Mezerai et al 2006), thus the *clinical aspects,* are relevant.

Taking into consideration these as important aspects according to which groups of patients might be clustered, the following variables were chosen for the analysis:

- professional status (finished professional education, master of profession, university diploma, without professional education, still in professional education or student)
- diagnosis pattern (no diagnosis, workplace-related mental disorder, conventional mental disorder, or both workplace-related and conventional mental disorder)

- work participation disorder (in its severest appearance) resulting from any workplace-related anxiety or adjustment disorder (none, short time absence, sick leave, loss of or quitting the workplace)
- professional domain (production/technology, health care, education, services, or office job)
- gender (man or woman),
- age (in years)
- job-anxiety level (according to the JAS mean score).

These variables were chosen because they did not constitute very narrow connections with each other, but contain the essential aspects concerning the above mentioned socio-demographic as well as work-specific and mental health characteristics of the participants.

Table 20a. Two-Step-Cluster-Analysis with the variables professional status, pattern of diagnosis stated in the interview, work participation disorder (in its severest appearance) resulting from any workplace-related anxiety or workplace-related adjustment disorder, current professional domain, gender, age and job-anxiety level (JAS) in psychosomatic inpatients (*N*=204). For the variables JAS mean score and age the means (and standard deviations) are shown. For the other variables, the absolute number of objects (and percentages) belonging to the very phenotype of the variable are shown.

Variables for analysis	Cluster 1 N=47 [23% of the sample]	Cluster 2 N=40 [19,6% of the sample]	Cluster 3 N=45 [22,1% of the sample]	Cluster 4 N=26 [12,7% of the sample]	Cluster 5 N=46 [22,5% of the sample]
Pattern of diagnosis					
No diagnosis	0 (0%)	1 (6,7%)	13 (86,7%)	1 (6,7%)	0 (0%)
Workplace-related diag.	6 (30%)	4 (20%)	10 (50%)	0 (0%)	0 (0%)
Conventional mental diag.	0 (0%)	8 (14,8%)	0 (0%)	0 (0%)	46 (85,2%)
Workplace-related and conventional diag.	41 (35,7%)	27 (23,5%)	22 (19,1%)	25 (21,7%)	0 (0%)
Work participation disorder					
No participation disorder	0 (0%)	20 (17,1%)	44 (37,6%)	7 (6%)	46 (39,3%)
Short time absence	3 (27,3%)	5 (45,5%)	8 (0%)	3 (27,3%)	0 (0%)
Sick leave	35 (54,7%)	15 (23,4%)	1 (1,6%)	13 (20,3%)	0 (0%)
Loss or change of workplace	9 (75%)	0 (0%)	0 (0%)	3 (25%)	0 (0%)
Professional status					
Professional education	40 (29,6%)	0 (0%)	44 (32,6%)	15 (11,1%)	36 (26,7%)
Master of profession	0 (0%)	0 (0%)	0 (0%)	7 (77,8%)	2 (22,2%)
University diploma	0 (0%)	40 (80,0%)	0 (0%)	3 (6%)	7 (14%)
Without professional education	6 (66,7%)	0 (0%)	1 (11,1%)	1 (11,1%)	1 (11,1%)
In professional education/studies	1 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Professional domain					
Production/technology	3 (8,8%)	1 (2,9%)	3 (8,8%)	19 (55,9%)	8 (23,5%)
Health care	14 (48,3%)	3 (10,3%)	9 (31,0%)	0 (0%)	3 (10,3%)
Education	0 (0%)	12 (60,0%)	3 (15,0%)	1 (5,0%)	4 (20,0%)
Services	15 (22,7%)	9 (13,6%)	14 (21,2%)	6 (9,1%)	22 (33,3%)
Office	15 (27,3%)	15 (27,3%)	16 (29,1%)	0 (0%)	9 (16,4%)
Gender					
Men	4 (6,8%)	10 (16,9%)	7 (11,9%)	26 (44,1%)	12 (20,3%)
Women	43 (29,7%)	30 (20,7%)	38 (26,2%)	0 (0%)	34 (23,4%)
Age	46,7 (9,7)	50,4 (7,4)	45,6 (9,1%)	46,5 (7,8%)	46,9 (9,1)
JAS Mean score	2,53 (0,8)	1,6 (0,8)	1,23 (0,9)	1,96 (0,8)	0,9 (0,8)

Table 20a shows the results of the cluster analysis. The exploratory analysis of similarities between the objects of investigation (i.e. participating patients) lead to five groups, each to be described by certain homogeneous characteristics:

Two thirds of the participating patients without a professional education were grouped in *cluster one*, which is also the group with the highest job-anxiety mean scores. These patients regularly had both workplace-related and conventional diagnosis. They came from health care professions, but also public services or office jobs. No one was working in the domain of education and culture, but nearly half of the patients working in health care professions were grouped in this cluster. None of the patients grouped in this cluster was free from work participation disorders. Most of those patients who lost their job due to workplace-related disorders were grouped here.

Cluster two contains patients who were on average older than patients in the other clusters. They present 60% of those working in the domain of education and culture. Only patients with a university diploma were belonging to this cluster. There are patients who did report work participation disorders with short time absence or sick leave, but also patients who did not report participation disorders.

Cluster three contains most of the patients who had got no diagnosis, neither workplace-related nor conventional. Additionally, half of the patients with workplace-related diagnosis only were grouped here. Nearly all of them had a professional education without supplementary mastery qualification. Compared to the other groups, they showed a moderate job-anxiety level.

Cluster four is the only one which only contains men. They were mainly working in the domain of production and technology. Most of those participants who had a master qualification additional to their professional certification belong to this cluster.

In the clusters one to four most patients suffered from both conventional and workplace-related disorders. *Cluster five* is an exception as it contains only patients who, according to the interview, did suffer from conventional mental disorders only. Patients in cluster five had on average the lowest scores of job-anxiety compared with the other groups. Most of these

patients were working in the domains of trade, market, public services and office administrations.

Additional to the cluster analysis, it can be explored in a next step whether there were differences between these groups concering the frequency of occurrence of different workplace-related diagnosis as well as differences concerning sick leave duration, degree of perceived work load and cognitive fitness performed in the ISA. Therefore, analysis of variance were calculated over the five cluster groups (table 20b).

Table 20b. Workplace-related anxieties, experienced work load, sick leave duration and cognitive fitness in psychosomatic inpatients according to the cluster groups (*N*=204). For the steady variables the means (and standard deviation) are shown. For the workplace-related anxiety qualities, the percentages of occurrence in persons in the related cluster are shown.

	Cluster 1 N=47 (23% of the sample)	**Cluster 2 N=40 (19,6% of the sample)**	**Cluster 3 N=45 (22,1% of the sample)**	**Cluster 4 N=26 (12,7% of the sample)**	**Cluster 5 N=46 (22,5% of the sample)**
Experienced work load	69,3 (20,7)	49,5 (34,1)	35,8 (29,8)	59,8 (30,1)	16,9 (21,8)
Duration of sick leave in weeks in the past 12 months	23,17 (17,2)	11,1 (14,9)	10,3 (13,9)	18,8 (15,9)	10,1 (15,4)
Duration of sick leave in weeks before rehabilitation	20,26 (24,8)	13,6 (42,6)	8,16 (14,7)	18,58 (24,8)	6,26 (17,3)
Number of workplace-diagnosis (excl. Workplace phobia)	2,19 (1,2)	1,35 (1,2)	1,0 (1,0)	1,46 (1,3)	0
Workplace phobia	45%	10%	11%	15%	0%
Workplace-related PTSD	2%	0%	2%	0%	0%
Workplace-related adjustment disorder with anxiety	40%	28%	13%	12%	0%
Workplace-related adjustment disorder with other affect	47%	25%	20%	50%	0%
Workplace-related situational anxiety	28%	30%	22%	35%	0%
Workplace-related specific social phobia	36%	18%	20%	8%	0%
Workplace-related unspecific social phobia	17%	3%	4%	4%	0%
Workplace-related anxiety of insufficiency	64%	18%	18%	31%	0%
Workplace-related hypochondriac anxiety	15%	15%	2%	31%	0%
Workplace-related generalized anxiety resp. worrying	51%	45%	31%	38%	0%
ISA global score	49,4 (23,3)	69,9 (15,2)	58,9 (19,8)	66 (19,5)	64,7 (20,7)

Results show that there were differences concerning the distribution of workplace-related anxieties over the different groups:

Cluster one participants were significantly longer on sick leave in the past 12 months compared with those in cluster two, three, and five. However, participants grouped in cluster four had a similar long duration of sick leave before rehabilitation like the first cluster group. Although their job-anxiety level, the rate of workplace phobia and number of workplace-related diagnosis was moderate, the fourth cluster group reported a similarly high level of work load like the first cluster group.
31% of the participants in cluster four were suffering from workplace-related hypochondriac anxiety, that is a markably higher percentage than has been found in other cluster groups. Workplace-related social phobias were rare in cluster four, but more frequently to be found in cluster one which also had the highest rates of workplace-related anxiety of insufficiency, workplace-related adjustment disorders and workplace-related generalized worrying. In cluster four, beside cluster one, there was a high rate of adjustment disorders with other affect, whereas this was not the case in cluster two and three.
Workplace-related generalized anxiety occurred regularly in all cluster groups.
Cluster one was found to be characterized not only by high job-anxiety but also by the worst average results in cognitive performance (ISA).

Results show that a certain number of employees working in the domain of health care and those being without professional education seem to have in common a high level of job-anxiety, compared to a group of patients coming from all possible professions with lowest job-anxiety scores. Participants with a university diploma reached comparably low job-anxiety scores as well.
From all professional domains there were certain percentages of participants who – although suffering from conventional mental disorders - reported a comparably low job-anxiety-level and neither work participation problems nor workplace-related mental disorders.
Men working in the domain of technology and production reported high work load and long sick leave duration, but more often adjustment disorder with other affects than anxiety.

EXCURSUS A: WORKPLACE-RELATED ANXIETIES AND ADJUSTMENT DISORDERS WITH OTHER AFFECTS

Question of research: Are there special characteristics to be found in patients with workplace-related adjustment disorders with other affects?

Comorbidities

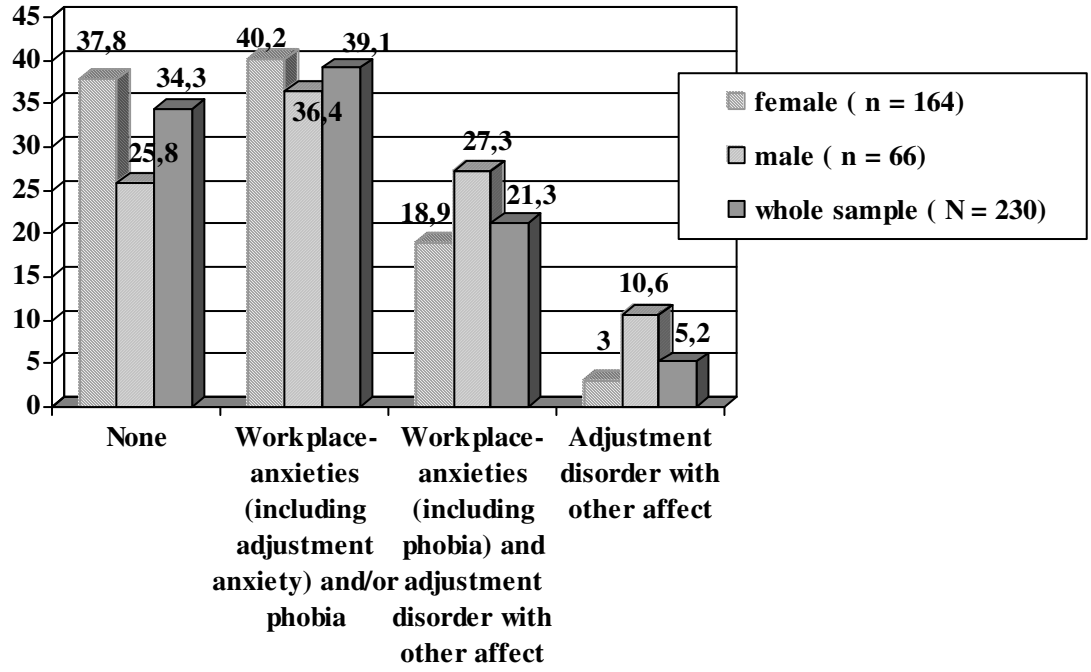
Figure 5 gives an impression of the general comorbidity of workplace-related anxieties and adjustment disorders with other affects. Here it can be seen that there were "pure" workplace-related anxieties in 39,1% of the sample, but also 21,3% of patients who suffered from both workplace-related anxiety and adjustment disorder with another affect.

There was a high co-occurrence of both adjustment disorder with anxiety and adjustment disorder with other affects: Within the patients with adjustment disorder with anxiety (*N*=45), 58% also had another co-occurring adjustment disorder affect (depression, embitterment, or aggressivity). In those with workplace-related adjustment disorder with another affect, 44,1% also fulfilled the criteria for a workplace-related adjustment disorder with anxiety, and 76,3% had any comorbid workplace-related anxiety.

The most frequent affect combination in workplace-related adjustment disorders was anxiety and depression (4,3% of the whole sample), followed by anxiety and embitterment (2,2%) and rarely appearing anxiety and aggressivity (0,9%). A combination of more than two affective states was stated in 4,3%. Adjustment disorder without a specific workplace-related anxiety quality but only an affect of depression, aggressivity or embitterment was assessed in 5,2% (*N*=12) of the interviewed patients. 8,3% of those had a depressive affect, 25% an aggressive and 66,7% an embitterment adjustment disorder.

There were five patients who had a primary adjustment disorder with other affect only (and no adjustment anxiety) but a workplace phobia that had developed in the aftermath.

Figure 5. Comorbidities of workplace-related anxieties and adjustment disorders according to Mini-WAI in psychosomatic inpatients (*N*=230). Percentages of frequency.



Work participation disorders

10% of the patients in the sample reported work participation disorders in the form of sick leave due to a stressful but not life-endangering event at work (that is those patients with an adjustment disorder with anxiety and/or with another affect). But, concerning the more severe participation disorder of job loss or change in connection with reaction to a stressful event there were 1,7% who were loosing their job due to an adjustment disorder with anxiety, and 4,8% who lost their workplace as a consequence of an adjustment disorder with another affect.

Within the 12 patients who suffered from an alone-standing adjustment disorder with one predominant affect only (one patient reacted with depression, three patients reacted with aggressivity, eight reacted with embitterment) there were 50% who did not report any work participation disorder, 8,3% said they were absent for a short time, 16,7% were on sick leave and 25% lost or gave up their job as a consequence of their adjustment disorder after the stressful event.

Out of those with adjustment disorder with anxiety and eventually a co-occurring affect (*N*=45) there were 31% without work participation disorder, 6,7% on short time absence, 53,3% on sick leave and 8,9% lost their workplace.

Releases of workplace-related adjustment disorder: which was the event?

In the interview it was asked which was the event that caused the adjustment disorder. There were three categories of answer into which the event could fit in: a social conflict, or a structural change, e.g. in place or times of work, or changes in quality or quantity of the work itself. The patient was asked to describe the situation of the "stressful event" and the interviewer added free exploratory questions in order to specify the essential meaning of the event and choose the appropriate category for the event.

In 33 women with adjustment disorder with anxiety, there were four (12%) who reported an event of structural change, 11 (33%) reported changes in work content or quality and 18 (54,5%) referred to a social conflict or personal changes.

Within 11 men affected by adjustment disorder with anxiety, seven described an event which brought changes in work content or quality, and four said the reaction was due to a conflict with a (new) colleague or superior, thus interpersonal conflicts.

There were 12 patients who had a pure adjustment disorder with affect of embitterment or depression or aggressivity without any workplace-related anxiety. Six persons referred to an interpersonal conflict (whereby two of them were attributing their reaction to a received injustice notice that meant loss of their job), four referred to changes in quality or quantity of their work, and two were affected after a structural change in time or place of work.

Etiology

Workplace-related adjustment disorders appeared significantly more often in patients who said that the mental problems have started in the workplace than in those who said that they were suffering from any conventional mental disorder before, and those who reported that general mental health problems and workplace-related problems have influenced one another (table 22a, chapter 4.7 Etiologic Perspective).

About half of the workplace-related adjustment disorders following a stressful event at the workplace appeared with a mixture of both anxiety and other affects. Work participation disorders due to adjustment disorder with other affects appeared in a similar manner like in patients with pure workplace-related anxiety or anxiety-adjustment disorders.

Pure workplace-related adjustment disorders with affects of depression, embitterment or aggressivity were in a similar pattern like adjustment disorder with anxiety or mixed affective reactions attributed to stressful events: mainly to interpersonal conflicts or changes in quality and quantity of work, less often to structural changes concerning working place or time.

Workplace-related adjustment disorders appeared significantly more often in patients who reported that the mental problems have started in the workplace than in those who said that they have been suffering from any conventional mental disorder before.

Symptom loads in different diagnosis pattern of workplace-related anxiety and adjustment disorders

Are there any differences between patients with workplace-related anxieties and those with adjustment disorders with other affects? To answer this question, significances of mean differences in the self-reported symptom loads, in numbers of diagnosis as well as in sick leave durations were calculated by variance analysis (ANOVA with Bonferoni-correction). The variable of comparison was the quality of the workplace-related disorder: being workplace-related anxiety and/or adjustment disorder if any.

There were no significant differences between the group of patients with workplace-related anxieties and those with workplace-related adjustment disorder with other affect, neither in SCL-90-R subscales nor in JAS (table 21). The same findings could be stated for duration of sick leave and numbers of diagnosis.

Table 21. Self-reported general psychosomatic symptom load (SCL-90-R) and dimensions of job-anxiety (JAS) according to different diagnostic pattern in psychosomatic inpatients (*N*=230).
Variable of comparison: quality of the workplace-related problem: workplace-related anxiety and/or adjustment disorder (6 groups). Means (standard deviation).

Dimension of psychopathology	**No work-place-related diagnosis (N=79)**	**Work-place-related anxiety (N=75)**	**Work-place-related anxiety and other adjust-ment reaction (N=25)**	**Work-place-related anxiety and phobia (N=15)**	**Work-place phobia and other adjust-ment reaction (N=24)**	**Other work-place-related adjust-ment reaction (N=12)**
Experienced work load	15,7 (21,7)	51,1 (25,6)	72,9 (25)	71,7 (19,7)	82,6 (18,6)	41,6 (32,2)
Duration of sick leave in the past 12 months	9,73 (1,7)	13,8 (1,8)	21,9 (3,7)	22,5 (5,1)	23,6 (3,3)	17,8 (6,1)
Number of conventional diagnosis	1,39 (1,1)	2,0 (1,5)	1,88 (1,1)	3,0 (1,5)	2,0 (1,7)	1,42 (1,2)
Number of workplace-anxiety-diagnosis (excl. Workplace phobia)	0 (0)	1,75 (0,9)	1,44 (0,8)	2,4 (1,2)	2,58 (1,2)	0 (0)
SCL Global Severity Index	0,99 (0,7)	1,36 (0,7)	1,28 (0,6)	1,58 (0,9)	1,39 (0,5)	0,9 (0,5)
SCL Somatization	1,0 (0,7)	1,4 (0,7)	1,18 (0,7)	1,39 (1,0)	1,28 (0,7)	1,03 (0,6)
SCL Compulsiveness	1,26 (0,9)	1,64 (0,8)	1,59 (0,7)	2,02 (0,9)	1,64 (0,8)	1,04 (0,8)
SCL Unsureness in social contacts	0,88 (0,8)	1,32 (0,9)	1,08 (0,9)	1,61 (1,0)	1,3 (0,7)	0,89 (0,7)
SCL Depressive tendencies	1,39 (1,0)	1,81 (0,8)	1,77 (0,8)	1,94 (1,0)	1,99 (0,8)	1,23 (0,6)
SCL General anxiety	1,07 (0,8)	1,48 (0,8)	1,38 (0,8)	1,83 (1,0)	1,57 (0,6)	0,77 (0,5)
SCL Aggressiveness	0,76 (0,6)	0,99 (0,7)	0,93 (0,8)	1,26 (0,7)	0,99 (0,5)	0,83 (0,6)
SCL Phobic anxiety	0,6 (0,9)	1,01 (1,0)	1,10 (1,1)	1,56 (1,4)	1,02 (0,9)	0,52 (0,8)
SCL Paranoid thinking	0,81 (0,8)	1,15 (0,8)	1,32 (0,8)	1,27 (0,8)	1,30 (0,8)	0,87 (0,6)
SCL Psychotizism	0,53 (0,6)	0,82 (0,8)	0,62 (0,5)	0,92 (0,9)	0,74 (0,5)	0,60 (0,7)
JAS Mean score	0,83 (0,8)	1,76 (0,8)	2,1 (0,7)	2,56 (0,9)	2,84 (0,7)	1,39 (0,9)
JAS Stimulus-related anxiety and avoidance	0,62 (0,8)	1,62 (1,0)	2,11 (0,8)	2,9 (0,9)	3,09 (0,8)	1,28 (0,9)
JAS Social anxieties and cognition of mobbing	0,62 (0,8)	1,3 (0,8)	1,65 (0,8)	2,02 (0,9)	2,36 (0,9)	1,1 (0,8)
JAS Health-and body-related anxieties	1,0 (0,9)	2,24 (0,1)	2,61 (0,8)	3,1 (1,0)	3,33 (0,8)	1,58 (1,4)
JAS Cognition of insufficiency	0,84 (0,9)	1,85 (0,9)	2,02 (0,9)	2,41 (1,1)	2,69 (0,8)	1,39 (1,1)
JAS Job-related worrying	1,41 (0,9)	2,27 (0,9)	2,55 (0,9)	2,68 (0,8)	3,06 (0,7)	1,98 (0,8)

Comparing *patients suffering from workplace-related anxieties and workplace phobia* with those who only suffered from an *adjustment disorder with other affect*, there were significant differences in JAS scores for the mean score (p=.003***) and in the dimensions stimulus-related anxiety and avoidance (p=.000***) and health- and body-related anxieties (p=.007***). There were differences in SCL scores for the dimensions of general anxiety (p=.021**), phobic anxiety (p=.039**) and compulsiveness (p=.029**). A difference was also to be found in the number of conventional diagnosis (p=.033**). Thus patients fulfilling the criteria of workplace-related anxieties and phobia had a higher level of both job-anxiety and general anxiety and more conventional diagnosis than those with a workplace-related adjustment disorder without anxiety. The workplace phobics also reported a higher level of experienced work load (p=.024**)

Patients with *workplace-related anxieties and phobia* and those with *workplace-related anxieties and phobia and an additional adjustment disorder with other affect* did not differ significantly, neither in experienced work load, nor in number of diagnosis, nor in both JAS and SCL scores.

Patients without workplace-related diagnosis had reported significantly lower experienced work load than all the groups of patients with any workplace-related diagnosis.
Patients with no workplace-related diagnosis had a significantly lower level of job-anxiety than those with workplace-related anxiety and phobia, and those with a combination of workplace-related anxiety/phobia and adjustment disorder (p=.000***). But they did not show significant differences from patients with other workplace-related adjustment disorder only. Similarly, in the SCL scores, they tended to have lower scores than patients of the groups with workplace-related anxiety, but they did not in any subscale differ from those with other workplace-related adjustment disorder without anxiety.

Concerning the *duration of sick leave* in the past 12 months, there were significant differences between the group without workplace-related diagnosis and those with workplace phobia, those with workplace phobia and adjustment disorder, and those with workplace-related anxieties and adjustment disorder: the “multiple-anxious” affected had significantly longer average sick leave durations.

However, those with workplace-related anxieties without workplace phobia and those with workplace-related adjustment disorder with other affect only did not show significant longer sick leave durations than the patients without workplace-related diagnosis.

Patients with adjustment disorder with other affect only did not show significantly higher symptom load than those without workplace-related diagnosis, in both job-anxiety and general psychosomatic symptom load. However, they reported increased work load similar to patients with workplace-related anxieties. Compared to workplace-anxious patients they showed a higher variance in sick leave duration.

4.7 ETIOLOGIC PERSPECTIVE

According to an *etiologic perspective,* do participants perceive

- their workplace-related or
- their conventional mental disorders

as the primary, first occurring disorder*?*

In the end of the interview, participants were asked to give an order by time of the explored syndromes: which of the acute conventional and workplace-related mental disorders was occurring first and which was following later? There were four possible answers:

1. There was no interaction between the acute conventional mental disorder and workplace-related disorder, or there were no mental problems at all (which could be assessed with the interview categories)
2. The patient was sure the acute mental problems started at the workplace before generalizing onto other domains of life. This category will be called primary workplace-related mental problems in the following analysis.
3. The patient was sure mental problems occurred first outside the workplace situation before affecting the workplace-situation as a secondary syndrome. This category will be called primary conventional mental problems here.
4. The patient could not say whether symptoms occurred at the workplace or outside the worksituation first as there were several life events or conditions at the same time which are seen as releasing factors of the mental disorders. Thus the patient expected an

interaction of all possible etiology factors and recognized symptoms in and outside the workplace situation.

Most patients (62,2%) answered the question clearly with either workplace-problems or general mental problems occurring first.
In the following, the differences between these four groups of etiology will be focused. Tables 22a and 22b show the mean differences in self-reported symptom load as well as work load, sick leave durations and number of diagnosis.

There were no differences in general psychosomatic symptom load according to SCL-90-R scores between patients who experienced symptoms at the workplace first and those who recognised their acute mental problems in other context of life first. However, the latter had significantly more conventional diagnosis than the primary workplace-affected group. Concerning the workplace-related diagnosis, the two groups did not show significant differences. Within the JAS dimension of stimulus-related anxiety and avoidance, patients who suffered from workplace-related mental disorders first had a higher score than those with conventional mental problems occurring first.

There were no significant differences between patients with interaction of workplace-related and conventional mental problems and those with workplace-related symptoms first, neither in number of diagnosis, nor in the self-ratings.
The same can be found in comparing the group with perceived interaction of both workplace and conventional mental problems and the group with primary conventional mental problems.

Comparing the perceived level of negative influence of the work onto general health (work load), the group with mental problems at the workplace first gave a significantly higher score than the group who suffered from conventional mental problems first.

Sick leave duration was about the same level in the three groups.

Table 22a. Self-reported general psychosomatic symptom load (SCL-90-R) and dimensions of job-anxiety (JAS) according to different etiology pattern in psychosomatic inpatients (*N*=230). Means (standard deviation) respective relative frequencies (for the workplace-related mental disorders). Significance of difference calculated by ANOVA (Bonferoni-correction). Variable of comparison: etiology of diagnosis pattern.

[a] mental problems at workplace first versus mental problems outside workplace first

[b] interaction between workplace-related and conventional mental disorders versus mental problems at workplace first

[c] interaction between workplace-related and conventional mental disorders versus mental problems outside workplace first

Dimension of psychopathology, work-variables	**No interaction between workplace-related and conventional mental disorder or no acute diagnosis (N=61)**	**Mental problems occurred at workplace first (N=54)**	**Mental problems occurred outside workplace first (N=89)**	**Workplace-related disorder and conventional mental disorder began at same time (N=26)**	**Significance of difference**
Experienced work load	10,0 (18,9)	70,3 (28,2)	49,6 (25,8)	61,6 (25,1)	[a].000*** [b].894 [c].216
Duration of sick leave past 12 months	9,31 (15,0)	17,43 (16,9)	16,75 (16,8)	18,12 (18,9)	[a].1.000 [b].1.000 [c].1.000
Workplace-related adjustment disorder with anxiety	0,0 (0,0)	0,44 (0,5)	0,19 (0,4)	0,15 (0,4)	[a].001*** [b].006*** [c].1.000
Workplace-related adjustment disorder with other affect	0,02 (0,1)	0,59 (0,5)	0,21 (0,4)	0,27 (0,5)	[a].001*** [b].004*** [c].1.000
Number of acute workplace-anxiety diagnosis	0,1 (0,4)	1,57 (1,2)	1,45 (1,3)	1,73 (1,2)	[a]1.000 [b]1.000 [c]1.000
Number of acute conventional diagnosis	1,21 (1,0)	1,30 (1,1)	2,43 (1,4)	2,19 (1,6)	[a].000*** [b].019** [c]1.000
SCL Global Severity Index	0,89 (0,6)	1,26 (0,6)	1,33 (0,6)	1,50 (0,8)	[a]1.000 [b].943 [c]1.000
SCL Somatization	0,94 (0,6)	1,2 (0,8)	1,28 (0,7)	1,61 (0,8)	[a]1.000 [b].157 [c].320
SCL Compulsiveness	1,17 (0,9)	1,55 (0,9)	1,6 (0,8)	1,82 (0,9)	[a]1.000 [b]1.000 [c]1.000
SCL Unsureness in social contacts	0,73 (0,6)	1,18 (0,8)	1,30 (0,9)	1,44 (1,0)	[a]1.000 [b]1.000 [c]1.000
SCL Depressive tendencies	1,26 (0,9)	1,73 (0,9)	1,82 (0,8)	1,92 (0,9)	[a]1.000 [b].1.000 [c]1.000
SCL General anxiety	0,94 (0,7)	1,36 (0,8)	1,47 (0,8)	1,63 (1,0)	[a]1.000 [b]1.000 [c]1.000
SCL Aggressiveness	0,8 (0,7)	0,93 (0,6)	0,95 (0,6)	1,04 (0,6)	[a]1.000 [b]1.000 [c]1.000
SCL Phobic anxiety	0,48 (0,7)	0,84 (1,0)	1,09 (1,0)	1,25 (1,3)	[a]1.000 [b].613 [c]1.000
SCL Paranoid thinking	0,76 (0,7)	1,2 (0,8)	1,13 (0,8)	1,25 (0,9)	[a]1.000 [b]1.000 [c]1.000
SCL Psychotizism	0,49 (0,6)	0,70 (0,6)	0,77 (0,7)	0,88 (0,8)	[a]1.000 [b]1.000 [c]1.000

Table 22b. Self-reported general psychosomatic symptom load (SCL-90-R) and dimensions of job-anxiety (JAS) in psychosomatic inpatients (*N*=230). Means (Standard deviation). Significance of difference calculated by ANOVA (Bonferoni-correction). Variable of comparison: etiology of diagnosis pattern.

[a] mental problems at workplace first versus mental problems outside workplace first

[b] interaction between workplace-related and conventional mental disorders versus mental problems at workplace first

[c] interaction between workplace-related and conventional mental disorders versus mental problems outside workplace first

Dimension of psychopathology: JAS	**No interaction between workplace-related and conventional mental disorder or no acute diagnosis (N=61)**	**Mental problems occurred at workplace first (N=54)**	**Mental problems occurred outside workplace first (N=89)**	**Workplace-related disorder and conventional mental disorder began at same time (N=26)**	**Significance of difference**
JAS Mean score	0,67 (0,5)	2,18 (0,9)	1,84 (1,0)	2,09 (0,75)	[a].155 [b]1.000 [c]1.000
JAS Stimulus-related anxiety and avoidance	0,52 (0,6)	2,26 (1,1)	1,69 (1,2)	2,13 (1,0)	[a].011** [b]1.000 [c].405
JAS Social anxieties and cognition of mobbing	0,43 (0,4)	1,7 (0,9)	1,44 (1,0)	1,69 (0,8)	[a].504 [b]1.000 [c]1.000
JAS Health-and body-related anxieties	0,82 (0,7)	2,7 (1,1)	2,26 (1,1)	2,5 (1,0)	[a].082 [b]1.000 [c]1.000
JAS Cognition of insufficiency	0,65 (0,7)	2,06 (1,0)	1,96 (1,1)	1,97 (1,0)	[a]1.000 [b]1.000 [c]1.000
JAS Job-related worrying	1,23 (0,7)	2,59 (0,9)	2,29 (1,0)	2,58 (0,7)	[a].367 [b].948 [c].948

Additionally, the frequency of the seperate workplace-related diagnosis was explored and compared between those with primary workplace-related disorders and those with primary conventional mental disorders. Here it could be found that patients with primary workplace-related mental disorders had significantly more often a workplace phobia (in 33%) than those with conventional mental disorders occurring first (17%, *p*=.028**). However, the two groups were similar concerning the frequency of seperate workplace-related anxiety diagnosis: they did to a similar amount suffer from situational anxiety, specific as well as unspecific social phobia, generalized anxiety, hypochondriac anxieties, anxiety of insufficieny and PTSD. Also the number of workplace-related anxiety diagnosis was not different between the two groups. In contrast to the homogeneous distribution of the workplace-related anxiety diagnosis in the two groups, there were differences concerning workplace-related adjustment disorders: the primary workplace-affected group was significantly more often suffering from adjustment disorder with anxiety (44%) than the group who first had a conventional mental disorder (19% of them had a workplace-related adjustment disorder with anxiety). The same was to be found for workplace-related adjustment disorder with other affects (59% versus 21%), and

thus for both depressive reaction (33% versus 11%) and embitterment (39% versus 11%). Only aggressive workplace-related adjustment disorder was in a similar amount to be found in both etiology groups (8% and 9%).

Most patients could clearly say which mental health problem occurred first: the workplace-related disorder (23,5%) or the conventional mental disorder (38,7%).
There were few significant differences to be seen between the three groups of etiology.
Patients with mental problems occurring at the workplace first reported a higher score of self-experienced work load, that is the assumption that the workplace situation caused or made worse the acute health problems.
However, there were no consistent differences in the level of self-reported symptom load, neither in job-anxiety nor in general psychosomatic symptom load. Also sick leave duration did not vary.
Patients with primary conventional mental problems and those with an interaction of both workplace and conventional mental disorders had on average more acute conventional diagnosis than the primary workplace-affected group.
Patients with primary workplace-related mental problems had significantly more often a workplace phobia than those with a primary conventional mental disorder, but there were no differences in frequencies of the other workplace-related anxiety diagnosis.
Workplace-related adjustment disorders with anxiety, depressivity or embitterment were more often appearing in patients who were primarly affected by workplace-related mental disorders.

4.8 WORK-SPECIFIC THERAPY INTERVENTIONS

Question of research: Do patients with (different qualities of) workplace-related anxieties get (different) *work-specific treatments* in psychosomatic rehabilitation?

In this passage the aspect of work-specific treatments shall be regarded concerning the question in which way patients with workplace-problems participate in different modules of socio-therapy in a psychosomatic rehabilitation center. Additionally, the fit for work status of

the patients at admission and dismission will be explored and analysed referring to socio-therapy participation.

The work-specific therapy modules are additional treatment modules added to the single and group therapies each patient gets in the usual treatment programm. There are three work-specific group therapies: conflict management, time management and a training for job application. There is the possibility to take part in all of the work-specific groups parallelement or with shift in time over the six-weeks rehabilitation stay. Patients participating in a work-specific group have been introduced to it and advised by their psychotherapist. The work-specific group programs usually start a week after the patient has arrived, thus it can be assumed that the *Mini-Work-Anxiety-Interview* has been done before the patients come into the treatment. In the single therapy setting, work-related problems are treated in single contacts with a social worker. It will be explored in which settings (single, group, single and group) work-specific therapy demands are treated in this investigated sample, and what characterizes patients who participate in different settings.

From the assumption that there are different qualities of workplace-related anxieties in need of specific treatment contents, the idea may be arisen that there are differences between the participants of conflict management and those of time management, namely differences in the quality of their workplace-related anxiety. Thus it could be expected that participants in conflict management are to a greater amount those with workplace-related social phobias whereas those participating in time management do not as often or as severely suffer from workplace-related social phobias.

First an overview shall be given on the distribution of work-specific therapy participation within all the interviewed patients and their psychopathological characteristics concerning conventional and workplace-related mental disorders.

24,6% out of the 230 interviewed patients got no additional work-specific therapy, 41,7% got intensified single setting therapy with a social worker but no group therapy, 26,3% got single therapy as well as group therapy and 7,5% got group therapy only as a work-specific intervention.
19,7% participated in the group conflict management, 9,2% in time management, 12,3% in the job application training. For 10 patients (4,4%) a therapeutic working trial (in nine cases outside the clinic) was arranged.

Concerning therapies carried out in the clinic, 32,5% got one work-specifc intervention (either single or group setting), 29,4% got two modules (usually single and group therapy or two group therapies), 13,6% got more than two work-specific therapy modules (that means more groups).

Table 23. General and job-related symptom load, workplace phobia, work load and sick leave in psychosomatic inpatients according to participation in work-specific therapies (*N*=230). Data of therapy participation was derived from the medical report. Means (standard deviation) respective relative frequency (workplace phobia). Significance of difference calculated by ANOVA (Bonferoni-correction)

Group therapy includes "time management", "conflict management", "training for job application" whereby one or more groups may have been visited.

[a] no workplace-related therapy module versus workplace-related group therapy

[b] workplace-related group therapy and single therapy versus single therapy only

[c] workplace-related group therapy and single therapy versus group therapy only

	Patients not treated in any workplace-related therapy modules (N=56)	**Patients treated on workplace-related problems in single setting socio-therapy only (N=95)**	**Patients treated on workplace-related problems in group and single setting socio-therapy (N=59)**	**Patients treated on workplace-related problems in group therapy only (time management, conflict management, training for job application) (N=17)**	**Significance of difference**
Experienced work load	20,1 (27,7)	53,1 (34,7)	57,3 (25,2)	43,3 (31,3)	[a].059* [b].1.000 [c].688
Duration of sick leave past 12 months	6,63 (12,3)	22,03 (18,8)	13,37 (14,0)	8,88 (9,6)	[a]1.000 [b].005*** [c]1.000
Number of acute workplace diagnosis	0,48 (1,0)	1,29 (1,3)	1,67 (1,2)	0,76 (0,8)	[a]1.000 [b].330 [c].033**
Number of acute conventional diagnosis	1,46 (1,2)	1,99 (1,5)	1,97 (1,3)	1,41 (0,9)	[a]1.000 [b]1.000 [c].818
SCL GSI	0,98 (0,6)	1,32 (0,7)	1,36 (0,7)	0,99 (0,5)	[a]1.000 [b]1.000 [c].364
JAS Mean score	0,87 (0,7)	1,89 (1,0)	1,99 (0,9)	1,54 (0,8)	[a].067* [b].1.000 [c].536
Workplace phobia	0,04 (0,19)	0,20 (0,40)	0,28 (0,45)	0,06 (0,24)	[a]1.000 [b]1.000 [c].163

All patients who were participating in any of the work-specific therapy modules during their rehabilitation stay (single setting, group or both, table 23) were those who did in the interview report a significantly higher level of experienced work load than those who did not get work-related therapies. Furthermore, patients who were treated in a single setting concerning their workplace problems as well as those who got both single and group therapy had a

significantly higher symptom load than those without work-specific therapy modules (to be seen in the variables number of workplace-related anxiety diagnosis, appearance of workplace phobia, SCL-90-R Global Severity Index).
Comparing the three groups of patients who got work-specific therapies, there can be found that in those who only participated in group therapy setting, the markers of workplace-related anxieties were scoring lower than in the other two groups: Patients in group therapy had shorter sick leave durations than those who were treated in single or in both single and group therapy settings. Their sick leave duration in the past 12 months was not significantly higher than that of the patients who did not participate in work-specific therapies. They also did not have significantly more workplace-related diagnosis than those without work-specific treatments and they rarely suffered from workplace phobia.
The number of conventional diagnosis was nearly the same in patients without work-specific treatment and those in work-specific group therapy only, as well as the global severity index of general psychosomatic symptom load measured with SCL-90-R.
However, there are some different findings concerning the job-anxiety-level: Here the group who got work-specific group therapy had a significantly higher level of job-anxiety than those without work-specific treatment. But they did not suffer more frequently from workplace phobia than those without work-specific therapies.

From the markers of severity of workplace-related symptomatics (job-anxiety level, number of diagnosis, experienced work load) it can be seen that patients treated in both settings got the highest scores, except in sick leave duration which was longest in patients who were - concerning their workplace problems - treated in single socio-therapy setting only.

Table 24a and 24b gives an overview on the differences in frequency of workplace-related anxieties and the job-anxiety level in patients participating in one of the three work-specific group therapys. Although there were no significant differences between the three groups concerning the number of conventional as well as workplace-related diagnosis, there can be seen some tendencies of differences between the groups, running through the explored workplace-related and conventional diagnosis and symptom characteristics: In nearly all aspects, the patients participating in the time management group had the lowest scores (general psychosomatic symptom load, work load, dimensions of job-anxiety). In the JAS dimension of social anxiety and cognition of mobbing, the patients in time management got

significant lower scores than those participating in conflict management, who reached the highest scores. Time management participants were also significantly less often affected by workplace phobia compared with both other groups (conflict management and training for job application). The workplace-related diagnosis of specific social phobia was given significantly less often to patients who then participated in time management, compared with the job application training group.

Table 24a. Self-reported general psychosomatic symptom load (SCL-90-R), dimensions of job-anxiety (JAS) and sick leave in psychosomatic inpatients (*N*=230) according to participation in work-specific group therapies. Means (standard deviation). Significance of difference calculated by ANOVA (Bonferoni-correction). Variable of comparison: content of work-specific group therapy patients participated in.

[a] training for job application versus time management
[b] training for job application versus conflict management
[c] conflict management versus time management

Dimension of psychopathology	**No work-specific group therapy (N=150)**	**Training for job application (N=21)**	**Time manage-ment (N=12)**	**Conflict-manage-ment (N=30)**	**Combi-nation of several group therapies (N=15)**	**Sig. of diffe-rence**
Number of conventional diagnosis	1,79 (1,4)	1,9 (1,3)	1,67 (1,4)	1,9 (1,4)	1,8 (0,9)	[a]1.000 [b]1.000 [c].818
SCL GSI	1,19 (0,7)	1,46 (0,7)	0,97 (0,6)	1,31 (0,7)	1,22 (0,6)	[a].781 [b]1.000 [c].033**
JAS Mean score	1,48 (1,0)	1,99 (1,0)	1,46 (0,6)	2,04 (0,9)	1,84 (0,7)	[a]1.000 [b]1.000 [c].818
JAS Stimulus-related anxiety and avoidance	1,38 (1,2)	2,1 (1,3)	1,34 (0,7)	2,05 (1,1)	1,84 (0,9)	[a].987 [b]1.000 [c].944
JAS Social anxieties and cognition of mobbing	1,11 (1,0)	1,61 (1,0)	0,79 (0,6)	1,7 (0,9)	1,64 (1,0)	[a].248 [b]1.000 [c].076*
JAS Health-and body-related anxieties	1,85 (1,3)	2,36 (1,3)	2,02 (1,0)	2,39 (1,1)	2,05 (0,9)	[a]1.000 [b]1.000 [c]1.000
JAS Cognition of insufficiency	1,53 (1,2)	1,81 (1,1)	1,53 (0,7)	1,97 (1,0)	1,75 (0,6)	[a]1.000 [b]1.000 [c]1.000
JAS Job-related worrying	1,96 (1,1)	2,42 (0,8)	2,24 (0,6)	2,42 (1,0)	2,34 (0,7)	[a]1.000 [b]1.000 [c]1.000
Duration of sick leave in weeks in the past 12 months	16,1 (18,0)	17,7 (16,3)	10,3 (10,6)	10,5 (13,4)	12,9 (13,2)	[a]1.000 [b]1.000 [c]1.000
Number of workplace-diagnosis (excl. Wp phobia)	0,99 (1,3)	1,67 (1,3)	1,42 (1,2)	1,43 (1,2)	1,27 (1,0)	[a]1.000 [b]1.000 [c]1.000

Table 24b. Workplace-related anxieties according to Mini-WAI and work load in psychosomatic inpatients (*N*=230) according to participation in work-specific group therapies. Means (standard deviation) respective relative frequencies (for the workplace-related anxieties). Significance of difference calculated by ANOVA (Bonferoni-correction). Variable of comparison: content of work-specific group therapy patients participated in.

[a] training for job application versus time management
[b] training for job application versus conflict management
[c] conflict management versus time management

Dimension of psychopathology	**No work-specific group therapy (N=150)**	**Training for job application (N=21)**	**Time manage-ment (N=12)**	**Conflict-manage-ment (N=30)**	**Combi-nation of several group therapies (N=15)**	**Sig. of diffe-rence**
Experienced work load	40,5 (36,0)	63,05 (26,5)	41,25 (31,5)	51,25 (24,4)	60,36 (24,0)	[a].692 [b]1.000 [c]1.000
Workplace phobia	0,14 (0,35)	0,48 (0,5)	0,08 (0,3)	0,17 (0,4)	0,13 (0,35)	[a].035** [b].034** [c]1.000
Workplace-related PTSD	0,02 (0,14)	0,0 (0,0)	0,0 (0,0)	0,0 (0,0)	0,07 (0,26)	[a]1.000 [b]1.000 [c]1.000
Workplace-related adjustment disorder with anxiety	0,11 (0,3)	0,48 (0,5)	0,25 (0,45)	0,33 (0,5)	0,33 (0,5)	[a].992 [b]1.000 [c]1.000
Workplace-related adjustment disorder with other affect	0,23 (0,4)	0,38 (0,5)	0,25 (0,45)	0,23 (0,4)	0,33 (0,5)	[a]1.000 [b]1.000 [c]1.000
Workplace-related situational anxiety	0,16 (0,4)	0,33 (0,5)	0,42 (0,5)	0,27 (0,5)	0,13 (0,4)	[a]1.000 [b]1.000 [c]1.000
Workplace-related specific social phobia	0,11 (0,3)	0,43 (0,5)	0,08 (0,3)	0,30 (0,5)	0,13 (0,4)	[a].089* [b]1.000 [c].808
Workplace-related unspecific social phobia	0,06 (0,2)	0,05 (0,2)	0,0 (0,0)	0,05 (0,2)	0,13 (0,4)	[a]1.000 [b]1.000 [c]1.000
Workplace-related anxiety of insufficieny	0,23 (0,4)	0,43 (0,5)	0,25 (0,45)	0,30 (0,5)	0,33 (0,5)	[a]1.000 [b]1.000 [c]1.000
Workplace-related hypochondriac anxiety	0,11 (0,3)	0,0 (0,0)	0,17 (0,4)	0,03 (0,35)	0,07 (0,26)	[a]1.000 [b]1.000 [c]1.000
Workplace-related generalized anxiety resp. worrying	0,27 (0,5)	0,38 (0,5)	0,58 (0,5)	0,3 (0,5)	0,33 (0,5)	[a]1.000 [b]1.000 [c].730

Therapy results: fitness for work in the end of rehabilitation

As the aim of rehabilitation is always either to safe or restore fitness for work, the dismission status of patients is an important criterion. Table 25 shows percentages concerning possibility for return to work, and fitness for work in beginning and end of rehabilitation, as well as means concerning work-specific therapy participation and rehabilitation duration in the interviewed patients.

Table 25. Occupational situation, return to work, participation in work-specific therapy, fitness for work in beginning and end of rehabilitation in psychosomatic inpatients (*N*=228) according to diagnosis pattern. Frequencies in percentages or means (standard deviation).

Work-concerning variables	**No work-place-related diagnosis (N=78)**	**Work-place-related anxiety (N=75)**	**Work-place-related anxiety and other adjust-ment reaction (N=24)**	**Work-place-related anxiety and work-place phobia (N=15)**	**Work-place phobia and other adjust-ment reaction (N=24)**	**Work-place-related adjust-ment reaction with another affect (N=12)**
Fit for work when admitted	82%	60%	40%	33%	25%	50%
Fit for work when dismissed (including patients with arranged stepwise reintegration at work)	73%	68%	50%	53%	38%	75%
Stepwise reintegration at work after dismission (obligatorily dismissed unfit for work)	5,1%	12%	8,3%	6,7%	8,3%	16,6%
Patient has applied for pension award (or has already received pension on time)	11%	1%	9%	13%	17%	0%
Patient has got a workplace currently	73%	80%	52%	53%	71%	75%
Prognostically: Return to work is possible (a workplace is existing and the patients´ capacities are sufficient as judged by therapist)	70%	73%	38%	40%	46%	67%
Participation in work-specific therapy modules (number of modules, max. 5 modules: single contacts, 3 group therapies, working trial)	0,82 (1,0)	1,43 (1,0)	1,50 (0,8)	2,13 (1,0)	2,04 (0,9)	1,58 (1,2)
Rehabilitation duration in weeks	5,78 (1,4)	6,36 (1,3)	5,83 (1,4)	5,86 (1,2)	5,9 (1,3)	5,75 (1,3)

Patients were all staying in rehabilitation on average for six weeks. Patients with workplace-related anxiety diagnosis got significantly (p=.000***-.042**) more work-specific treatments than those without workplace-related diagnosis. Patients affected with workplace-related anxieties came significantly more often (p varying between .000*** and .040**) into rehabilitation unfit for work than those without workplace-related diagnosis. Patients with workplace-related anxiety and either adjustment disorder or workplace phobia or both were to 38-50% dismissed fit for work, patients with "pure" workplace-related anxiety or adjustment disorder with other affect and those without workplace-related mental health problems were dismissed fit for work to 68-75%. However, there were also 20 patients in the sample who were dismissed unfit for work but for whom return to work was arranged with a stepwise reintegration program. This group should also be taken into consideration when regarding patients successfully stabilized for return to work. Summarized, in all patients who had

workplace-related mental disorders, there was a higher rate of fitness for work in the end than in the beginning, but not in those who did not have any workplace-related diagnosis.

75,4% of the interviewed patients took part in at least one work-specific therapy module being single or group socio-therapy.
Patients who were treated in a single setting concerning their workplace problems as well as those who got work-specific therapy in both single and group setting had a significantly higher symptom load and a higher score of experienced work load than those without work-specific therapy modules.
Comparing participants taking part in different work-specific group therapies, the participants in conflict management and those in job application training reported the highest symptom loads, both in general psychosomatic symptom load and in job-anxiety. Among the three groups, participants in the job application training had the highest rate of workplace phobia. Participants of the job application training group were significantly more often affected by workplace-related specific social phobia than those in the time management group.
Patients with complex workplace-related mental disorders including anxiety were most often on sick leave before rehabilitation and also unfit for work at the time of dismissal. However, in all patients who had workplace-related mental disorders, there was a higher rate of fitness for work in the end than in the beginning, but not in those who did not have any workplace-related diagnosis.

4.9 WORKPLACE PHOBIA

In which way does *workplace phobia* manifest? Which kinds of workplace-related anxieties appear together with workplace phobia and which do not? Is workplace phobia always appearing together with other workplace-related anxiety qualities?

What lies behind workplace phobia?

It has already been pointed out that different workplace-related anxieties were connected with workplace phobia with varying frequency.

Additionally, not all workplace phobias were occurring together with basic workplace-related anxiety qualities: 17,9% of those with a workplace phobia did not suffer from coexisting workplace-related anxieties, but from an adjustment disorder with another affect.
38,5% of the 39 workplace phobic patients had a pure workplace-related affect, namely anxiety, but maybe occurring in different qualities. 43,6% had an additional adjustment disorder with another affect.
71,8% of the workplace phobic patients were on sick leave when coming into rehabilitation, the most frequently occurring basic workplace-related mental disorders were adjustment disorder with anxiety (in 64% of the workplace phobic) and with other affects (61,5%), followed by anxiety of insufficiency (59%), specific social phobia and generalized anxiety (both in 51,3% of the workplace phobic). Less frequently situational anxieties were accompagnying (33,3%), similar to unspecific social phobia (28,2%), hyochondriac anxieties (17,9%) and PTSD (5,1%).
On the other hand, 51,3% of those with a workplace-related specific social phobia and 84,6% with a workplace-related unspecific social phobia had a workplace phobia diagnosis, 55,6% of those with adjustment disorder with anxiety, 40,7% of those with adjustment disorder with another affect. 30,4% of the patients suffering from workplace-related hypochondriac anxieties and 37,7% of the workplace anxious with insufficiency had co-occurring workplace phobia, 28,3% of those with a situational workplace-related anxiety, 28,6% of those with generalized anxiety, and half of those affected with workplace-related PTSD had a workplace phobia.

It was explored whether patients with *one workplace-related anxiety* diagnosis differ from those with *more workplace-related anxieties* and from those *without workplace-related anxiety* diagnosis concerning the frequency of workplace phobia and level of experienced work load. Patients without workplace-related anxiety and those with only one workplace-related anxiety diagnosis had about the same prevalence for a co-occuring workplace phobia (3% and 7%), whereas the group with more than one workplace-related anxiety diagnosis did significantly more often suffer from workplace phobia (41%).
Concerning the level of experienced work load, all the three groups differed significantly in that way that the lowest level of work load was reported by those without workplace-related anxiety (work load M=21,8%), that of the patients with one diagnosis only was M=51,6% (SD=29) and those with more workplace-related diagnosis reported a work load score on average 69,2% (SD=23).

Regarding frequencies of seperate diagnosis, differences were found between the three groups for all workplace-related anxieties, except workplace-related PTSD.
Also the number of conventional diagnosis showed some differences between patients without workplace-related anxiety and those with one and those with more such diagnosis. Those patients without workplace-related anxiety had fewer conventional diagnosis than those with one or more workplace-related anxieties. Certain conventional anxiety diagnosis (panic disorder, agoraphobia, social phobia, obsessive compulsive disorder, generalized anxiety disorder) were more often found in patients with more workplace-related anxieties. However, this could not be found for the categories of hypochondriasis, dysthymia, (hypo)manic episodes, PTSD, somatization disorder, and conventional adjustment disorder: there were no differences between the three groups.

Symptom load in patients with workplace phobia
As theoretically described, workplace phobia is expected to occur when the tolerance limit of the person suffering from workplace-related mental problems is exceeded. Therefore an underlying workplace-related anxiety or adjustment disorder can be expected and the phobia can be understood as an additional symptom.
Here the symptomatic load of those persons with workplace-related anxiety and workplace phobia is compared with that of persons with workplace-related anxiety but without workplace phobia (table 26, p. 141).

These findings illustrate that for both general psychosomatic symptom load (SCL-90-R) as well as for job-anxiety (JAS) there are significant differences in the level of experienced symptom load: In all aspects, those patients with workplace-related anxieties were reaching higher scores than those without workplace-related anxieties. In a next step, a comparison has been done between those who suffered from workplace-related anxiety with workplace phobia and those who had workplace-related anxiety but no workplace phobia. Here it could be found that those with workplace phobia had on average the same number of conventional diagnosis as the other group without phobia, but they had significantly more workplace-related diagnosis. Additionally, workplace phobics did only in the SCL-90-R subscale of depressivity show higher scores than the workplace-anxious without phobia. In all other subscales they did not differ from the non-phobic. In contrast, in all job-anxiety scores,

workplace phobic patients were scoring significantly higher than those with workplace-related anxieties but without workplace phobia.

Workplace phobia and sick leave

In the sick leave durations´ comparison there were highly significant differences between all the three groups: those without workplace-related anxiety were on average 11 weeks on sick leave in the past 12 months, those with workplace-related anxiety but without workplace phobia for 16 weeks, and those with workplace phobia on average 24 weeks.

All of the explored qualities of workplace-related anxiety can occur together with workplace phobia. This was especially frequently to be found in workplace-related adjustment disorders and workplace-related specific social phobia.

Adjustment disorders with other affects often lead to work participation disorders and were regularly going along with workplace phobia (in 40,7% of 59 cases).

Workplace phobia was going along with an intensified level of symptomatic load: patients present significantly higher scores of job-anxiety than do those patients with workplace-related anxieties but without workplace phobia. However, they did not differ significantly in general psychosomatic symptom load (except in depressive tendencies).

Furthermore, workplace phobics had significant longer sick leave durations than those without workplace-related anxiety and those with workplace-related anxiety without phobia.

Table 26. Self-reported general psychosomatic symptom load (SCL-90-R) and dimensions of job-anxiety (JAS) in psychosomatic inpatients (*N*=230) according to diagnosis pattern: workplace-related anxiety – workplace phobia. Means (standard deviation). T-Test for independent samples. Variables of comparison: workplace-related anxiety versus no workplace-related anxiety, and workplace phobia versus no workplace phobia (in patients with workplace-related anxiety).

Dimension of psychopathology	**Workplace-related anxiety (N=134)**	**No workplace-related anxiety (N=96)**	**Sig. of diffe-rence**	**Workplace-related anxiety but no workplace phobia (N=98)**	**Workplace-related anxiety and workplace phobia (N=36)**	**Sig. of difference**
Experienced work load	62,0 (27,5)	21,8 (26,9)	.000***	56,0 (26,8)	78,4 (20,1)	.000***
Duration of sick leave past 12 months	18 (17,1)	11 (15,8)	.002***	15,8 (16,6)	24,0 (17,4)	.014**
Number of conventional diagnosis	2,12 (1,5)	1,39 (1,0)	.000***	1,98 (1,4)	2,5 (1,7)	.074
Number of workplace-diagnosis (excl. Workplace phobia)	1,98 (1,0)	0,0 (0,0)	.000***	1,69 (0,8)	2,75 (1,0)	.000***
SCL Somatization	1,35 (0,8)	1,01 (0,7)	.001***	1,33 (0,7)	1,42 (0,8)	.597
SCL Compulsiveness	1,68 (0,8)	1,24 (0,9)	.001***	1,61 (0,8)	1,9 (0,7)	.090
SCL Unsureness in social contacts	1,32 (0,9)	0,89 (0,8)	.001***	1,25 (0,9)	1,50 (0,8)	.170
SCL Depressive tendencies	1,85 (0,8)	1,41 (0,9)	.001***	1,76 (0,8)	2,10 (0,8)	.050**
SCL General anxiety	1,53 (0,8)	1,05 (0,8)	.000***	1,45 (0,8)	1,74 (0,9)	.104
SCL Aggressiveness	1,02 (0,7)	0,78 (0,6)	.010***	0,96 (0,7)	1,17 (0,6)	.139
SCL Phobic anxiety	1,11 (1,0)	0,59 (0,8)	.001***	1,03 (1,0)	1,33 (1,1)	.186
SCL Paranoid thinking	1,23 (0,8)	0,83 (0,8)	.001***	1,17 (0,7)	1,38 (0,7)	.204
SCL Psychotizism	0,79 (0,7)	0,55 (0,6)	.018**	0,78 (0,7)	0,83 (0,7)	.722
JAS Mean score	2,11 (0,9)	0,96 (0,8)	.000***	1,83 (0,8)	2,86 (0,6)	.000***
JAS Stimulus-related anxiety and avoidance	2,11 (1,1)	0,78 (0,9)	.000***	1,73 (1,0)	3,16 (0,7)	.000***
JAS Social anxieties and cognition of mobbing	1,63 (0,9)	0,73 (0,8)	.000***	1,36 (0,8)	2,37 (0,8)	.000***
JAS Health-and body-related anxieties	2,61 (1,0)	1,14 (1,0)	.000***	2,32 (1,0)	3,41 (0,7)	.000***
JAS Cognition of insufficiency	2,11 (1,0)	0,97 (1,0)	.000***	1,89 (0,9)	2,69 (0,9)	.000***
JAS Job-related worrying	2,51 (0,9)	1,54 (0,9)	.000***	2,34 (0,9)	2,99 (0,7)	.000***

4.10 SUMMARY OF RESULTS: ANSWERING QUESTIONS OF RESEARCH

The above given questions of research have been empirically explored and the results have been reported detailed in this chapter. In summarizing results, it will be referred to the research questions here again before discussing the meanings of the most important results in the next chapter.

1. Are *workplace-related anxieties* always occurring together with conventional anxiety disorders or *can they manifest as a primary and single anxiety disorder*?
Workplace-related anxieties occurred together with conventional anxiety disorders in 35% of the patients, but they were occurring singularly in others (23%).

2. Is it possible to distinguish empirically between *different qualities of workplace-related anxieties*? Which comorbidity pattern can be seen in workplace-related anxieties?
Workplace-related anxieties occurred in different comorbidity pattern. There were patients with one diagnosis of workplace-related anxiety (24%) only, but also patients with more (34%).

3. Do different workplace-related anxieties have different effects on *work performance* and *work-participation*?
Among the different qualities of workplace-related anxieties, there were differences concerning the frequency of sick leave and the frequency of loss or change of the workplace due to the symptoms. Workplace phobia, workplace-related hypochondriac anxieties and workplace-related adjustment disorders lead to work participation disorders regularly, whereas workplace-related generalized anxiety rarely caused absence but rather working overtime.
There was a significant correlation between self-reported level of job-anxiety measured with the JAS and the duration of sick leave (r=.357**)

4. Which *variables are related to workplace-related anxieties*: gender, age, general psychosomatic symptom load, profession, degree of self-experienced influence and control on the work, cognitive fitness? Are there any hints towards what might be risk factors for a high experienced job-anxiety?

Workplace-related anxieties occurred independently from age. Men (18%) did more often than women (7%) suffer from workplace-related hypochondriac anxiety.

There were differences concerning the distribution of workplace-related anxiety qualities in different professional groups.

There was a significant correlation between the level of job-anxiety and general psychosomatic symptom load (r=.416**).

There were middle correlations between the level of job-anxiety and experienced work conditions. Social support at work was negatively correlated with the job-anxiety mean score r=-.575**.

There was a mild negative correlation between the level of job-anxiety and performance of cognitive fitness (r=-.238**).

An exploratory cluster analysis seperated participants into five groups according to similarities. Thereby the professional domain health care was found associated with highest job-anxiety-level. Furthermore, most participants without professional education also belonged to the group with highest job-anxiety level. Academics were not affected by severest work participation disorders. Men working in technological domain were relatively more often than the other groups suffering from adjustment disorder with other affect and from hypochondriac anxieties. They also had long sick leave durations.

5. Excursus A: Are there special characteristics to be found in patients with *workplace-related adjustment disorders with other affects*?

Workplace-related adjustment disorders did in 60-80% of the affected lead to work participation disorders. However, patients with workplace-related adjustment disorder with other affect only - similar to those with workplace-related anxieties without workplace phobia - did not show significant longer average sick leave durations than the patients without workplace-related diagnosis.

6. In which way does *workplace phobia* manifest? Which kinds of workplace-related anxieties appear together with workplace phobia and which do not? Is workplace phobia always appearing together with other workplace-related anxiety qualities?

All kinds of workplace-related anxieties could appear together with workplace phobia. Patients with workplace-related adjustment disorders and/or workplace-related social phobias were most often (in more than 50%) suffering from workplace phobia.

Workplace phobia did not only co-occur with workplace-related anxieties, but also in connection with workplace-related adjustment disorder with other affects.
Participants with workplace phobia diagnosis reached significantly higher scores in job-anxiety self-rating (*M*=2,86 (*SD*=0,6)) than did participants with other workplace-related anxiety qualities but without workplace phobia (*M*=1,83 (*SD*=0,8)). A similar significant difference was not found for the general psychosomatic symptom load.

7. According to an *etiologic perspective,* do participants perceive their workplace-related or their conventional mental disorders being the primary disorder*?*
23,5% of the interviewed said that they had primary workplace-related mental problems, 39% said they did primarly suffer from conventional mental disorder. Patients who reported that their mental problems have started in the workplace had significantly more often a workplace-related adjustment disorder and a higher work load perception.

8. Do patients with (different qualities of) workplace-related anxieties get (different) *work-specific treatments* in psychosomatic rehabilitation?
Patients who got work-specific treatments had reported a higher initial job-anxiety level (*M*=1,54-1,99 (*SD*=0,8-1,0)) than those without work-specific treatment (*M*=0,87 (*SD*=0,7)). Patients treated in a conflict management group had more often fulfilled the criteria of workplace-related specific social phobia than patients participating in a time management group.

5 DISCUSSION

In this chapter the most important results will be discussed according to the theoretical assumptions of the concept and with regard to the literature. In the end of each paragraph some implications for the clinical practice will be derived as conclusions from the results.
In addition to the systematically assessed data, some case descriptions will be included in the discussion in order to illustrate the findings and lead to a better understanding for the phenomenology, etiology and treatment of workplace phobia (*Excursus B*).
It will be recurred again to the nosologic status of the phenomenon workplace phobia and the practical question how to classify workplace phobia in a clinical diagnostic setting. Is a special diagnosis for "workplace phobia" necessary or helpful?
Last, some methodological aspects on instruments, sample, study design and limitations of the study will be discussed.

5.1 WORKPLACE-RELATED ANXIETIES: DIFFERENT FROM CONVENTIONAL ANXIETY DISORDERS?

It was expected that workplace-related anxieties are not only results of workplace conditions. They may occur as a secondary symptom of a primary conventional mental disorder, which manifests in a special form at the workplace. On the other hand, it was also expected that workplace-related anxieties may occur as a single standing phenomenon. A differential diagnostic is necessary to find out which quality the anxiety syndrome has, thus whether it is a general mental disorder causing suffering and performance and participation disorders at the workplace, or a general mental health problem but not causing specific problems at the workplace, or whether it is only occurring in connection with the workplace and not in other domains of life.

To clear these questions of differential diagnostic and comorbidities between conventional anxiety disorders and workplace-related anxieties, the categorial data from MINI and Mini-WAI were used.
When interpreting the data one has to keep in mind that they come from a selected group of

participants who have been in inpatient treatment for chronic mental disorders and in many cases also disorders of participation, especially in relation to their job. Therefore neither the rate of mental disorders, nor the rate of comorbidity for mental disorders nor the rate of workplace-related anxieties can be interpreted as epidemiological findings. On the other hand, this selected group of participants is especially suited to study the interrelation between anxiety disorders and workplace-related anxieties because of these high prevalence rates.

Workplace-related anxieties and conventional anxiety disorders

The findings which have been described above (4.1) support the assumption that workplace-related anxieties or adjustment disorders with other affects may occur together with other conventional mental disorders in some persons, but may also occurr as a primary and single phenomenon in others.

Participants with workplace-related anxieties do to a great part also suffer from conventional mental disorders or anxiety disorders. It has often been shown in the literature that anxiety disorders have consequences for work performance and work participation, like lost productivity, presenteeism, sick leave and an inclined risk for accidents (Greenberg at al 1999; Sanderson & Andrews 2006; Nieuwenhuijsen et al 2006; Haslam et al 2005)[6]. But it has not yet been shown whether anxiety manifests with a special quality in the domain of work.

The assumption that patients with conventional anxiety disorders are inclined to also suffer from anxiety in relation to the workplace does also fit together with the result of this study that general psychosomatic symptom load (measured with the SCL-90-R) and here especially in the different dimensions of anxiety, had shown a middle correlation with job-anxiety level.

However, the question is which quality anxiety has in the working context. In a previous study (Muschalla 2005) it was found that there was a more narrow relation between the self-reported level of general anxiety measured with the *Stait-Trait-Anxiety-Inventory* STAI-T (Spielberger et al 1981) and general anxiety symptoms measured with the *Panic and Agoraphobia Scale* (Bandelow 1997) than between the job-anxiety level (JAS) and panic (PAS), or between JAS and STAI-T. This does also fit to the assumption that workplace-related anxieties appear in their own qualities and can also be reported by patients in that way.

The second important result is that workplace-related anxiety can be an alone standing phenomenon. There are patients who only report about anxiety in connection with the

[6] The aspect of work participation disorders will be discussed in detail in chapter 5.5 Workplace-related Anxieties and Work Participation Disorders.

workplace, but not in general life. From a theoretical perspective it must be kept in mind that anxiety is by its very nature stimulus-bound. It must be expected that some anxiety problems pertain to all areas of life but others only to selected stimuli. As work is an important domain of life, and as there are potentially anxiety provoking factors, there must be specific workplace-related anxieties, similar to school anxiety (Schlung 1987; Nader et al 1975). The fact it can be shown empirically that workplace-related anxieties are only partly related to conventional anxiety disorders shows that it is not enough to restrict diagnoses and therapies to conventional anxiety disorders.

The consequence for the clinical practice drawn from these results should be to thoroughly ask each patient who is suffering from a conventional anxiety disorder explicitely for workplace-related anxieties. On the other hand, even those patients suffering from somatic complaints only without conventional mental disorder should be investigated in view of workplace-related anxieties, as these might occur as an alone standing mental health problem without a co-occurring conventional anxiety disorder.

5.2 Conventional Mental Disorders: Their Interrelations and Comorbidities

The finding that two thirds of the interviewed patients had got two or more conventional diagnosis in the MINI fits to what is usually reported in research literature: Mental disorders mostly occur in comorbidity (Jacobi et al 2004).

With 17% there is a relatively high percentage of patients in this sample who have got no diagnosis from MINI. This is due to the fact that pain disorders, especially migraine are not categorised in this interview, but there is a certain amount of patients sent to the clinic because of psychosomatic disorders like suffering from head ache and migraine without co-occurring manifest mental disorder (Rehabilitation Center Seehof 2005).

The findings from this investigation, being predominant occurrence of anxiety and depression, fits to other findings on common mental disorders in the workplace: Sanderson & Andrews (2006) conducted a structured review of epidemiologic studies in community settings (workplace and general population) using recent classification systems. Thereby

depression and simple phobia were found to be the most prevalent disorders in the working population.

The interrelation between anxiety disorders and other mental disorders has been studied in detail: Different qualities of anxiety often go along with depressive episodes or affective disorders. This was found for people with PTSD and depression after an earthquake (Salicoglu et al 2007), patients with diverse anxiety disorders and comorbid bipolar disorders (Lee & Dunner 2007), panic and bipolar disorders (MacKinnon & Zamoiski 2006). Choy et al (2007) examined the relation between specific phobias and depression, whereby they came to the conclusion that the types and number of fears play an important role in the probability of lifetime depression.

Patients with comorbid mental disorders often have a more severe symptom load than patients with alone standing diagnosis, for example: Campbell et al (2007) found that comorbid PTSD among depressed patients is associated with increased illness burden, poorer prognosis, and delayed response to depression treatment. Compared to those with depression alone, depressed patients with posttraumatic stress disorder (PTSD) experience more severe psychiatric symptomatology and factors that complicate treatment. In another study, Simon et al (2007) found that individuals with bipolar disorder suffering from comorbid anxiety disorders had a more severe suicidal ideation, a greater belief suicide would provide relief, and a higher expectancy of future suicidal behaviors. Lee & Dunner (2007) also found that anxiety disorders negatively impact the course of bipolar disorders

A similar result was found in the sample investigated in this study, as patients with more than one diagnosis from the MINI had a higher symptom load in the self-report questionnaire.

It also seems to be common that anxiety disorders are regularly occurring as comorbid diagnosis – this was also found in this sample of investigated psychosomatic inpatients- , whereby impairment is increasing when the number of anxiety disorders increases (Kroenke et al 2007).

Concerning generalized anxiety disorder (GAD) it has been pointed out (Tyrer & Baldwin 2006) that the criteria of symptoms overlap greatly with those of other common mental disorders and that one could regard the disorder as part of a spectrum of mood and related disorders rather than an independent disorder. In this investigation the diagnosis of generalized anxiety got moderate comorbidity rates with other anxiety disorders. Less than half of the affected had more conventional anxiety diagnosis beside the GAD. That is why

one can assume that the GAD has an own clinical quality and it makes sense to keep the diagnostic category.

Summarized, the findings on the distribution pattern of different conventional mental disorders and anxiety disorders in this investigation of psychosomatic inpatients appears similar to distribution pattern of mental disorders in general or working population, as described in research literature.
Anxiety and depression, often comorbid, are appearing as the predominant disorders. It also seems to be common that anxiety disorders are regularly stated as comorbid diagnosis.
Comorbidity seems to be associated with an increased severity of mental illness.
The similarity of the here investigated results with findings from research speaks for the validity of diagnosis assessed with the MINI interview and therefore underlines the practicability of the diagnostic criteria.

5.3 Different Qualities of Workplace-related Anxieties: Their Interrelations and Comorbidities

As this investigation is an innovative attempt to explore empirically the concept of workplace-related anxieties, there are no studies from other research groups in the literature which have focused the phenomenon in the same way, with the differential diagnostic perspective.
Before regarding the implications of the results found in this study, a short literature review shall be given in the following. This should be an attempt to set other research findings and descriptions of workplace-related anxiety-like phenomena in a contextual relation to the here investigated constuct.

Workplace-related anxiety-like phenomena in the literature
Research literature offers many studies focusing on different phenomena of anxiety in workplaces. By regarding them within the frame of the concept of workplace-related anxieties, associations are arising to which category they could fit. Computer fears in middle-aged employees (Beutel et al 2004) lead to the idea that they could be classified as workplace-related situational anxiety or anxiety of insufficiency according to the *Mini-Work-Anxiety-*

Interview. In the case these anxieties arose within the frame of technological changes, they could also be described as an adjustment disorder.

A case of phobic anxiety related to the inability to smell cyanide in a process operator was discussed by Nicholson & Vincenti (1994) and seems to show similarities to the concept of workplace-related situational anxiety used in the Mini-WAI here.

In many cases when spoken of "burnout" (Turnipseed 1998; Lindblom et al 2006), there is a conglomerat of diffuse worrying and exhaustation symptoms mentioned which could awake associations with the concept of a workplace-related generalized anxiety. The association to describe burnout within the context of anxiety can be derived from findings of narrow relations between both state and trait anxiety and burnout scores in self-rating measures (Turnipseed 1998).

Articles dealing with the context of "mobbing", low social support and conflicts associate the idea of workplace-related (specific) social anxiety (Thomas & Hynes 2007; Girardi et al 2007; Bilgel et al 2006).

An interesting report was given by Nakazawa et al (2005) who dealt with a case of sick building syndrome in a Japanese office worker: A 36-year-old female office worker developed nausea and headache during working hours in a refurbished office. After eight months of seeking help at clinics or hospitals without improvement she reacted to the smells of various chemicals outside of the office building. Biochemical findings were all within normal ranges. Her anxiety level was very high according to the *State-Trait Anxiety Inventory* (STAI) questionnaire. The authors drew the conclusion that a lack of recognition by superiors and doctors - that sick building syndrome might have been the source of her illness coupled with her high state of anxiety - may have exacerbated her symptoms and led to the onset of multiple chemical sensitivity. This case could come near to the concept of workplace-related hypochondriac anxiety.

Posttraumatic stress disorder in the workplace has been studied more often explicitely as "workplace-related" anxiety (Price et al 2005; Laposa et al 2003), for example within workers experiencing PTSD from work injuries (MacDonald et al 2003), with the result that almost half of the affected workers were assigned a coexisting mood or anxiety diagnosis. 23% percent of the group received vocational rehabilitation assistance and only 43% returned to their previous job with the accident employer. The authors conclude that work-related PTSD is both complex and disabling and merits further investigation.

The concept of workplace phobia itself has once been studied as a specific phenomenon of workplace-related anxiety (Haines et al 2002). The research group found high physiological arousal in workplace phobic persons when approaching their workplace, whereas non-phobics did not react in this way. As physiological reactions are a characteristic symptom of phobias (according to the above (2.2.2) mentioned diagnostic criteria), the criterion appearance of physiological symptoms was also included in the definition and diagnostic criteria of workplace phobia in the Mini-WAI.

The international literature has often focused specific aspects of the complex concept of workplace-related anxieties which has been investigated here for the first time as a whole, with the aim of differentiating different qualities of workplace-related anxieties and adjustment disorders.

Workplace-related anxieties as investigated in the sample

Different qualities of workplace-related anxieties were postulated. Each of these qualities of workplace-related anxieties is – beside its specific phenomenology - characterized by subjectively experienced severe suffering and capacity limitations, that is problems in carrying out work duties.

Results show that workplace-related anxieties are not a uniform phenomenon: Like in DSM-IV classification of conventional anxiety disorders, similar discriminations between different qualities can be made in workplace-related anxieties. Workplace-related anxieties are seen in the qualities of posttraumatic or adjustment disorders, anxiety in relation to special work situations or persons, anxiety of insufficiency, hypochondriac anxieties and generalized worrying. We have seen from the results that workplace-related anxieties may occur in different comorbid pattern. There may be only one workplace-related anxiety diagnosis in one person but mostly there are more.

Workplace-related anxieties seem to be differentiable by their symptomatic quality when compared with each other: This can be concluded first from their frequency of occurrence: the most frequent workplace-related anxieties are anxiety of insufficiency and generalized anxiety respective worrying, in contrast to the more rarely appearing unspecific social phobias, hypochondriac anxieties and PTSD.

Second, some qualities of workplace-related anxieties are appearing together more often than others, there are differences in the comorbidity pattern in the different workplace-related anxieties: Anxiety of insufficiency tends to occur together with generalized anxiety regularly and vice versa, whereas hypochondriac anxiety seems to be less often accompanyed by other workplace-related anxieties. Social anxieties and adjustment disorders are regularly going along with workplace phobia, whereas generalized anxiety or situational anxiety do not that often. When interpreting these comorbidities, one has to keep in mind that it is hardly possible to identify which anxiety quality was the primary cause for the co-occurring syndromes and possibly secondarily resulting workplace phobia.

Some differences between workplace-related anxieties and their comorbidity pattern shall be discussed in the following:

A central aspect is the question: Why is workplace-related generalized anxiety going along with anxiety of insufficiency, but not that often going along with workplace phobia, like workplace-related specific social phobia does? An answer could be the difference in the symptomatic quality: patients with workplace-related generalized anxiety are mainly suffering from a general higher physiological strain and cognitive symptoms, that means worrying all the day about minor matters at work. Patients with workplace-related social phobias are frightened of special persons and try to avoid being confronted with those. By the time, this avoidance may generalize and become a complex workplace phobia in the case a person has come to the assumption that only staying away from the workplace ensures security not to meet feared persons and social conflicts. However, patients with generalized anxiety usually fear to do mistakes or forget something concerning their work duties. This can also be associated with fears of insufficiency and thus there is a certain contextual relation between generalized anxiety and fear of insufficiency. In order to avoid the imagined catastrophies, employees with generalized anxiety tend to work extremely carefully.

Finally, patients with workplace-related generalized anxiety often have the problem that they cannot easily switch from the domain of work to the domain of freetime after leaving their workplace, whereas patients with specific social phobias more often get a feeling of relief when leaving the place of confrontation with the endangering persons. The latter thus learn that “avoidance” or being away from work is helpful to reduce anxiety. In this context avoidance functions as a negative reinforcement mechanism (Linden & Hautzinger 2005).

Hypochondriac anxieties, situational anxieties and specific social phobia seem to be distinguishable from each other best inbetween the workplace-related anxiety qualities, as they have the lowest comorbidity rates between each other. This speaks for the specifity of their qualities, which are by definition related to very specific stimuli: either special environmental and work characteristic aspects influencing the own status of health (hypochondriac anxiety), or special situations (situational anxiety), or persons ((un)specific social phobia) at work provoking a phobic reaction.

Another special quality could be supposed to be found in the diagnosis of adjustment disorder. This quality of workplace-related anxiety is relatively unspecific in its symptom characteristics, but specific in the question of etiology: the stressful event is the important cause for enduring anxiety reactions, which manifest after the event with a general high level of several unspecific stress symptoms. This unspecifity concerning symptom quality could be the reason for the relatively high frequency with which the diagnosis was stated. The comorbidity rates are high, several other specific workplace-related anxieties are regularly co-occurring - anxiety of insufficiency, specific social phobia, generalized worrying as well as workplace phobia. These may give a more detailed description of the quality of the whole syndrome which the patient associates with a specific releasing stressful event at work. A more detailed interpretation of workplace-related adjustment disorder will be given in an extra chapter (*Excursus A*).
PTSD as the second event-related workplace-related disorder appears seldomly. This is due to the required life-endangering event as a release and the symptom qualities which are both very specifically defined. As there were only four cases, comorbidities will not be interpreted here as the results may have been resulting from accident and are not expected to be prototypical.

Workplace phobia can be associated potentially with all workplace-related anxiety qualities: there are diverse workplace-related anxiety qualities which may generalize in the way that that anxiety finally includes the workplace as a whole. However, not all workplace-related anxieties have the tendency to generalize in the same amount, that is why not all patients with workplace-related anxiety report the symptoms of a complete workplace phobia.
It was postulated that workplace phobia can appear as a complication of a basic disorder and therefore it must always be connected with a diagnosis of a conventional mental disorder or a workplace-related diagnosis. It may first seem astonishing that “only” 82% of patients with

workplace phobia have a comorbid (and maybe "underlying") workplace-reated anxiety. This is understandable when keeping in mind that also workplace-related adjustment disorders with other primary affects (embitterment, depression or aggressivity) might result in a phobic reaction concerning the whole workplace. In this case a heavy general workplace-related anxiety reaction can be seen, but no specific workplace-related anxieties concerning special situations, persons or aspects of health endangerment.

As it has been postulated theoretically and methodologically above, the qualities of workplace-related anxieties are differentiable with the semi-structured diagnostic interwiew. Furthermore, the different workplace-related anxiety qualities show varying tendencies to appear together with others and with workplace phobia.
For the clinical practice, these results lead to the implication that different qualities of workplace-related anxieties should be distinguished. It is not enough to know that "anxiety" concerning the workplace plays a role in a patient´s mental (ill) health state, but it is worth to specify which quality of workplace-related anxiety the patient suffers from, in order to find an appropriate treatment.

5.4 Comorbidities between Workplace-related Anxieties and Conventional Mental Disorders

Why do participants in the interview not answer questions related to conventional generalized anxiety with yes, but do so when asked specifically about the workplace? The explanation is that people make a difference between general problems and domain-specific problems. It is not the same whether a problem is experienced in many areas of life or only in a selected situation. General questions on conventional anxiety disorders do not direct the attention of participants to their workplace. Therefore, it is indispensable to ask specifically for workplace-related anxieties in order to diagnose workplace-related mental health problems.

Depression

Depression was found to be frequently occurring with a comorbid conventional anxiety disorder. Furthermore, patients with workplace-related anxieties and workplace phobia were often suffering from a comorbid depressive episode.

From the literature it is known that depression and anxiety often go along with each other (Lee & Dunner 2007). But it is difficult to interpret the results of studies in which self-rating scales are used to assess the level of depression and anxiety symptoms, since these scales do not state diagnosis but measure symptom load which in many cases is not specific for characterising one single disorder. To avoid this problem, the comorbidity discussion is here based on the results from the categorial diagnosis stated in the (semi-)structured diagnostic interviews (Mini-WAI and MINI).

Patients with depression are usually expected to suffer from feelings of insufficiency, because one of the main symptoms, according to the cognitive triad model suggested by Beck (Galinowski et al 1986) and the DSM-IV diagnostic criteria (APA 1994), is the negative thinking about oneself and the own capacities. The results support the assumption that there can be a transfer of the symptom – no matter which way of etiology is lying behind – between the domain of the workplace and life in general. That means that the depressive negative thinking does not stop in the domain of work and may cause anxiety of insufficiency as well as additional worrying about possible mistakes and the future development. On the other hand, it is also possible that an intensive feeling of insufficiency which has first occurred in connection with problems at work may support a depressive development in general, especially in case the domain of work is a central value in the person´s life and therefore related experiences impress his/her state of mood.
Nevertheless, not all patients with depression had the diagnosis of workplace-related anxiety of insufficiency. This could be due to the fact that they did not report suffering that strong and therefore did not fulfill the diagnostic criteria. The other possibility is that they suffer from depression in general, but do not feel affected from negative thoughts or insufficiency in the domain of their workplace. It could be that the workplace ensures a structure of the day, gives social support and helps the person to reach the normal achievements in the working process. Thus feelings of insufficiency do not occur in the domain of work that heavily. Another explanation could be that the depressive syndrome must not appear with dominant feelings of insufficiency, as more physiological symptoms like changes in sleep or appetite and state of power are predominant (Alonso Fernández 2001; Katon et al 2007), and therefore ideas of insufficiency do not play a major role at the workplace as well.

Generalized anxiety

Most of the patients with a conventional generalized anxiety diagnosis do also suffer from worrying at the workplace in a special way, whereas from those with a workplace-related generalized anxiety less than the half had a comorbid conventional generalized anxiety. This finding supports the assumption that there are differences in the qualities of an anxiety in general and anxiety in a special domain.

An explanation could be that conventional generalized anxiety does by its nature include worrying at the workplace – as the diagnostic leading criterion in the MINI interview requires general "worrying very much about minor matters and daily hazzles" - and thus persons with a primary generalized anxiety do also suffer from worrying in the workplace, whereas in cases when worrying develops at the workplace because of special conditions, it has its own quality. It could be that there are problematic conditions at work and no problem in life in general, thus a workplace-related extended worrying could develop and lead to suffering when manifesting over a certain time. Furthermore, there is a tendency of anxiety to generalize. Thus it may be possible that a worrying behavior which began in any single domain of life or with any topic may in the course of time include other domains of life.

Social phobia

Conventional social phobia does only rarely go along with workplace-related specific social phobia, but more often with workplace-related unspecific social phobia. The reason for these differences lie in the definition of the workplace-related social phobias: they are different from conventional social phobia because they refer to persons at the workplace, in the case of workplace-related specific social phobia even special persons at work only. Conventional social phobia does not make differences between different life domains and therefore cannot be used to predict whether a person is frightened in social situations at the workplace. Workplace-related social phobia can be distinguished into specific and unspecific: There are obviously people who are suffering from anxiety in several social situations at the workplace (workplace-related unspecific social phobia), but not only in respect to special colleagues or superiors and not in other domains of life. This kind of workplace-related social phobia must have an other quality than a conventional social phobia covering all life domains.

An unspecific social phobia related to the workplace is, compared with the other workplace-related anxiety qualities, a rare phenomenon. More often a specific social phobia towards special superiors or colleagues makes patients suffer. In these cases often a social conflict or "mobbing" has been reported by the patients in the interview and this appeared with a comorbid diagnosis of adjustment disorder as well. Mobbing has often been discussed to be

connected with mental problems at the workplace: Bilgel et al (2006), for example, had found that fulltime employees feeling bullied at work had higher levels of anxiety and depression than non-bullied controls. Similar findings were found in an investigation by Hansen et al (2006) where employees being bullied at work reported more symptoms of somatization, depressivity, anxiety, and the experience of low social support by superiors. Furthermore, they also found lower concentrations of cortisol at awakening in bullied than in non-bullied participants and therefore pointed out to the association between the cognition of being bullied, health outcome and physiological stress response.

There is an important criterion in this category of social phobias which makes the difference between the conventional and the workplace-related social phobia: namely the question whether the anxiety is perceived as exaggerated or senseless. For stating the diagnosis of conventional social phobia, it is necessary that the person answers "yes, I think this social anxiety is exaggerated". In the Mini-WAI, workplace-related social phobias must not be perceived as "senseless or exaggerated", so this is only a facultative criterion. In fact, most patients suffering heavily from social anxieties at work do report "No, I do NOT think my fear is exaggerated, it is because I have made these ugly experiences with Mr/Mrs X and I am aware things may happen again that way." These patients obviously seem to have a good reason for being frightened in the specific social contacts as they have learned that the person X is "dangerous" for them. In that respect, the choice of declaring facultative the criterion "exaggerated anxiety" constitutes an important difference between the conventional social phobia and workplace-related social phobias. People with a subjectively "not exaggerated" workplace-related specific social phobia suffer, avoid and feel impaired in the same way as do patients with conventional social phobia, but workplace-related specific social phobia would not have been stated when only using the standard diagnostic criteria of the conventional social phobia. Thus a new quality of social anxiety can be said to be discovered here for the workplace domain. Hypothetically, regarding etiology once more, it is possible that a specific experience of social conflict with a colleague or superior may first cause a workplace-related specific social phobia, but may later generalize and grow to become an unspecific social phobia related to the work context, whereas other domains of life are not affected.
Workplace-related social phobias which developed within the frame of a mobbing event thus can be understood as a conditioned anxiety reaction released by a specific experience and referring to stimuli with certain socially aversive characteristics (Linden & Hautzinger 2005).

Hypochondriasis, PTSD, Obsessive Compulsive Disorder

There are relatively low comorbidity rates between conventional hypochondriasis and workplace-related anxieties, also conventional PTSD was not occurring regularly with workplace-related anxieties. This speaks for the specifity of these anxiety disorders and that they may be understood as more independent phenomena, not often inducing anxiety reactions at work, or not perceived as related with problems in the workplace. But since there were only four patients with workplace-related PTSD and seven with a conventional PTSD, these results have to be interpreted carefully as the pattern of comorbidities here can be resulting by accident.

Obsessive compulsive disorder (OCD) and often co-occurring workplace-related situational or generalized anxiety may have some connections as OCD is characterized by "active avoidance" of the state which causes feelings of insecurity. The contents of the fear lying behind obsessive compulsive actions or thoughts might include things at the workplace as well and eventually the person creates special rituals or tries to assure greatest possible security by thinking about possible accidents or failures (which could be expressed in generalized worrying about minor matters and exaggerated controlling of working processes or results during the working day) or in contrast avoiding special situations (that would correspond to situational anxiety). Generalized anxiety is characterized by concentration problems, often patients report the tendency of repeating things or doing more things at once in order to make sure they do not forget anything. This may lead to a loss of productivity and working overtime or "working in thoughts" after leaving the workplace. Thus it can be assumed that OCD and workplace-related generalized anxiety might have some symptomatic overlaps and that workplace-related generalized anxiety may appear as an OCD-derived workplace-related worry and control-symtomatic. As most (five out of eight) of the patients with both OCD and workplace-related generalized anxiety reported that their mental problems began independently from the workplace situation, obsessive compulsive syndromes can be expected to provoke the development of workplace-related generalized anxiety. The idea of obsessions being a source of inefficiency in the workplace by arising anxiety and intrusive, unwanted ideas disturbing the working process was already given by Napoliello (1980).

Conventional anxiety disorders and workplace-related anxieties

Results show that the investigated conventional anxiety disorders are regularly occurring in comorbidity. This has often been found in research, following the literature (Hegel et al 2005; Jacobi et al 2004). An interesting difference between the comorbidity patterns in workplace-

related anxieties and those in conventional anxiety disorders is that workplace-related generalized anxiety is more often going along with comorbid workplace-related anxiety diagnosis than does conventional generalized anxiety or conventional adjustment disorder with comorbid conventional anxiety disorders.
This could be another hint for the different qualities of anxiety in the two different domains. It could be possible that workplace-related anxieties are lying nearer together or have a kind of "core anxiety" with which most of the single workplace-related anxiety qualities are related. A core anxiety in this sense could be the workplace-related generalized anxiety as it is co-occuring with many workplace-related anxiety qualities. From an etiologic perspective, the idea of a "primary workplace-related anxiety reaction" could be arisen. Such a primary anxiety then could be the adjustment disorder, as an unpleasant emotional reaction towords a stressful event, which can also be accompagnied or followed by different other qualities of workplace-related anxiety and may end in workplace phobia.

The workplace is a specific domain of life with a certain assembly of stimuli which may be relevant for anxiety provocation. Outside the workplace, there is another mass of stimuli which all potentially may be related to anxiety reactions. But anxiety categories in diagnostic interviews do not focus that detailed all possible life situations which may cause anxiety. The Mini-WAI in contrast does so, as it tries to differentiate qualities of anxiety in a very special but complex domain of life. Therefore – in contrast to conventional mental disorders - workplace-related anxiety diagnosis can be understood as very specific constructs with a restricted generalizability for the symptoms in the sense of affecting other domains or topics of life. Nevertheless, it makes sense to distinguish between different workplace-related anxieties as they are all "anxiety in relation to the workplace" but with different symptom qualities, frequencies and pattern of commorbidities.

Workplace phobia and workplace-related anxieties
It is interesting that workplace phobia is more often comorbid with depression than with most of the conventional anxiety disorders. This is another hint towards the specifity of workplace-related anxieties by marking off conventional anxieties. The finding that workplace phobia may also appear together with workplace-related adjustment disorders with another affects than anxiety will be discussed in the chapters on workplace-related adjustment disorders (*Excursus A*) and workplace phobia (5.9).

Although workplace-related anxieties appear in comorbidity with conventional anxiety disorders and are related to the general anxiety level, it cannot be derived from the conventional anxiety diagnosis which quality anxiety has in the workplace.
Workplace-related anxieties and conventional anxiety disorders were found to be different in their nature and appear with different comorbidity pattern. That makes them worth to be distinguished and studied in relation to their very context.

5.5 WORKPLACE-RELATED ANXIETIES AND WORK PARTICIPATION DISORDERS

It has often been described in the literature how mental disorders cause problems in the working context: Sanderson & Andrews (2006) have found that anxiety and depression lead to reduced productivity at work more than absenteeism. Greenberg et al (1999) explored the economic burden of anxiety disorders and found that anxiety disorders - except simple phobia – were associated with limitations in work performance. Of the costs per anxious worker, 88% is attributable to lost productivity while at work as opposed to absenteeism. In contrast, Nieuwenhuijsen et al (2006) pointed out to the diagnosis of anxiety or depression being useful as a predictor for a longer time until return to work. Haslam et al (2005) showed that both the symptoms as well as the medication of anxiety and depression impaired work performance. Accidents happening at the workplace were also attributed to the mental health condition or the medication by the workers.
The question is how often and what kind of performance and/or participation problems can be expected to come along with workplace-related anxiety disorders, and whether there are differences between different qualities of workplace-related anxieties concerning work performance and participation disorders.

Specific aspects of *work performance disorders* – namely working overtime and delegating works to colleagues - have been explored for the different workplace-related anxieties. Patients with workplace-related hypochondriac anxiety did more often delegate works to colleagues than working overtime, whereas patients with workplace-related generalized anxiety did most often report working overtime in order to compensate the capacity

limitations caused by the symptoms. This finding speaks for differences in the quality of workplace-related anxiety disorders: Workplace-related hypochondriac anxiety means to pay attention extremely not to get overtaxed with the work amount or not ot be endangered concerning health by specific work conditions. These patients want to reduce their work load and therefore tend to avoid or delegate specific duties to colleagues. In contrast, patients with generalized anxiety and partly those with anxiety of insufficiency are worrying or doubting about the quality of their work achievements, and in order to reduce the own feeling of insecurity and doubts, they want to make sure everything has been done all right, they possibly do more often control work results, or work more than would normally be necessary.
The finding that patients with workplace phobia did not compensate anxiety with working overtime makes sense when keeping in mind that workplace phobia as a phobic anxiety is mostly associated with a flight and avoidance reaction towards the stimulus. Thus for workplace phobic patients it is clear to leave the workplace whenever possible and bring oneself out of the dangerous area.

Concerning *work participation disorders* in the sense of absence from work, there could be found differences among the different workplace-related anxieties: While adjustment disorders often lead to participation disorders in the sense of sick leave or even loss of the workplace, generalized anxiety or worrying does not so often affect work participation. This is another evidence for the assumption that workplace-related anxieties can and must be differentiated as they lead in different amount to work participation disorders.
An explanation of the relatively small rate of work participation disorders in patients with workplace-related generalized anxiety could be that the characteristic worrying is a cognitive phenomenon and is not in the same way experienced as a sign of sickness like in a panic-like anxiety reaction with heavy states of physiological arousal which may occur in workplace-related specific social phobia or in a situational anxiety. The latter anxiety reactions are attributed to extern stimuli, while patients with workplace-related generalized anxiety report a continuous worrying throughout the working day which is not related to specific situations only.
Furthermore, patients with workplace-related generalized anxiety do not need to avoid the workplace, because being away from the workplace does not reduce their level of nervousness and worrying. In contrast, they nervously stay there to make sure things are going allright. Additionally, an imagined danger of loosing the job or information if being absent too long might contribute to a comparably low absence rate in patients with workplace-related

generalized anxiety. This mechanism might also be one reason for the findings in the literature that anxiety is not rarely associated with presenteeism, more than with absenteeism (Sanderson & Andrews 2006).

Situational anxiety is also seldomly going along with work participation disorders in the form of sick leave. That can be explained by the circumstance of going to work but having the possibility to avoid the special anxiety situation, or the situation is not that often occurring. Thus only a smaller part of the workplace itself is perceived as "dangerous" and therefore the workplace is not as a whole associated with anxiety.

Patients with *workplace phobia* were most severely affected by work participation disorders, often with a final loss or change of the workplace. As "avoidance towards the workplace as a whole" is a central criterion of workplace phobia, this finding fits the assumption that it causes the most severe work participation disorders. Thus workplace phobia can in most cases be assumed to state a marker of severity concerning work participation disorder.

Another important finding is that the longer a patient was on sick leave in the past 12 months, the higher is the score of self-reported job-anxiety. There are two possible directions of interpretation: the first association could be that a higher level of job-anxiety causes longer sick leave durations, or the person is more frequently on sick leave because of growing anxiety. The other direction of interpretation is that the longer a person has been away from work on sick leave because of whatever illness, the more job-anxiety develops, even if there was objectively no reason for becoming anxious at work. The second assumption is understandable when keeping in mind the hypothesis of the relation between control and anxiety (versus feeling of security) (Griffin et al 2002). When loosing the possibility to be active at the workplace for a certain time and no more getting to know about the ongoing processes and news this also means a loss of control and security for the employee. Who knows what is happening or changing at the workplace while he/she is away? When insecurity and feeling of lost control are growing, job-anxiety may develop even if there were no special reasons therefore at the time when the workplace was left.

From the correlation results it could be seen that patients see a narrow connection between the severity of work load and their level of job-anxiety. Searching for explanations for their symptoms, patients often attribute their symptoms to events or conditions of life. This is a general phenomenon as people are usually searching for reasons for events that have happened as well as for their own reactions in specific situations (Linden & Hautzinger 2005).

In case patients are convinced of having a mental health problem because of their workplace, this leads to the assumption that the consequence of going on sick leave can be a useful coping strategy with the effect of reducing anxiety.

In clinical practice, both above described processes of job-anxiety development have been discovered in different cases, and often they also get into interaction: The longer a patient stays away from work, the more a feeling of insecurity and worrying develops or even a feeling of insufficiency because of missing many information and developments. This makes job-anxiety rise. But in consequence the return to work is getting more and more difficult when the employee rests on sick leave away from work. Avoiding confrontation with the possibly occurring danger or expected catastrophies at work can give rise to anticipatory anxiety and return to work gets more and more problematic.

As mentioned above, anxiety disorders are associated with restrictions in work performance and/or absence from work because of sick leave (Greenberg et al 1999; Haslam et al 2005; Nieuwenhuisjsen et al 2006). In this investigation it has been seen that patients with anxiety disorders have longer average durations of sick leave than those without anxiety. This fits to what is reported in the literature. But it was also found that patients with workplace-related anxieties were more often on sick leave directly before rehabilitation than patients without workplace-related anxiety or with conventional anxiety diagnosis. Regarding only the duration of sick leave, there are only little differences between the groups.
It can be assumed that patients with an acute workplace-related anxiety disorder are especially prone to actually avoid their workplace by sick leave, whereas a patient with a conventional anxiety disorder but without workplace-related anxiety may also have been on sick leave, but not because of workplace-related anxiety. For example, in the case of a conventional panic disorder with panic attacks occurring everywhere and not associated with the workplace, absence from the workplace does not function as a negative reinforcement and therefore does not stand in a direct interaction with a workplace-related mental health problem. But, in contrast, it does so in the case of workplace-related anxiety.
There were also higher variances in the sick leave durations before rehabilitation in patients with conventional anxiety disorders compared to those with workplace-related anxieties. That means that patients with workplace-related anxieties were more consistently on sick leave, in comparison to those with conventional anxiety disorder who tendencially either were on sick leave for a long time or not at all.

Of course it must be kept in mind that not all of the patients were on sick leave because of their anxiety disorder, but maybe because of another somatic or mental illness. But it can be assumed that these variants may appear in all groups to a similar amount, so that the differences can be interpreted nevertheless referring to anxiety.
Altogether, the findings support the assumption that workplace-related anxiety has another quality than conventional anxiety. This quality of workplace-related anxiety becomes visible – beside other aspects - in a sick leave profile differing from that of patients with conventional anxiety disorders.

Workplace-related anxieties and especially workplace phobia have a remarkable impact on work participation. Different workplace-related anxieties do to a different amount cause work participation disorders. It can be assumed that this depends on their different tendencies of affecting the workplace as a whole or only partly, on the nature of their symptoms and on the subjective degree of suffering and impairment in carrying out daily work duties.
Compared with conventional anxiety disorders, patients with workplace-related anxieties show a different profile in sick leave status and duration, which is a hint towards a special quality of the underlying workplace-related disorder.

5.6 Correlates of Workplace-related Anxieties

5.6.1 Situational Factors: Why do Workplaces provoke Anxiety?

Although workplace-related anxieties go along with conventional anxiety disorders and general anxiety level, it cannot be derived from the conventional anxiety diagnosis which quality anxiety has in the workplace. The reasons therefore are the special stimulus conditions at the workplace. Thus there is no workplace-related anxiety without a specific workplace or the imagination of a specific workplace. This topic will be focused in this chapter by regarding the work characteristics and their interrelation with the level of job-anxiety. Furthermore, differences of workplace-related anxieties in different professional settings will be discussed.

Job-anxiety and perceived workplace characteristics

It must be kept in mind that the interpretation of correlation results cannot lead to causal explanations of etiology or interactions between job-anxiety and general anxiety scores. Furthermore, the used instruments are both self-rating instruments and filled in by the participant at once. That means there are possibly influenced by the current mood in which the patient was when filling in the questionnaire. Nevertheless, this is a problem which affects all studies dealing with self-rating instruments. We expect the level of job-anxiety being quite stabil in the beginning of the rehabilitation stay and not varying quickly. This is due to the assumption that the image of the current or last workplace has manifested in the mind of the participant with its last state when the patient has been there – no matter whether this was two days ago or two years ago. This picture in mind can be reactivated by using the method of cognitive rehearsal (Linden & Hautzinger 2005) known from behavior therapy. To make sure that the participant is thinking of and imagining the current or last workplace situation during the interview, this instruction has been repeated several times during the interview. In the *Job-Anxiety-Scale* a concrete instruction to refer to the current or last workplace was given in the beginning.

From the correlations between workplace characteristics as experienced by the participant and the job-anxiety and general psychosomatic symptom load one can draw ideas concerning the question which situational stress factors at the workplace may be connected to which amount with job-anxiety or general psychosomatic symptom load. Here it was found that especially the perception of social support is connected with the level of job-anxiety. The more a person feels supported by colleagues and superior, the lower is the job-anxiety level. Similarly, the wider the scope of action in ones work appears to be, the lower is the feeling of anxiety. When there is a higher perception of quantitative work load or more interruptions during the working process, job-anxiety scores increase. All the mentioned aspects tend to support a well known hypothesis on the connection between anxiety and the perception of control or security. It has often been shown that – at work or anywhere else - anxiety level is the lower the more a person feels safe and secure and is convinced of being able to control the situation (Griffin et al 2002). At work, that need of control can be realized for example in flexibility in working hours (Costa et al 2006). But also job quality, workplace social support, demands and control should play an important role in the context of work when searching for correlates of anxiety and burnout symptoms in employees.

Findings in the literature show different results concerning the influence of work factors on mental health: Sanderson & Andrews (2006) reviewed longitudinal studies with a sample sized of 6264 participants and found a strong association between low job quality and incident depression and anxiety. Eriksen et al (2006) conducted a study on work factors and psychological distress in nurses´ aides and found that work factors explain only a modest part of the psychological distress in nurses´ aides, but that exposures to role conflicts and threats and violence at work may contribute to psychological distress. Lindblom et al (2006) carried out a cross-sectional study in general working population and found that psychosocial work factors are important in association to burnout, regardless of occupation: participants with a high level of sleep problems, psychological distress and burnout symptoms were strongly related to high demands, low control, lack of social support, and disagreeing about values at the workplace. Concerning the influence of mobbing or bullying at work on physiological stress response, Hansen et al (2006) found that bullied respondents got lower social support from coworkers and supervisors, and they reported more symptoms of somatization, depression, anxiety and negative affectivity. Similarly, the meaning of good interaction has been pointed out (Perlow & Williams 2003), while describing the effect that when people rest silent about important disagreements at work, they can begin to develop anxiety, anger and resentment. Albini et al (2003) described relations between dysfunctional work organization and mobbing.

These cited examples show parallels to the results found in this investigation. Especially the factor of social support and its relatedness to psychological distress seems to be clear. Concerning workplace organization, results lead to the assumption that the more a work situation is clearly structured and the more control or safety a person can feel in the situation the lower is the level of job-anxiety. Control and safety can be experienced when having control on the own work, the certainty of the reliability of colleagues, the feeling to get along with the amount of one´s work. According to the results in the here investigated sample, it seems to be less important for explaining the job-anxiety level whether the tasks are complex or simple. It cannot generally be said that complex tasks are associated with a higher or lower job-anxiety level in comparison to simple tasks. An explanation may be that the employee´s capacities must fit to the requirements of the task and the work environment, and vice versa. Thus the employee is able to fulfill work performance concerning the specific job. The idea lies in constructing a “fitting” work environment in which the full potential of employees can be used. In that sense Helge (2001) pointed out: when companies treat employees with dignity and make efforts to empower them, employee self-confidence and performance grows.

Similarly, there is advice how to handle employees with personality disorders at the workplace: Alert managers who use specific management techniques can enable a narcisstic employee to be productive and to be an asset in the work setting (Cramer & Davidhizar 2000). Here the importance of a functioning interpersonal communication at work finds expression.

Whereas the meaning of complexity and variability of the work seems to be of minor importance, the impression of being quanitatively overload seems to be generally related to a higher level of job-anxiety. Hobson & Beach (2000) investigated psychological health and work load among managers and found no statistically significant relation between actual hours of work and psychological health. They concluded that perceived work load appeared more important in determining psychological health than actual work load. This fits to the results that, in the patients investigated here, there was no consistent relation between working hours or overtime work per week and experienced work load, but a narrow relation between experienced work load and job-anxiety. Experienced work load and job-anxiety thus seem to be independent from the actual quantitative amount of working time.

As implications for the clinical practice, the results and conclusions show that it is worth to have a regard onto the concrete workplace situation in case a patient seems to be suffering from a workplace-related mental disorder. Which work-related aspects are connected with the anxiety? It makes a difference for the treatment whether a person avoids the workplace because of feeling mobbed by a superior or because of a new computer program which is felt to be a qualitative overload. In the first case, diagnostic and the focus of therapy might be lain on interactional behavior and competences, eventually strategies will be developed to improve coping in important but difficult workplace interaction situations. In the second case it may be examined why the employee does not feel able to learn a new technique: whether there is a general impairment, maybe in cognitive capacities, and whether this state can be changed – either by training the person´s abilities or even by restructuring tasks at the workplace.

Therapeutic attempts have been done in clinical practice, for example by Beutel et al (2004), carrying out a computer training in order to reduce technology fears in older employees. Concerning the second idea, there have been projects on “occupational reintegration management” (DRV 2007) aiming at an individual analysis of possibilities how to realize a return to work at a concrete workplace after long term sick leave.

Summarized in one sentence: also therapy for workplace-related anxieties will be oriented towards the situational demands in which the patient has to act at work, and therefore will again be domain-specific in a special way.

Workplace-related anxieties in different professional domains

Workplace-related generalized anxiety was found in all professional domains. That supports the assumption that generalized worrying is a somewhat general tendency which affects people when perceiving stressful conditions or events at the workplace. This perception of "general stress" can occur everywhere, in technology as well as in health care or office jobs. A higher level of worrying and general strain which characterizes workplace-related general anxiety seems to be a logical consequence.

But there were also differences in the distribution of the qualities of workplace-related anxieties in different professional settings. An impressive difference was that workplace-related hypochondriasis occurred more in technological domains, and workplace-related social phobias more frequently in administration and office jobs.

An explanation for the more frequent occurrence of hypochondriac anxiety in the domain of technology is that there are more men working in that domain. The here investigated higher rate of conventional hypochondriasis as well as workplace-related hypochondriac anxieties in men than in women has to be explained. First, it may be that men do more often present somatic symptoms or think about "somatic illness" rather than taking into consideration a "mental health problem", whereas women rather tend to accept a non-somatic (thus mental) disorder. Second, in the domain of technology, there are eventually more opportunities for work accidents or health endangering objects or processes than in office work, and therefore the risk or even anticipation of somatic health injury might be growing.

Concerning workplace-related social phobias, one has to expect that in a technical domain the process of production and work with machines may be more important than team work, that could be an explanation for the low rate of specific social phobia here. In contrast, office jobs and work in administration requires lots of social contacts and often team work or sitting together in one office with colleagues one cannot chose. There have to be done phone calls or client services which are all further possible stimuli to trigger social anxiety when things go wrong or conflicts arise. Regarding this professional setting with its special and frequent social demands, this could be a hint towards the higher rate of social anxiety and feeling of insufficiency, because in this domain there are more "possibilities" to provoke this special quality of anxiety. Hereby the importance of the stimulus conditions can be seen again.

Anxiety of insufficiency, for example, is often related to changes in work organisation, like the introduction of new computer programms or new work duties the employee has not been carrying out before (Beutel et al 2004).

In the research literature, workplace-related anxiety-like phenomena have been investigated in general or work population (Lindblom et al 2006) or clinical groups (Nieuwenhuijsen et al 2006; McLaughlin et al 2005), but also in homogeneous professional groups: often in nursery and health care professions (Laposa et al 2003; Alexy & Hutchins 2006; Buddeberg-Fischer et al 2006), but also employees in office work (Sjörgen et al 2006), and also in specific domains like professional artists (Fehm & Schmidt 2006) and military (Price et al 2006).
Wieclaw (2006) investigated a Danish sample of 28971 patients with affective or stress-related disorders and compared them to a sample of mentally healthy people. It was found that people working in social professions were more often affected from mental disorders than others. Women appeared to be endangered especially in the domains of primary school teacher, next in the profession of police woman, social worker or as nurses in old people´s care. Men were mostly affected from mental disorders when working as children´s nurses, next as primary school teacher, in old people´s care, as social workers. In both men and women depression was present over average in medicines and nursery personnel. Men were relatively more often than women endangered to suffer from stress-related mental disorders caused by professional loads. The author draws the conclusion that especially men working in traditionally “feminine” professions have an increased risk for being affected by affective or stress-related disorders, more than employees in other professional settings.
These results show an interesting parallel to findings in the here investigated sample: here participants working in practical health care professions, that is medical nursery and old patient´s care settings, report the highest rates of experienced work load, the highest scores of job-anxiety and they get on average more workplace-related diagnosis than patients working in other professions. Also the general psychosomatic symptom load is lowest in employees working in the domain of production and technology, and highest in employees in health care and education.

What do these results on profession-prone anxieties implicate for the clinical practice of psychodiagnostic and psychotherapy? There should be done a professional anamnesis in which it should be asked not only for the work content or working hours, but especially for the specific problems that have been arisen at the workplace, if there are any. This gives the

opportunity to assess the situational factors more detailed in order to understand the syndrome which might be associated with a problematic work situation. Nevertheless, it must be kept in mind that the workplace situation as presented by the employee is a subjective perception. It is known that work-related attitudes, personality and other variables play a role for the perception of work stress. In this context for example, Sakai et al (2005) demonstrated the relevance of personality factors, respective temperament, to perceived job stress: temperament influences job stress perception significantly, more than age, gender or job rank. Irritable temperament was thereby associated most prominently with vulnerability, followed by cyclothymic and anxious temperament.

Thus for the clinical practice, if possible, an observer-rating should be included in order to get a more objective view onto the complex workplace-related problem the patient has reported from his subjective perspective first. An observer-anamnesis could be done by contacting the employer or colleagues when the patient agrees.

As job-anxieties are by definition stimulus-bound phenomena, they are occurring in relation to situational conditions at the workplace, like the perceived level of control and security in an employee´s work. Furthermore, the finding that the qualities of workplace-related anxieties are varying between different groups of professions, whereas conventional disorders do not vary similarly, is another hint towards the hypothesis that workplace-related anxieties have an own quality and thus have to be distinguished from conventional anxiety and mental disorders.

Psychotherapy of workplace-related anxieties should be oriented towards the situational demands in which the patient has to act at work and therefore will be domain-specific as well. An occupational anamnesis and if possible an observer description of the working conditions can be helpful.

5.6.2 Other correlates of Workplace-related Anxieties

Beside the mentioned workplace characteristics, there are some aspects which seem to have an influence onto the level of job-anxiety, whereas others do not.

As can be seen from the results, *age* and *gender* do hardly play a role in the explanation of job-anxiety level and quality of workplace-related anxiety. This is due to the fact that workplace-related anxieties are usually bound to extern stimuli and thus the etiology of anxiety is not only based on the disposition of a person, but depends on the actual workplace situation as well. As Mezerai et al (2006) have pointed out for the etiologic analysis of workplace-related depression, it is important not only to focus the factors of vulnerability, but also stress factors at the workplace. Taking into consideration these workplace conditional factors makes possible to explain the fact that many patients with workplace-related anxieties in the interview say that they would be free from anxiety when quitting the workplace.

However, as also the general level of psychosomatic symptom load did not show consistent relations to age and gender, these variables cannot been stated as criteria which point out to differences between conventional and workplace-related anxieties.

Concerning gender, in this sample the relative occurrences of conventional diagnosis did not differ in men and women except for hypochondriasis. This seems a bit unusual, as conventional anxiety disorders are expected to occur in women more often than in men as has often been stated in the literature (Jacobi et al 2004; Halbreich & Kahn 2007). According to the interview, men were relatively more often than women suffering from hypochondriasis. This could also be a hint towards a difference in the quality of disease models in men and women. Findings on the higher prevalence of hypochondriasis in men were also reported by Toft et al (2005). In contrast, women tend to suffer more from unexplained somatoform symptoms (Kroenke & Spitzer 1998). It could be a hint for underlining the assumption that men tend to accept explained physical symptoms and disorders or search for evidence for a somatic illness rather than accepting physically unexplained or psychological symptoms.

There are some aspects which have an influence on the level of job-anxiety:

Job-anxiety and level of general psychosomatic symptom load

The connections between job-anxiety and general psychosomatic symptom load were expected due to the assumption that both scales measure mental symptom load. As has been seen from the interview results, in most cases workplace-related mental problems go along with other mental problems. The self-rating results underline those from the interview: The more job-anxiety a person has, the more he or she can be expected to also suffer from general

psychosomatic symptoms and general anxiety. How can this relation between conventional mental problems and domain-specific mental disorders be explained?

First, the influence of a general vulnerability because of underlying primary mental problems and anxiety has to be regarded: Special aspects of personality style (Sakai et al 2005; Girardi et al 2007), anxiety in the form of a generally anxious personality style included, seem to play a role for the amount of perceived stress, mobbing and thus perceived anxiety at work.

Furthermore, there is the tendency of rating one´s mental health state in general if not otherwise instructed. The SCL-90-R instructs patients to refer to the last seven days and give a rating on their general psychosomatic symptom load. A most patients (60%) came into the rehabilitation directly from work without preceding sick leave, their rating (which was done in the first three days of the stay) included the time when being at work, thus a direct influence of the work situation can be expected here. There are some tendencies to be interpreted: Especially the anxiety dimensions of the SCL-90-R have the highest correlations with the JAS. This could be a hint for the fact that anxiety, when asked for it in general, is reported in respect to general life including all acute anxiety experiences, thus also the just experienced job-anxiety. Paranoid thinking seems to have something in common with social anxiety and fear of mobbing at the workplace. This fits to the assumption that social anxiety is going along with security-seeking behavior, thus also the tendency to be extremely aware of what other people do or say. The dimension of paranoid thinking could be a reflection of the job-related social behavior of the participant which has manifested in a context of social conflicts or mobbing at work. On the other hand, it could be possible that a person has a general tendency of distrust, and this has also brought problems in the job-context which is then perceived by the patient as threatening by colleagues or superiors.

When interpreting these correlations analysis´ one has to keep in mind that they do not allow interpretations in the sense of stating disease entities, but only drawing ideas for the understanding of connections between dimensions of the related problem and identifying possible factors of influence.

Level of job-anxiety and cognitive fitness

In research literature one can find (Castaneda et al 2007) that cognitive impairments are common in anxiety disorders, although their nature remains partly unclear. The profile of cognitive dysfunction seems to depend on the anxiety disorder subtype.

In this investigation, it could be seen that anxiety, whether in general (SCL) or as job-anxiety, stood in a more narrow relation to the *Intelligence Structure Analysis* overall score than did other dimensions of psychosomatic symptom load, in the way that a higher anxiety level brought about worse test-results. There are different possibilities for explaining this relation between anxiety and cognitive performance:

On the one hand, test situations are interpreted as a kind of achievement situation by many patients, and with such an idea that they "have to be good" in the result, they feel more or less stressed in the test situation. Thus anxiety could be provoked or increased by the test situation itself and may have lead to a reduced cognitive performance in some cases: Since anxiety often brings along symptoms like disturbing thoughts of catastrophies, or brooding about mistakes or what could go wrong, as well as reduced concentration, this could have had an influence on the result. It could also be possible that a deficit in cognitive capacities may lead to problems at work and thus also provoke job-anxiety.

On the other hand, primary cognitive deficits may cause symptoms of cognitive irritation and give rise to anxiety when the person is confronted with tasks that appear as an overtaxation for the cognitive capacities.

However, it has to be kept in mind that this single test situation only does not allow to draw conclusions on the level of intelligence of a person. Many person-specific and environmental factors - beside pure cognitive capacities - may influence the test result, such as the general mood and motivational state in which the patient is in that moment, the patient´s anxiety level in the test situation, missunderstanding instructions, concentration capacity, the time or situational influences in the test situation like other persons, sounds and others.

The ISA results may only give a situational reflection of the cognitive performance in a standardized test situation, thus a special kind of adjustment capacity. Nevertheless, "test situations" like these are occurring in general life and especially in the work context as well, and therefore they are useful for a state diagnostic concerning cognitive performance capacities.

This slight relation between anxiety and quality of cognitive test results could be interesting in *psychotherapy* when developing strategies with a patient for how to reduce experienced anxiety level in order to cope with "achievement tests" more relaxed. Therefore it is worth for the therapist to know whether the patient had perceived the test situation as stressful and anxiety provoking, and whether this has had an influence on his or her achievement quality. A

next step could be microanalysis of the anxiety provoking stimuli in the test situation and identification of cognitive aspects of anxiety.
However, it is important to clearly distinguish between basic cognitive deficits, competency deficits, and capacity and performance deficits resulting from the influence of anxiety. This is important in order to chose the adequate treatment variantes which could be training of concentration or specific cognitive capacities in one case, or improving compentencies in a specific context, or training of performance capacities and using positive self-instructions for reducing examination-anxiety in other cases.

5.6.3 Risk Factors for Job-Anxiety and Work Participation Disorders: Interpreting Homogeneous Groups of Participants

Interpretation of cluster groups
In the exploratory cluster analysis five groups with certain similarities inbetween the belonging objects (participants) could be identified.

Cluster five can be described as containing the most *"work healthy"* participants perceiving the lowest job-anxiety level in comparison to the other groups, and no work participation disorders because of workplace-related disorders. This status of work health seems to be indpendent of gender and professional domain, but it should be remarked that there was a comparably low number of health care professionals belonging to this group.

In contrast to the "work healthy" group, there was a group (cluster one) into which the seemingly most heavily "*work burdened"* participants were grouped. As nearly half of the health care professionals were belonging here, this speaks for health care profession as a risk factor for higher experienced job-anxiety and work participation disorder. Also being without any professional education seems to be a risk factor for an increased job-anxiety-level.

Cluster three can be interpreted as a *"successfully coping"* group of participants. Participants grouped here were coming from any possible professional domain, who were perceiving on average moderate job-anxiety-level and had workplace-related and conventional diagnosis, but they *did not report severe participation disorders* in the sense of sick leave or loss of the workplace. These patients seem to have been successful in coping with eventually occurring

problems at work, so that they did not use the strategy of long-lasting avoidance in order to overcome certain job-anxieties.

Although nowadays the traditional professional roles have been prognosed to become more and more flexible, and more and more women should be expected to be working in so-called male-dominated professional domains (e.g. Kirk 1982), in this sample the traditional *"male domain of technology"* seems to be occupied by men (cluster four). But this did not show specific connections with a markable low or high rate of job-anxiety. Results speak for the assumption that job-anxiety level and work participation disorders are independent from gender.

Cluster two contains "*academic participants"* who were on average older than participants in all the other clusters. They were working in education and culture as well as in services and office, but rarely in health care domains. The job-anxiety-level of this group compared to the "extreme"-score groups in the "work healthy" and "work burdened" group was moderate, half of the participants grouped here did also suffer from participation disorders, but none of them had lost his/her workplace. This might lead to the assumption that an academic professional degree may be a protective factor towards work participation disorders and job-anxiety.

In contrast, a lack of professional education was found to bring along the risk for high job-anxiety. This finding is essential for the question how to reduce job-anxiety and work participation disorders which are also an economic burden in our society. It seems that succeeding a professional education or not is an important factor for lateron either "succeeding" or "suffering" in the domain of work. As the number of participants without professional education was very small in this sample, this connection between professional status and job-related health status must be explored in other samples. If the thesis could be proofed again, this would point out to the neccessity of *improving professional education programs* in order to reduce the number of people without professional education. This might be the basis for increasing the number of employees "succeeding" in the domain of work.

According to this finding, a new aspect concerning *etiology* of workplace-related anxieties has to be added to the model of workplace-related anxiety which has been introduced in the beginning: Workplace-related anxieties can be expected not only to result from acute stressful events or conditions at work and personality factors or conventional disorders as

vulnerability factors. The severity of job-anxiety and work participation disorders stand in narrow connection with the status of professional education a person has. Being without professional degree may be an important vulnerability factor and provoking anxiety concerning the domain of work.

Workplace-related anxieties and sick leave duration in the cluster groups

Comparing the distribution of workplace-related anxiety qualities over the five cluster groups, one comes to the conclusion that even if male employees in the technological domain do rarely present workplace-related "phobic" anxieties in the sense of workplace-related social phobias or a general workplace phobia, they may suffer severely from workplace-related adjustment disorders with other affects and may also present long time sick leave durations because of these or because of more somatic-like symptoms and perceived physical health endangerment at work.

Thus men in technological professions usually do not suffer from workplace-related social, but more often from hypochondriac anxiety. This must be due to the specific stimulus conditions which can be found in the different professional domains. Thus cluster four male patients - although not regularly as severely job-anxious as the "work burdened" group according to JAS, number of diagnosis and rate of workplace phobia - seem to be another risk group for long term sick leave and are therefore another focus group for an enhancement for occupational reintegration support.

Findings confirm the theoretically introduced assumption that men tend to present somatic symptoms rather than phobic anxiety, but in consequence reach the same result, namely avoiding the workplace by sick leave. Therefore, as a conclusion for the clinical practice, primary care physicians should be aware of male patients employed in the domain of technology, when those patients present diffuse somatic symptoms and declare them to be caused by workplace conditions. In these cases workplace-related anxieties may be the reason for a sick leave demand; but before certifying unfitness for work, the possible negative consequences must be considered well.

Men probably have the tendency to develop more often workplace-related somatic-like symptoms than do women, and seek for somato-medical diagnostic, according to a somatically dominated model of disease.

Patients suffering from job-anxiety do on average also suffer from general psychosomatic symptoms. Domain-specific mental disorders are not excluding mental problems in general.

Anxiety – whether perceived in general or in the domain of the job - may influence cognitive achievements, probably because of activation of anxiety in the test situation itself. On the other hand, being aware of a deficit in cognitive capacities may rise the level of (job-)anxiety. In therapeutical setting, a detailed situation analysis should be carried out in case there is a relation between anxiety and bad results in cognitive tests, in order to chose adequate interventions.

"Work healthy" and "work burdened" participants show certain differences: work healthy can be found in all professional domains, but rarely in health care professions. "Work burdened" mostly come from non-academic health care, service and office jobs, though professions with many social interactions with either clients or colleagues.

Working in (non-academic) health care seems to be an important risk factor for a high level of job-anxiety and severe work participation disorders. In contrast, academic employees in the professional domain of education do not seem to be burdened in the same way. Thus an academic educational level may be assumed to function for a certain degree as a protective factor concerning work participation disorders and job-anxiety, whereas a lack of professional education brings along the risk for high job-anxiety.

Concerning patients from the male domain of technology, primary care physicians should be aware of workplace-related adjustment disorders or hypochondriac anxieties which may be presented as somatic-like symptoms rather than as a direct expression of phobic anxiety.

EXCURSUS A: WORKPLACE-RELATED ANXIETIES AND WORKPLACE-RELATED ADJUSTMENT DISORDERS WITH OTHER AFFECTS

Workplace-related adjustment disorders after stressful events were appearing with diverse affects at the same time or with one dominant affect only. In research literature several symptomatic dimensions are used for describing the results of perceived and actual work

stress after stressful events, depression and anxiety mostly included (e.g. Mezerai et al 2006; Bilgel et al 2006; Hansen et al 2006; Campbell & Pepper 2006). Being anxious after a sudden change of work contents (e.g. having to give the monthly financial report to the team colleagues) does not mean that there cannot be a co-ocurring feeling of embitterment after an experienced injustice event (e.g. embitterment reaction after getting to know a colleague has kept important data for the report). The workplace situation is that complex that different affective qualities may appear in different domains of the working day.

Diagnosis, symptom load, sick leave and work load

Patients with workplace-related anxiety or adjustment disorder with anxiety had more conventional diagnosis and higher level of general psychosomatic symptom load than those with workplace-related adjustment disorder with other affect. In fact, the latter did not even have higher scores than patients without workplace-related diagnosis. This leads to the assumption that these workplace-related adjustment disorders with other affects might be a special problem which does not affect the general mental state in the same amount than does a workplace-related anxiety or a mixed-affect reaction.

However, although patients with workplace-related adjustment disorder with other affect only – in comparison to patients without workplace-related diagnosis – did not show consistently longer sick leave durations, higher general psychosomatic symptom load and job-anxiety scores, they also had a higher experienced work load than those without workplace-related diagnosis – similar to the workplace-anxious groups. This leads to the assumption that it is useful to differentiate different affects in workplace-related diagnosis as they are in a different way related to general psychopathology and sick leave. Workplace-related anxiety seems to be distinguishable from other affective states appearing after stressful workplace events.

For the clinical practice this would mean that in an anamnesis it is not enough to ask for "mental problems concerning the workplace" or perceived work load in general, but to explore the quality of affect as this may give a hint towards the severity and generalization of symptom load and a possible risk for a longer sick leave duration.

Affective quality of the adjustment disorder

It is not an adequate solution to classify patients with any workplace problems as "workplace stressed" in opposition to "non-workplace-stressed". Instead, the affective quality has to be assessed detailed and differentiated. Employees with workplace-related adjustment reactions might have experienced similar stressful events, but their different reactions require different

treatment trials, thus a social phobic reaction towards the superior after a remainder might bring about the necessity of in sensu and in vivo exposition concerning the anxiety-provoking situations or a training of social competence, while an embitterment reaction after the same event would require cognitive therapy with cognitive reframing, change of perspective and search for alternative thoughts by imagining or investigating models[7] (Schippan et al 2004) . Therefore, it makes sense to classify workplace-problem-affected patients not only according to the aspect of "what was the event/problem", but according to the aspect of "what affective quality has the mental reaction".

Adjustment disorder and workplace phobia

Another interesting aspect is that also primary workplace-related adjustment disorders with a non-anxiety affect may lead to workplace phobia, that means the primary adjustment disorder is followed by a secondary feeling of anxiety and avoidance towards the workplace.

Anxiety must not always be the primary reaction concerning the stressful event, but may arise with a certain shift of time. Thereby the role of sick leave certification must be considered: Patients who have suffered a stressful event at work might first present a somatic complaint or concentration deficits or feeling of anger when demanding for sick leave, thus there might be no hint towards an anxiety reaction in the first moment. However, workplace phobia may develop as a secondary syndrome in the following while staying away from work. Absence here functions as a negative reinforcement for the avoidance behavior while reducing perceived work-related symptom load (Linden & Hautzinger 2005).

It should be checked whether sick leave certification is indicated for the restoration of impaired work capacities, or whether another treatment is necessary in order to avoid a phobic development during the absence from the workplace where a stressful event had happened.

Quality of the event

Finally, workplace phobia is often co-occurring with workplace-related adjustment disorder with anxiety and according to the etiological findings, one can assume that these adjustment disorders are especially prone to provoke a workplace phobia as a secondary syndrome. There must be - in addition to the differential diagnostic of the affective quality of the adjustment disorder - a careful analysis of the situational conditions which lead to the workplace problem, in order to get an idea about the prognosis and possibly opportunities for interventions. Hereby the quality of the event may be an important factor: whether it was

[7] This therapy model was introduced as "wisdom therapy".

perceived by the patient as a social conflict, a structural change, whether it was a no-return event or whether there are still possibilities to have influence on the situation.

There were differences in men and women concerning the quality of events they were affected from: Men were more affected from changes in work content or quality whereas women did react to social conflicts or personal changes at work. This could be explained by the fact that women were more often than men working in classical social fields like health care or services or public administration and offices, while there were more men working in technical domains. As the more "female" working fields require more intensive social interactions – may it be team work on a project, or sitting together in one office, or contact with clients – it can be imagined that the possibility to experience social conflicts or social changes is higher in these professional domains. Another possible explanation could be that men are not as sensitive as women concerning the perception of "social conflicts", might it be due to their disposition or because of being less trained in the capacity for differentiated sensitive perception of social interaction (Sanford 2005). Additionally, it is well known that people may attribute a similar social event in a different way (Fincham & Bradbury 1987). In the context of work, for example, an event with change of superior and structure of work at once could have happened, after which one person could describe this event as stressful because of the new tasks ("content of work"-aspect), whereas the other could attribute the stress reaction onto the new person who does not fit in ("social event"-aspect). It could be possible that there is a tendency in men first to focus the content aspect, whereas women rather focus the social aspects of such events. There is advice in the literature supporting this assumption: For example, in an investigation on attributions and anger in couples it was found that wives are particularly attentive to the details of interpersonal interaction, in contrast to men (Sanford 2005).

Mental disorders in relation to the workplace which appear after a stressful event are a complex phenomenon requiring both clinical differential diagnostic concerning the quality of the affective reaction, as well as an analysis of the event and the current work situation.

In that respect, it must also be kept in mind that similar events may be interpreted with different attributions by different individuals.

EXCURSUS B: CASE VIGNETTES OF WORKPLACE PHOBIA AND TREATMENT TRIALS – THE CLINICAL PERSPECTIVE

In this chapter three case vignettes of patients who were interviewed in the course of this study will be presented in order to get an insight into the clinical complexity of workplace-related mental disorders. The case descriptions were derived from information in the medical report which is written for each patient during the stay by the responsible psychotherapist.
All of the three patients had a research diagnosis of workplace phobia in the interview. Furthermore, workplace phobia was mentioned as a clinical diagnosis (according to ICD-10 classification for "other phobic disorders": F40.8 workplace phobia), or the workplace problem is mentioned as a part of the clinical diagnosis in the medical report.
Cases will be presented with clinical anamnesis, psychotherapy treatments and results.

1. *Clinical diagnosis: F43.2 Adjustment disorder related to workplace conflict*

A patient with adjustment disorder with embitterment affect and secondary workplace phobia
Anamnesis:
A 54 year old patient, Mr. F., suffered from a panic disorder up from his 30th year of life. He had already succeeded in coping with the anxiety symptoms with the help of psychotherapy. He described himself as a sensible and perfectionistic person who had high moral beliefs.
Three years ago, there had been a change of the leader in his division at his workplace. The new superior seemed to aim at getting rid of Mr. F and started mobbing him. Since this moment, Mr. F. had been criticised and overload with unrealistic high work demands. The superior had told him better to give his notice, whereby he had equally offered him of a good equalization payment. In a conflict debate with the superior and the workers´ council, the superior negated having given this promise.
Mr. F. felt exploited and degraded. He also felt being cheated and felt rage towards this superior. He was more and more nervous and anxious before starting his work. He felt deficits in concentration and the affect became dimmed. He finally suffered a breakdown of nerves and went to his doctor´s to get on sick leave. He is currently on sick leave for more than six months now. He cannot go into the street where his workplace is situated. Only thinking of this makes his heart beat faster and physiological symptoms like trembling and sweating occur. When having to talk about the workplace situation he easiliy gets into an affect of severe anger, embitterment and anxiety.

Psychotherapy:

Psychotherapy began with clearing occurrence and development of the symptoms of panic and the acute adjustment disorder. Mr. F. appeard heavily affectively involved when speaking about the workplace. This affective expression did not fit to the distanced and controlled behavior the patient showed normally.

In further explorations it could be found out that the patient had the tendency to interpret things people say in conflict situations as a personal criticism towards himself. With the help of cognitive techniques the patient realized that many of his negative feelings resulted from own dysfunctional thoughts and attitudes. Working with alternative thoughts, he had problems with changing his attitudes, he persistently believed that the other people had to change their behavior. With the technique of change of perspective he could reflect that other people may have understandable motives for their behavior, or that they may have no other possibilities than behaving the way they do, or even that they did not aim at hurting him personally. Accepting these explanations slowly, Mr. F. experienced a light emotional relief. The applicability of this technique for his workplace situation was nevertheless very hard for him.

The workplace-related anxieties remained with extended avoidance behavior.

Socio-therapy:

Mr. F. presented severe anxieties towards his workplace. He could not imagine ever going back to his current workplace, and he said he would accept a notice. Only thinking of making a phone call to the firm made him avoiding and anxious. During the rehabilitation stay he did not change his point of view, but he was able to develop a little better feeling of quality of life indenpendently of the workplace situation. In topics independent from workplace he did not appear burdened or impaired.

Therapy results and dismission:

The patient´s cognitive and somatic state was good. He was able to concentrate more than 90 minutes. When speaking about the workplace, he showed vegetative reactions with trembling, sweating and feeling of tightness in the breast as well as strong reaction of avoidance.

The patient is dismissed unfit for work concerning his current workplace because of the remaining rigidity and inflexibility in thinking which would provoke the symptoms appearing again heaviest when coming to the workplace.

The patient seems to be fit for work in all professional settings on the general job market. He is planning to finally leave his current workplace and search for another job.

2. *Clinical diagnosis: F40.8 Workplace phobia*

A patient with workplace phobia resulting from mobbing, and profit from a therapeutic working trial

Anamnesis:

The 25 year old patient has grown up in problematic family conditions. Furthermore, she had problems being accepted by classmates in school.

The diagnosis is based on the patient´s reaction towards a workplace conflict with mobbing that had happened in the past year and was resulting from structural changes. Colleagues and superior began to search for mistakes and reduced speaking with her. The patient reacted with reducing social contacts at work, feelings of anxiety and sorrows as well as dimmed affect. With an underlying rigid personality style, the patient was not able to activate alternative behavior until now.

The young woman is unfit for work for seven months now. She wishes to search for a new job, but she is frightened the same problems could occur again elsewhere.

Socio-therapy:

In order to find solutions for the current professional perspective, the problematic work-situation was analysed. Together with the patient a contact to the current workplace was installed. Hereby a negative estimation of the patient´s working behavior was given from the employer´s side: mistakes had occurred, she could not show adequate responsibility and tended to avoid teamwork. The patient´s point of view was that the superior had said this to influence her professional perspective negatively.

In order to get an impression of the working capacities of the patient, a therapeutic working trial was initiated.

Therapeutic working trial:

The patient went on a working trial in a tea shop for 12 days. She was motivated to make new experiences with new colleagues and superior. There was a congruence of self-reported experience and impression from the shop-assistants. The patient appeard interested and willingly to do her work adequately. She did not cause social problems in the team.

Therapy results:

In the further therapy she was motivated to do research for new applications and participated in a seminar on professional re-orientation and job application training. She gained profit from role plays concerning job interviews and got feedback on the effects of her appearance.

Concluding, a professional impairment could not be validated from therapeutic view. The patient´s rigid sense of asserting herself was topic in the feedbacks.
The patient is motivated to leave her old job and search for a new one. She feels more secure now in social interactions.

3. Clinical diagnosis: F43.2 Adjustment disorder, chronic

A patient with adjustment disorder with generalized workplace phobia and chronic intolerance for daily-life loads

Anamnesis:

The 53 year old women reports that she had all her life long suffered from easily being frightened and excitable. She had difficulties in narrow interpersonal relations, she speaks of emotional instability and states of helplessness als well as fits of rage. There were suicidal tendencies in recurring states of depressive mood. Although she had acceptable grades in school she quit after class eight because she felt she could no longer fulfill the demands.
The acute symptoms began with increasing stress at her workplace four years ago. The feeling of insufficiency, not to get ready with her work, increased. She suffered from panic attacks, and additionally a longlasting depressive episode manifested with loss of concentration, sleeping disorders, anxiety of insufficiency.
One day she experienced a break down of nerves at her workplace with crying, suicide ideas and following sick leave for 12 weeks. During a trial of return to work she was confronted with a new PC program. She developed severe anxiety towards the workplace, regularly waking up in the morning with anxiety, heartbeatig and sweating. One morning she could not stand this inner state of tension any longer and yielding to a suicidal impulse she swallowed all tablets she could find in the house.
She has been on sick leave for actually three years until now. A request for pension is in process.

Psychotherapy:

Diagnostic ideas: On the basis of a personality style with a lack of tolerance for daily life challenges, the workplace phobia developed when workplace demands could no longer be compensated by the patient. Only thinking of the workplace was enough to cause severe symptoms of anxiety, crying and trembling.

During the rehabilitation stay the patient regularly felt extremely stressed by questionnaires and test diagnostic. The suggestion for a working trial caused heavy irritation, tension and suicidal ideas.

Understanding the symptoms in the context of her life span, a model could be developed in which the patient could explain her problems as a handicap which had manifested up from childhood. This gave her a feeling of relief. Furthermore, she developed strategies for better handling negative thoughts and suicide impulses and found ressources in the domain of sensual-oriented formation of freetime.

Mrs. D. agreed to take part in a working trial at the end of the therapy, but with the date coming up anxieties were recurring with nervousness, strong inner tension and suicidal impulses so that in consequence the trial could not be carried out.

Therapy results and dismission:

At the end the emotional stability is still impaired in the context of professional challenges. Concerning other topics outside the domain of work, Mrs. D. has been stabilized in affect and power. The patient has discovered strategies for better handling her affective lability. Because of the manifest generalized workplace phobia with acute decompensation when only a working trial was coming up, the patient is currently not fit for any kind of work as her lability impairs her capacities of flexibility and lasting out. Because of the complex and longtime enduring disorder it is currently hard to give a prognosis concerning the possibility of recreating fitness for work - eventually at least for several hours - by outpatient psychotherapy.

Discussion of the three cases with the background of clinical experience

As can be seen from these three cases, patients with workplae phobia are difficult to treat in psychotherapy, especially when the anxieties have generalized onto whatever possible workplace and work demands. Not all patients with workplace phobia are leaving their job, but often a professional reorientiation and search for alternatives gives them a feeling of relief. This shows what is meant by stimulus-bound anxiety. In case one and two, the patients obviously see the possibility for a return to work, but not at their current workplace. Nevertheless, there can of course occur anxieties and insecurity, and the question: will similar things happen at the next workplace again?

It was to be seen that speaking of the workplace (and in the last case fitness for work in general) did in all the three cases provoke specific affective states different from those when speaking about other domains of life.
These cases illustrate how the perception of social conflicts - often described as mobbing – may come up in the frame of structural and personal changes in a firm. In these cases, we speak of an adjustment disorder after a specific stressful event which, according to the data, is not seldomly a reason for workplace-related anxieties and often appears with a secondary workplace phobia.
The first case demonstrated how narrow different workplace-related affective states can be together, here an embitterment reaction towards an unfair behavior of a superior was followed by a manifest workplace phobia with panic-like reactions and and the idea of no return.

5.7 ETIOLOGIC PERSPECTIVE

In the end of the interview exploration, patients were asked which of their acute mental problems occurred first and which were secondarily following syndromes? Was the problem first occurring within the workplace-situation or in another domain of life, or had all problems developed at the same time in different domains of life?
This exploration of etiology by asking one question may be seen as a methodological problem, because in the interview, the etiology information could not be explored that detailed than would have been possibly done in a therapeutic situation. Thus the answer of the patient cannot be validated by detailed anamnesis. Nevertheless, all data assessed within this study design can be said to underly the same problem, because they are all based on the information patients give from their subjective view, and patients´ statements must be judged by the interviewer.

Interpreting the results, it can be concluded that concerning symptom load there are no big differences between patients who said to have suffered from workplace-related mental problems first and those with primary conventional mental disorder. But patients with primary workplace-related mental disorders reported a higher level of work load, and were more often affected by workplace-related adjustment disorders and workplace phobia than the other group.

The question arises: why are the two groups similar in the amount of symptom load, but different in their report of work load? A possible answer could be that those patients who regard their mental problems as a general phenomenon do not perceive their problems at work as extraordinary, compared with their life in general, whereas those with a primary workplace-related disorder have the cognition that the workplace situation has caused the problems. Thus again the aspect of the stimulus is coming up as an important explaining factor for the attribution the patients have for their mental problems. The cognition "The workplace caused my mental disorder" might be related to the tendency of avoiding the workplace, and possibly development of a workplace phobia. Avoidance usually makes sense in case the stimulus is expected to be identified. It could be possible that this phenomenon also functions as a kind of strategy for reducing cognitive dissonances (Festinger 1957) which may arise when staying away from the workplace instead of continuing going to work. With the idea of "the workplace made me sick", it may be the logical consequence to avoid this place.

The idea that the workplace caused the mental disorder can be an important diagnostic advice for therapists in order to understand the attributional systems of the patient and his or her view onto his/her problem, and to better understand the maintaining conditions. These information can be relevant for therapy and choice of intervention methods.

5.8 Work-specific Therapy Interventions

There were some differences between patients in different work-specific socio-therapy groups concerning their levels of job-anxiety and frequencies of the different workplace-related diagnosis. As job-anxiety scores and qualities of workplace-related anxieties were explored in the beginning of the rehabilitation stay, the question arises whether the instruments have any predictory value for the allocation of patients to work-specific therapy modules.

Patients who were treated in a single setting concerning their workplace problems, as well as those who got both single and group therapy on work-specific aspects, suffered from higher symptom load and had a higher score of experienced work load than those without work-specific therapy modules. It seems to be clear that patients get a treatment according to their

very problem, and obviously here patients with more job-anxiety get more work-specific therapy modules. Seemingly the diagnostic instruments Mini-WAI and JAS are valid predictors for the allocation of patients to work-specific therapy modules, that means with a higher job-anxiety score a patient is in all probability getting a work-specific treatment additional to basic treatment of routine care.
Furthermore, patients in work-specific group therapy without additionally focusing work-related problems in single therapy setting were only moderately affected by general psychosomatic symptom load and sick leave duration. They suffered from job-anxiety more than those without workplace-related therapies, but not to the same degree as did the patients in single and/or both single and group therapy settings. This leads to the assumption that a group therapy treatment is chosen more often for patients who have slight workplace problems for which to solve they need some psychoeducative information and then are able to solve problems by themselves, whereas patients who are treated in single or both single and group setting need more individual help to solve their workplace-related problem.

Comparing participants taking part in different work-specific group therapies, those patients in “conflict management” and those in “job application training” reported the highest symptom loads, in both general psychosomatic symptom load and job-anxiety. Interestingly, patients with problems of “time management” were not in the same way affected from anxiety like participants in the other two groups. Problems of “time management” thus can be understood as more organizational and structural problems, how to get along more economically with ones work, whereas “conflict management” and “job application” are by definition related to social interaction situations which might be covered with cognition or perception of anxiety. The findings that participants in the “job application training” group and in the “conflict mangement” group were more often affected by workplace-related social anxiety in contrast to the “time management” group is another evidence for this assumption.
In conclusion this would mean that social situations – no matter whether conflicts in the team or coming into contact with new persons at a new workplace - are an especially anxiety-prone topic within the spectrum of possible workplace-related problems, and thus they deserve special treatment attention.

Among the three groups, participants in the “job application training” had the highest rate of workplace phobia. This can be explained when thinking of the current occupational state of these patients: either they want to change their workplace because of ugly events happening

there causing mental dysfunctions and anxiety, or they have already quit or lost their workplace and want to try a new start in any other workplace. But, reminding their old (last) workplace still causes negative cognitions and anxiety; those patients usually do not want to pass by their old workplace, because they fear getting symptoms of panic again. This anxiety reaction towards the old workplace seems to be independent from the attitude towards a new job. Here it can be seen once more that workplace phobia is a very specific phenomenon obviously related to a single stimulus, but a very complex one. The old workplace cannot be entered any more, but patients in many cases want to try a new one. The explanation therefore is that many patients – at least in the course of therapy - attribute the misery they experienced at the last workplace onto the conditions or events there, and have the helpful idea that at another workplace things could work better. There are also more severe forms of generalized workplace phobia which do not only affect the last workplace, but also cause the same anxiety reactions when thinking of any possible future workplace. The above described case (*Excursus B*, case vignette no. 3) was an example for such an unfavourable development.

Patients with complex workplace-related mental disorders including anxiety were most often on sick leave before rehabilitation and also unfit for work at the time of dismissal. This finding supports the assumption that in cases where workplace-related anxieties play a role within a patient´s mental disorder, it is especially hard to restore fitness for work in a six-week psychosomatic rehabilitation.

However, the finding that in all patients who had workplace-related mental disorders, there was a higher rate of fitness for work in the end than in the beginning, but not in those who did not have any workplace-related diagnosis, leads to the idea that in a rehabilitation program focusing on occupational reintegration and restoring fitness for work, especially patients with workplace problems become better during the stay compared to those without workplace-related mental disorders. The finding that in patients without workplace-related diagnosis fitness for work was not restored to a similar amount could be explained due to the fact that there was also a certain number of patients with a demand for pension award, that means social medicine problem patients who are known to be difficultly restored concerning fitness for work. It was pointed out by Olbrich et al (1998) that a fixed-term pension already awarded, along with repeated participation in rehabilitation measures on purely somatic grounds was one unfavourable factor for prognosis. In patients without any workplace-related mental disorders the reason for a pension award must be a general health problem which must not even be based on a (chronic) mental disorder only, but can also mean specific somatic

disorders which are not the primarly treated issue in psychosomatic rehabilitation and therefore cannot be expected to be restored to an optimum.
Another aspect is that there are sometimes disorders with relevance for work participation which are diagnosed for the first time during this rehabilitation stay, especially in case the rehabilitation is the first treatment. Thus there are patients who have not been stated to be unfit for work before the rehabilitation only because there was no medical assessment until the point of admission.

For the future it is indicated to evaluate and further improve work-specific treatments in order to face the different problems people have with workplaces and to optimize psycho- and socio-therapeutic results and reintegration into employment (Kobelt et al 2006). Several attempts of treatment developments have already been done in the recent years (Hillert et al 2001; Beutel et al 1998, 2004).
Olbrich et al (1998) had identified prognostically favourable and unfavourable factors for the therapy outcome in social-medical problem rehabilitation patients: prognostically favourable factors were unfitness for work at the time of admission but no application for pension award made or planned, lower average age, higher motivation on admission, and lower severity of the social-medical problems, no denial of psychosocial factors. Furthermore, the willingness to join group psychotherapy was found to be a prognostically favourable factor. Prognostically unfavourable factors were found to be a fixed-term pension already awarded, along with repeated participation in rehabilitation measures on purely somatic grounds, and a higher age. When developing work-specific treatments in order to recreate fitness for work, these aspects should be taken into consideration.

Patients get work-specific treatments according to their very problem and patients with more job-anxiety get more work-specific therapy modules. The diagnostic instruments Mini-WAI and JAS produce valid predictory data for the allocation of patients to work-specific therapy modules, that means with a higher job-anxiety score, a patient is in all probability getting a work-specific treatment additional to basic treatment of routine care.
Social situations – no matter whether conflicts in the team or coming into contact with new persons at a new workplace – are an important anxiety prone topic within the spectrum of workplace-related problems.

5.9 WORKPLACE PHOBIA: CONCEPT OF DOMAIN-SPECIFIC MENTAL DISORDER AND NOSOLOGIC STATUS

The nature of workplace phobia:
an indicator of symptomatic severity and work participation disorder

The findings on the specific characteristics of workplace phobia implicate that the more workplace-related anxiety diagnosis a person has, the higher is the job-anxiety level. And the longer the sick leave duration, the higher is the probability to suffer from a workplace phobia. There are also some qualities of basic workplace-related anxieties which seem to make workplace phobia more probable to occur as an accompagnying or secondary syndrome.

From these results one can derive the conclusion that workplace phobia is an indicator for severity of workplace-related anxiety, namely the state when the whole workplace situation itself cannot any longer been stand, and the typical anxiety coping reaction of avoidance is used by most workplace phobics. Thus, the aspect of work participation disorder is a special characteristic of workplace phobia. Those who continue going to the workplace are suffering from continuous feeling of anxiety, cognitions of endangerment and anticipatory anxiety as well as physiological symptoms when only coming near the workplace. In many cases, even if the workplace has been quit forever, the phobia is resisting and causes fear and avoidance in allday life, like the impossibility to walk along the street where the workplace is situated or avoiding going into the supermarket which is expected to be frequented by ex-colleagues or -superior in the lunch break.

Thus when a manifest workplace phobia has developed, the underlying quality of the primary workplace-related anxiety gets a state of minor significance. Workplace phobia is a kind of global workplace-related anxiety, including not only specific aspects like achievements, or persons, or work situations, or material, but the workplace as a whole. Workplace phobia thus can be understood as an additional symptom covering the (primary) workplace-related anxiety qualities or other workplace-related affective states. This is to be seen in the result that workplace phobics have a higher job-anxiety score and longer sick leave duration than patients with workplace-related anxieties only. It is thus an anxiety with a special clinical meaning in a quantitative sense.

.

Special quality of workplace phobia

Another result was that these higher scores of symptom level in workplace phobics (compared with patients who had workplace-related anxieties only without workplace phobia) were only to be seen in the job-anxiety symptoms, but not for the general psychosomatic symptom load (measured with SCL-90-R). General psychosomatic symptom load thus is not an appropriate measure for distinguishing workplace-related anxiety and the severest form of workplace-related anxiety, workplace phobia. This fits the hypothesis that workplace phobia has a special clinical meaning and cannot be said to be the same like or subsumed under categories of conventional anxiety disorders.

Etiology of workplace phobia

Workplace phobia may come along (or may be resulting from) different workplace-related anxiety qualities, especially in case workplace-related social phobia plays a role or a stressful event has taken place. However, there is no workplace-related anxiety which does always appear together with or produce a workplace phobia in the aftermath. This again is a hint for the assumption that workpace phobia has less an etiologic or symptomatic specifity, but a quantitative specifity, in the sense of degree of subjective suffering, and restrictions in work performance and work participation.

Workplace phobia can also be interpreted as a marker for the generalization of anxiety from a special anxiety-prone aspect at the workplace which has in the course become a global anxiety reaction, appearing even when only thinking of the workplace.

Recurring to the etiology model of workplace-related anxieties and workplace phobia, an additional aspect has to be added: Another vulnerability factor for the development of job-anxiety and work participation disorders has to be taken into consideration, namely the status of professional degree, respective the aspect of having obtained a professional degree or not.

Consequences of workplace phobia

Workplace phobia is a relevant mental disorder for the public, as it causes enormous costs for the society due to absence from work (Haines et al 2002), eventually more than conventional anxiety disorders not associated with the workplace itself (Sanderson & Andrews 2006).

Workplace phobia causes severe suffering and work performance problems in the individual, and in most cases further work participation disorders. A workplace is a domain of life which is extremely important as it offers social integration and assurance of financial existence which are endangered when the phobia leads to work participation disorders and long time

sick leave and eventually generalizes. Keeping in mind that even anxiety that is not released at work is causing work impairment (Haslam et al 2005a), workplace phobia must be expected to cause even wider-reaching consequences for a person´s professional life and therefore needs special attention in psycho- and sociotherapy.
Workplace phobia and their regularly resulting work participation disorders may also have a negative influence onto a person´s self-confidence and perceived social status, as many people define themselves to a markable amount by their professional activities (DRV 2007). This image of oneself as a productive and competent person may be disturbed when the fitness for work is endangered or has been lost. Workplace phobia thus does not only cause problems in a specific place or when being confronted with special stimuli like in specific phobias (acrophobia, phobia towards certain animals) but may have far-reaching consequences onto the further development of life.

The clinical value of workplace phobia
Workplace phobia has been postulated to be a domain-specific disorder. According to the empirical findings and the conclusions from discussion, it can now be described as a domain-specific mental disorder with an own clinical value: Workplace phobia has certain qualities as a marker for severity concerning job-anxiety symptom load as well as work participation disorders with further influence onto a person´s life.

Furthermore, workplace phobia and underlying workplace-related anxieties require special treatment forms (Hillert et al 2001, Beutel et al 2004) which are not topic in unspecific anxiety treatments covering anxiety patients in general. As has been explained above, the workplace is a very special complex stimulus which cannot be used for exposition easily. Thus workplace phobia has to be treated with other means, often cognitive techniques (Linden & Hautzinger 2005), or, in the case of a generalized workplace phobia, working trials under therapeutic supervision (Beutel et al 1998), or also socio-therapeutic trainings like motivation for searching a new job and preparing job application.

Workplace phobia and the other workplace-related anxieties have another speciality in contrast to other anxiety disorders like social phobia or specific phobia. Some of the conventional anxiety disorders are only stated when the criterion is fulfilled that the person recognizes the anxiety as senseless or exaggerated (MINI, Sheehan et al 1994). In the case of all workplace-related anxieties this can *not* be an obligatory criterion to state the diagnosis.

People affected by workplace-related anxieties are often referring to concrete events or persons with which they have made ugly experiences. Thus in their perception, the workplace-related anxiety is not senseless, but justified by experience and therefore a normal and functional reaction.
It is obvious that patients who have "learned" workplace-related anxiety within the frame of stressful events (manifesting in the sense of an adjustment disorder with anxiety) and therefore perceive their anxiety reaction as senseful, are suffering in the same way like patients with conventional anxiety disorders who know their anxiety is exaggerated. Therefore the degree of suffering and the occurrence of work participation disorders is the important criterion for stating workplace-related anxiety and workplace phobia and not the cognition whether the anxiety reaction is unnormal/exaggerated or not.
Mostly the report of the patient is the only source of information, eventually added by interviewing the employer (in case the patient agrees). But, both sources of information are not objective and there are no criteria one could refer to for the decision whether the anxiety is exaggerated or not. Thus, in the Mini-WAI interview the criteria of suffering and work performance and work participation disorders must be the most important aspects in workplace-related diagnosis and not the recognition of anxiety as unnormal.

In conclusion, these points speak for the assumption that workplace phobia should be dealt as a special quality of anxiety which may occur together with or on the background of origin workplace-related anxieties or adjustment affects, or within conventional mental disorders in which workplace-related anxiety gets an own clinical value.

The diagnostic setting – implications for the practice: is an own diagnosis necessary?
Diagnosis according to DSM-IV or ICD-10 are defined to be entities of disease. As described above, workplace phobia is a phenomenon with a complex etiology and may result from many different basic mental disorders. But, in the cases with beginning of the symptoms in the domain of work without any mental health problems before, it may also appear as the only and primary mental disorder.
Workplace phobia thus may be a disease entity of its own in some cases, but in other cases a secondarily occurring phenomenon, like a complication of a disorder or a syndrome complex which has manifested before.

Workplace phobia as explored in this study fits the above listed DSM-IV criteria of simple phobia, the most important being severe anxiety reaction when confronted with the stimulus, avoidance towards the stimulus and panic-like reaction with physiological arousal.
But, there are also some aspects which let workplace phobia appear as a very special quality of phobia: First, the validity of criterion C, recognition of the anxiety as "excessive or unreasonable" is unsure in the case of workplace phobia, as most patients know why they are frightened at their workplace (especially when attributing the anxiety reaction to a specific event of change at the workplace) and, similar to the categories of workplace-related social phobias, they hardly perceive their anxiety as unreasonable.
Then, there were complex connections between job-anxiety respective workplace phobia and work-related variables (sick leave, work characteristics, profession). The workplace is a very complex stimulus including several anxiety-provoking aspects as described and analysed above. Thus workplace phobia is connected to a very special stimulus arrangement and appears even as a complex phobia more than a simple phobia. As we have seen above, different pattern of workplace-related anxieties and adjustment disorders may go along with or result in workplace phobia. Workplace phobia has far-reaching consequences for work participation and thus can mean existential endangerment for the affected person. As simple phobias are usually not going along with severe work performance problems (Greenberg et al 1999) and thus should not provoke existential fears, the latter appears as a special consequence of workplace phobia only.
A last point which makes workplace phobia appear different from simple phobia is the aspect that there can hardly be done an exposition therapy because of the stimulus characteristics. Expositions can only be made in a semi-secure work setting, like it has been done in the working trials mentioned in the case descriptions.

Now the question arises how to classify this phenomenon which is obviously not always entity of its own, but in each case has its own clinical value which is characterized by specific work participation disorders and treatment requirements.
Due to the findings and their practical implications which have been discussed, it seems to be necessary to state the phenomenon of workplace phobia in an extra diagnosis instead of subsuming it under a conventional anxiety diagnosis like agoraphobia: It makes a difference whether a person avoids leaving the own flat because of the fear to come into situations where help is not possible (agoraphobia), or whether a person avoids going out because of a possible confrontation with colleagues or superiors from the feared workplace (workplace phobia). In

both cases the avoidance reactions look like being the same, and implicates the diagnosis of an agoraphobia, but the mechanisms lying behind are very different. The person with the workplace phobia should be able to go out anywhere where not potentially confronted with stimuli reminding him/her of her workplace (e.g. on a vacation trip away from home), whereas the agoraphobic person is expected to have similar symptoms and avoidance behavior in any places "outside the own flat". On the other hand, the agoraphobic person may even have some places which are reachable, this might also be the workplace if subjectively recognized as a "secure place".

From this example one can see that the clinical exploration of psychopathology and anamnesis has to be undertaken very carefully in order to identify the stimulus of the anxiety and avoidance reaction. There is sometimes a *problem in clinical diagnostic* concerning workplace phobia: in the therapy situation – far away from the stimulus - the workplace phobia is not to be seen obviously on the first view. Often a patient seems to be in good mood unless not forced to think of or speak of his/her workplace. And as they avoid anxiety symptoms many patients avoid thinking or speaking of the workplace situation. This means that explicitly exploring the topic of "workplace" should be a routine question posed by a psychotherapist when first meeting a patient, especially in case the patient does not give information in free report.

The idea of a diagnosis is to describe in a short term the disorder a patient suffers from. Diagnosis function as a hint towards the next therapist about the quality of the disorder and possible additional complications. Workplace phobia has been found to have special qualities which distinguish it from conventional anxiety disorders and give it a special position, compared to basic workplace-related anxiety qualities. Therefore, in a medical report adressed to the next therapist, it should be mentioned as an extra diagnosis. Only by this the colleague may get an idea that there is a domain-specific problem which otherwise, subsumed under a conventional anxiety diagnosis, would eventually not be seen and therefore not been treated adequately.

To state the diagnosis of workplace phobia by naming it "workplace phobia", additionally to the accompagnying or behind lying primary mental disorder, simply has good practical reasons. We suggest to classify it with the ICD-10 number F40.8 (other phobic disorders): "workplace phobia".

Workplace phobia is not primarly defined by its symptoms´ quality, but more by the quality of the stimulus, the severity of the perceived job-anxiety symptom load, as well as the resulting work participation disorders and eventually participation disorders in general public life.

Workplace phobia can appear as a secondary symptom within a primary mental disorder, eventually accompagnyed by workplace-related mental disorders. But, in other cases it may manifest also as the primary and single mental disorder, on the basis of, respectively accompagnied by, specific workplace-related anxieties or adjustment disorders.

Workplace phobia has a difficult and multiform etiology. But, in each case the phobic reaction causes specific work performance disorders and mostly severe work participation disorders and therefore becomes an acute existential threat. A special treatment is required.

All this makes workplace phobia appear as a domain-specific phenomenon with an own clinical value. Practical assumptions lead to the idea of reporting "workplace phobia" as an own diagnosis in medical letters with the ICD-10 diagnosis number F40.8.

Is workplace-related anxiety a domain-specific mental disorder?

The above (2.8) given definition of the idea of a domain-specific mental disorder in the sense that

- the "domain-specific disorder" is related to special situational conditions from which the "disorder in general" can be independent
- the "domain-specific disorder" appears similar to the conventional disorder in its symptomatic qualities (and eventually on the first view seems to be "the same")
- the "domain-specific disorder" can be defined by the consequences of the symptoms in the special domain: workplace-related anxieties thus cause suffering, work performance and work participation disorders
- the "domain-specific disorder" has special requirements for treatment

fits to the results in all the four aspects, whereas here it cannot be said yet whether the work-specific treatments had a positive effect onto certain work-specific capacities and later work participation, since this was not a randomized controlled therapy study. Furthermore, it must be added that the work participation disorder must not only affect the specific domain of workplace, but as later consequences may lead to general restrictions in occupational and social integration. Nevertheless, it has first its specific meaning in the very context of work.

Syndrome or disorder?

The term “disorder” is used for concepts of diseases which are named with a certain diagnosis. A “syndrome” is characterized by a special arrangement of symptoms, that means symptoms occurring at the same time. A syndrome can be a part of diverse disorders. Syndromes do not allow differential diagnosis. They are a marker of severity of the disorder. Diagnosis allow differential diagnosis.

As it has been discussed above in the differential diagnostic example of “agoraphobia versus workplace phobia”, workplace phobia has a specific meaning and a specific stimulus quality, different from agoraphobia without workplace-related mental problem. Even in the case the observable symptoms appear like being the same (in that case: avoidance of leaving the flat), the basic mechanisms of the two phenomena are very different. As anxiety disorders require a precise identification of the stimulus, in this case the diagnosis agoraphobia would not explain the workplace phobic origin which lies behind the avoidance in the case of the workplace phobic person. From differential diagnostic perspective, it is necessary to mark the problem with a distinct diagnosis which may best describe the functioning of the disorder. In this case, workplace phobia itself is the disorder, only accompagnied by agoraphobic symptoms in consequence. Therefore workplace phobia can here be seen as the origin disorder, requiring an own diagnosis.

But even in cases where the workplace phobic reaction appeared as a secondary symptom within the frame of a primary mental disorder, it should be stated as an own diagnosis, because of the specific relevance for treatment and the work participation disorders. It might be that in a depressive episode, a person suffers from workplace-related anxiety of insufficiency and develops a phobic reaction after having been sanctioned by a superior. In the following, a workplace phobic reaction might develop and even resist after the depression has disappeared. Thus even in this case the workplace phobia has become the quality of an alone standing disorder.

Results from the empirical investigation lead to the conclusion that workplace-related anxieties and workplace phobia can be understood as a domain-specific disorder in the sense of the suggested definition.
Workplace phobia is relevant for differential diagnostic. As workplace phobia is always going along with negative domain-specific consequences which must not necessarily result from a basic mental disorder itself, it can be stated to be a proper mental disorder.

5.10 Study Design, Instruments and Sample

Choice of the sample
As psychosomatic patients are known to suffer from mental disorders and to a great amount from anxiety disorders (Rehabilitation Center Seehof 2005), this sample of psychosomatic inpatients was chosen in order to make possible a differentiation between conventional and workplace-related anxiety qualities.
The reason for investigating and analysing employed as well as currently unemployed patients in one sample is that the question of interest is in each case a concrete stimulus which can be referred to, no matter whether the "current or last" workplace situation is one week ago or two years. Furthermore, also a person who currently has a workplace, but has not been there for two years because of long time sick leave, has also been away from work, like an unemployed person.

Representativity of the sample: The interviewed patients can in sum be assumed to state a representative sample of the average patient clientele in the rehabilitation clinic (Rehabilitation Center Seehof 2005), concerning both socio-demographic as well as psychopathologic characteristics. Workplace-related anxieties are - according to the interview results - in many cases an independent phenomenon and do not show narrow connections with specific pattern of conventional mental disorders. It is hardly imaginable that an important connection between conventional and workplace-related mental disorder would have been failed to be stated because of the fact that the patients who show this potential connection were the non-participants. The sample of the interviewed gave an image of the average indications which are usually admitted in the department.

Gender distribution: One point speaking against generalizing interpretations for both men and women equally is that 71% of the participants were women and therefore men were underrepresented. Nevertheless, this gender distribution is the normal distribution that we currently find in psychosomatic rehabilitation clinics (e.g. Schneider & Michalak 2007). Referring to the distribution and quality of disorders, the results of this study thus can be read as findings representing an average patient population of psychosomatic rehabilitation in Germany.

Interview situation and response of participants

Regarding the practical execution of the investigation, there are some aspects to mention which may have had an influence on the results.

First it is important to keep in mind that it is a study based on *voluntary participation*. It is not a sample by accident but a sample of choice by opportunity. Results may have been influenced by different degrees in participants´ motivation. There were participants who participated reliably and did the interview as well as the questionnaire, participants who did only take part in the interview and those who did not take part at all. It might be possible that there are systematic differences between these groups concerning special aspects. These possible differences could also stand in connection with the investigated variables. For example, it could be possible that non-participating patients show special characteristics or behavior tendencies which have an influence onto the degree or quality of workplace-related anxieties´ pattern. A patient with a passiv-aggressive personality disorder could refuse participation in a research study in a similar way like he does refuse fulfilling work demands at his workplace. A patient with a conventional social phobia could aim to avoid a situation with an unknown interviewer in the same way as he avoids new social contacts at his workplace.

Refusal and drop outs: There were only few patients who were invited but refused participation. From all of the patients invited by phone call in the first three days of their stay, only 6% did not want to participate. From those 230 patients who took part in the interview, 92% filled in the first questionnaire, 57% also did so a second time in the end of the stay. The lower rate of patients in the second time of measuring can be explained by drop outs, namely

patients who left the rehabilitation stay before the planned date or who refused or forgot to do the questionnaire a second time because of personal reasons.

Influences because of *interviewer effects* which could have been provoked by special characteristics of the interviewer (age, sex, professional status) and the interview situation, or behavior of the interviewer which could have influenced the behavior of the participants cannot be excluded. Nevertheless, as the majority of the leading questions were standardized and only rarely interviewer´s subjective ratings were necessary to assess the quality of the patients´ answers, it can be assumed that the setting was sufficiently structured in order to make possible an objective execution of the interview.
Thus a *complete standardization* of the interview was not possible as participants sometimes wanted to make sure they understand the meaning of the question and therefore asked again about the content of the question. This was then again explained by the interviewer in free formulation, making sure the criterion of the question was well understood by the participant.
From many interviews the impression was arising that *participants answered* the questions spontaneously and open once they got used to the interview situation and the way of questioning which was briefly explained in the beginning. Many of the patients after answering the standardized questions started to add details on the certain aspect which was asked in the different diagnostic categories.

Questions the patients asked concerning the use and aim of the study were answered in the end of the interview, the *resonance* towards the investigation was mainly positively. The positive experience of the interview situation may have supported the compliance of the patients also to do the second (and third) part of the study and fill in the questionnaire(s).

Methodological aspects of the diagnostic interview and the self-rating questionnaire
Using structured diagnostic interviews, there is always the question of *validity of the instruments.* In this study both self-rating instruments (the questionnaires on general psychosomatic and job-related symptom load) and interviewer-rating instruments (the MINI and Mini-WAI interviews) were used. From these investigations different qualities of data were derived and could be interpreted independently from each other.
For the construction of the *Mini-Work-Anxiety-Interview,* it was referred to the content validity of the construct: each quality of workplace-related anxiety was defined on the basis of

the clinical experience with patients who reported workplace-related anxiety syndromes, as well as knowledge about symptoms appearing in the context of different conventional anxiety disorders. Then the identified workplace-related anxiety qualities were each operationalized in a leading question and with additional lists of symptoms and criteria of context factors. The symptom lists were derived from of the DSM-IV criteria for conventional anxiety disorders, questions were formulated in a way that they unmissunderstandably direct to the workplace situation.
As there are no other observer-rating instruments yet which assess explicitely different qualities or dimensions of workplace-related anxieties, a validation by such a criterion was not aimed to be carried out for the interview. The validity of the JAS as an anxiety-measuring scale has been proofed in earlier studies (Muschalla 2005; Linden et al 2007; Muschalla et al 2007).

There is another aspect which should be mentioned when discussing the used methods:
Structured diagnostic interviews have the aim to classify morbidity, in this work state diagnosis of mental disorders. The MINI is a structured interview, that means the interviewer has to cross those answers the patient gives and therefore mainly the patient´s answers are the necessary mean to state the diagnosis or not.
Here the criticism may arise whether structured interviews – if carried out strictly following the rater´s instruction - are nothing more than a kind of self-rating instrument only read out to the "true" rater (=participant) by an interviewer who in conclusion only has the function to make the cross onto the answer the patient tells him.
In the case of this investigation, the Mini-WAI was used as a semi-structured interview in order to make sure the interviewer is enabled to use clinical judgement in some parts of the interview, like with the possibility to add free exploration units if a question cannot be answered clearly by the patient, or the interviewer has to give an observer judgement (e.g. like in the category of workplace-related hypochondriasis: "Is there an exaggerated observation of somatic complaints in relation to the workplace?") The avantage of the semi-structured interview form is that the clinical observation of the interview situation and patients´ interactional behavior can to a certain degree be considered when stating the diagnosis. However, the interviewer must be trained in clinical diagnositic of mental disorders in order to be competent to carry out the interview. Therefore before using the interview, a rater training must be done with "debutant users".

The difference between diagnostic interview and self-rating questionnaire is that the first aims at stating diagnosis of mental disorders according to the DSM-IV criteria, thus a categorial rating, and the latter measures the intensity of the symptom load, thus the level of agreement of a person to each of the possible items, and the items summed in different pattern characterize different content dimensions of job-anxiety. Thus there are two different methods which cannot easily be compared as they have a different aim and rater perspective.

It has to be beared in mind that the diagnosis found with the MINI and Mini-WAI are research diagnosis derived from patients´ reports in one special situation and focusing onto specific diagnostic criteria. This diagnosis cannot be compared with a clinical diagnosis stated on the basis of clinical investigation of a patient. Clinical investigation includes collecting information on the patient over a certain duration of time, with intensive exploration and anamnesis and – at least in a clinic context – observation of the patient´s behavior in the field. Thus, all diagnosis stated in the interview are expected to be valid according to the aimed criteria as research diagnosis, but they do not necessarily have to be identical with the clinical diagnosis stated on the basis of clinical exploration.

The JAS does not state diagnosis of job-anxiety but gives hints towards the severity of perceived job-anxiety symptom load, thus the job-anxiety syndrome. This rating is also influenced by the personal style of patients in answering questionnaires (like tendency to choose extreme answers or tendencies to midst) and the personality style (e.g. different tendencies in emotional expressive, or conscientious, or casual persons).

The sample of psychosomatic inpatients was chosen in order to make possible a differentiation between conventional and workplace-related anxiety qualities.

The investigation was accepted by the participants and had a good response within the population of inpatients in this psychosomatic rehabilitation.

The two instruments used for the exploration of workplace-related anxieties aimed at different aspects: Thus classificatory diagnostic has been done with the help of the semi-structured Mini-WAI interview in order to differentiate qualities of workplace-related anxieties, and a subjective rating of the intensity of job-anxiety symptom load has been risen with the JAS.

5.11 LIMITATIONS OF THE STUDY

What can be concluded from the data?

The study cannot offer epidemiological data which might answer the general question "How many people are suffering from workplace-related anxieties?" In contrast, the aim of the study was to find out pattern of appearance of workplace-related anxiety disorders and their interrelations with conventional anxiety disorders.

Similarly, the measured level of job-anxiety reported by the patients in the questionnaire cannot be interpreted as an absolute score. We cannot say whether a mean score of 2,5 points on the JAS marks a "high" job-anxiety load, but we can say that there is a significant difference in JAS scores between those patients who fulfilled the criteria of workplace phobia and those who did not, or who did only suffer from one single workplace-related anxiety quality.

Validity of Data

Data on the psychopathological status have been derived from two perspectives: on the one hand the subjective report given by patients in the self-rating questionnaires (JAS, SCL-90-R) and on the other hand the data assessed in the structured diagnostic interview (Mini-WAI and MINI) by criterial oriented algorithms and the interviewer-rating.

The clinical validity of structured diagnostic interviews has been discussed intensively (Steiner et al 1995, Wittchen 1994, Saile et al 2000). As mentioned above (in 5.10), diagnostic interviews cannot be compared with clinical diagnostic of mental disorders: This is due to the fact that they cannot take into consideration the same amount of information (anamnesis and descriptions of behavior shown in different settings, consiliary reports given by medicines etc) which is normally used in clinical routine when searching a diagnosis in a process. But, as the Mini-WAI is conceptualised as a semi-structured interview, the interviewer is enabled to pose additional questions for assuring that the differential diagnostic aspects are taken note of. Therefore the function of the interviewer is important as a rater and explorer, and thus for making sure differential diagnostic is carried out adequately, according to the categories of the workplace-related mental disorders which are unknown to the participant.

Interview "diagnosis" are therefore to be understood as research diagnosis. Thereby syndromes are assessed which may exist next to another, but which each for its own has a specific clinical significance. For the Mini-WAI and MINI interview diagnosis, there is no

hierarchy in stating diagnosis, but hierarchical diagnostic is what is usually done in clinical diagnostic in this department of psychosomatic rehabilitation.
Thus a diagnosis of "depressive episode" and "agoraphobia" would occur next to each other in the MINI-interview diagnostic, whereas in the clinical diagnostic this syndrome would eventually have been described as "depressive episode" or "recurring depression" only, in case the agoraphobic symptoms were occurring secondarily, and – other than workplace phobia - did not present a specific new consequence for treatment or work participation. Thus agoraphobic anxieties in this case could have been subsumed under the diagnosis of the primary disorder of depressive episode. It is therefore understandable that the rate of comorbidity diagnosis is higher in the research diagnosis than in clinical diagnostic.

The interview produces categorial data, the questionnaires give degrees of severity on different dimensions. Thus self-rating and clinical interviewer rating have to be understood as different perspectives onto the same phenomenon and can only carefully be compared with each other in order to state validity of the results.
Data on the current or the last work situation derived from the participants´ subjective reports in the *Short Questionnaire for Job Analysis* (KFZA) cannot be validated by exploration of the work conditions in vivo, as it was not possible neither to get an extern description of the work situation nor to undertake an "objective" work analysis. Hence, in discussing these results only the subjectively perceived quality of the work situation can be taken into consideration.

Further questions of research
Epidemiology: Further research is necessary in order to get an insight to what degree the general population is affected by workplace-related anxieties and to which degrees people suffer from job-anxiety. Therefore it will be necessary to study other samples of people in different professional domains, from both clinical and non-clinical populations.

Clinical and other populations: Another clinical sample is currently explored, namely rehabilitation inpatients sufferig from cardiologic diseases, thus somatic illness (Muschalla et al, in preparation). It is known that these patients have specific problems in somatic functioning on the one hand, but they may also have mental problems on the other hand (Kittel 2007). In cardiologic patients heart-related anxieties, which might fall into the category of (workplace-related) hypochondriac anxieties, are expected to occur more often than other workplace-related anxieties and lead to problems with work participation as well.

Vulnerability factors: An analysis of vulnerability factors could be important in respect to etiology: an exploration of the relationship between personality styles and workplace-related anxieties and work participation disorders should be done, as well as a detailed investigation of the relationship between professional education status and workplace-related anxiety.

Work performance and work participation disorders: Another important aspect that will be focused in further studies is the connection between workplace-related anxieties and work participation and work performance disorders. This aspect has been considered in this study when exploring in which way workplace-related anxieties are leading to absence or loss of the job. There are more aspects of work participation and work performance disorders which are interesting to be studied more detailed. For example, there could be the question whether specific workplace-related mental disorders lead to special capacity limitation which, in correspondence with the current obligations at the workplace, may cause special work performance disorders in special tasks within the working process. For example, a bank assistant suffering from PTSD after a robbery, when she does not avoid her workplace totally by sick leave, can she continue work at the service counter or can she only work in the background of the bank, not confronted with customers? Questions like that can be a topic in further studies within the project.
In contrast to the sick leave coping strategy, there is also the phenomenon of "presenteeism" discussed in the literature. This means that the suffering person continues going to work (instead of staying on sick leave absence), but then problems occur in the form of productivity loss or endangered work safety (Sanderson et al 2006; Haslam et al 2005). The phenomenon of "presenteeism" in the investigated sample can be expected to play a role in all those patients who suffer from workplace-related anxiety but without work participation disorder in the sense of absence. This is due to the fact that in each Mini-WAI interview category the question of severe suffering and/or capacity limitations has obligatorily to be answered yes before the diagnosis can be stated. This aspect of "negative consequences for the society and work productivity" could be specified in further investigations. Therefore, objective criteria for the presence of negative consequences due to workplace-related mental disorders must be operationalized.

Course of job-anxiety after rehabilitation: In order to get an insight into the course of job-anxiety and professional situation of the patients after rehabilitation, the questionnaire is sent

to the particpants for a last time six months after the end of their rehablitation stay. It shall be found out how often and in which patients there are changes in the level of job-anxiety over the three times of measuring, and whether there have been changes in their work situation after rehabilitation (maybe new job, or other position or department etc) and their sick leave times. This is another exploratory question within this study and not a therapy evaluation. As this part of the study had not been finished when starting writing this manuscript, it was not included into this analysis.

Reliability and validity of the instruments: Methodological questions of research concern the reliability of the interview as well as the validity of both instruments in different samples.
In that respect, it will be necessary to test the instruments in other clinical and non-clinical populations. A further reliability testing of the interview is carried out currently by exploring interrater-reliability using an interviewer and a co-rater.

Work-specific treatments: Further research programs must also concern the optimization of work-specific treatments in order to reduce job-anxiety and increase re-integration of rehabilitation patients into work. Therefore controlled clinical trials are necessary in order to find out which treatment forms are appropriate means for reducing specific workplace-related anxieties and decline work performance ~ and work participation disorders.

6 CONCLUSION

The aim of this work was to introduce a conceptualisation of domain-specific mental disorders – namely workplace-related anxieties and workplace phobia. They were postulated to have an own clinical value and ought to be distinguished from "conventional" mental disorders and anxiety disorders.

This aim can be said to be achieved by regarding the following conclusions:
With the chosen sample of psychosomatic inpatients it could be shown that workplace-related anxieties are often occurring *together with conventional mental disorders* including anxiety disorders, but that they might appear also as an *alone standing phenomenon*, thus a primary mental disorder.
We could see that workplace-related anxieties are connected with work-specific variables in a special way, hereby the aspect of work participation disorders plays an important role.
Thus workplace-related anxieties get per definitionem their *own clinical value* in the domain of the workplace. Not only the intensity or frequency of the symptoms is important, but the stimulus itself as it cannot be avoided without severe consequences for the employed as well as for the society.

A *differentiation of diverse qualities of workplace-related anxieties* seems to be useful regarding the findings that different qualities of workplace-related anxieties lead in a different amount to *work participation disorders*: Generalized worrying seems to be less frequently associated with sick leave and job loss or change than adjustment disorders which in 70-80% of cases cause work participation disorders. Thus the introducing assumption that different symptom complexes may lead to work participation disorders in a different way can be underlined with these results. It must be assumed that workplace-related anxieties play an important part in the explanation of sick leave and early pensions additional to conventional mental disorders.

Workplace phobia often occurs after an adjustment disorder towards a stressful event. In 57% of cases, workplace phobia resulted in work participation disorders with absence, in 23% with workplace loss. 72% of the workplace phobic were on sick leave before their rehabilitation stay. *Workplace phobia* thus can be understood as a marker for the severity of workplace-related anxiety.

Under *nosologic perspective*, workplace phobia is not primarly defined by its symptoms´ quality but more by the context of appearance and the quantity or severity of the experienced symptom load, as well as the resulting participation disorders in professional integration and eventually in general public life. Workplace phobia can once be understood as a secondary symptom and complication within a primary mental disorder, but it can also manifest as an alone standing *workplace*-related problem, eventually accompagnied by basic workplace-related mental disorders. Workplace phobia has a difficult and multiform etiology and requires special treatments. All this give workplace phobia an *own clinical value*. Practical assumptions lead to the idea of reporting workplace phobia as an *own diagnosis* in medical letters and giving it the status of a proper mental disorder, beside the conventional anxiety disorders.

Therapy of workplace-related anxieties needs special intervention forms differently from treatments of specific phobias. As the workplace itself cannot easily be used for exposition therapy, in sensu confrontation as well as trainings for distinct aspects may be helpful to reduce specific qualities of workplace-related anxieties like anxiety of insufficiency or social anxieties. Participation and rehabilitation oriented treatments must also look at specific work-related problems.

In this work, the *interface between clinical and occupational psychology and medicine* should be focused. Workplace-related anxieties can only be understood when referring to the workplace as a stimulus and they should be defined more by their consequences than by purely the quality of their symptoms which are “normal” anxiety reactions. The main characteristic of workplace-related mental disorders – their domain-specifity - is their occurrence in connection to a special complex stimulus, specific work performance and participation disorders they produce, and specific therapy requirements.

Further research is necessary due to the clinical meaning of job-anxiety in the domain of psychosomatic rehabilitation and probably in other medical domains like primary health care. Since workplace phobia is regularly going along with (long time) sick leave and seems to be a severe endangering moment for fitness for work in general, workplace-related anxieties must become known to and recognized by the medical and psychotherapeutic professionals in primary health care in order to be treated appropriately.

7 REFERENCES

Albert U, Rosso G, Maina G, Bogetto F (2007): Impact of anxiety comorbidity on quality of life in euthymic bipolar disorder patients: differences between biploar I and II subtypes. *Journal of Affective Disorders*: ahead of print.

Albini F, Benedetti L, Giordano S, Punzi S, Cassitto MG (2003): Organizzazione del lavoro disfunzionale e mobbing. Quattro casi emblematici. *Medicina del Lavoro* **94**: 440-449

Alexy EM & Hutchins JA (2006): Workplace violence: a primer for critical care nurses. *Critical Care Nursing Clinics of North America* **18:** 305-312

Alonso Fernández F (2001): Somatoform depressive disorders. *Anales de la Real Academia Nacional de Medicina* **118**: 745-766

American Psychiatric Association (1994): *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV).* Washington, DC: American Psychiatric Association

Ames GM & Rebhun LA (1996): Women, alcohol and work: interactions of gender, ethnicity and occupational culture. *Social Science and Medicine* **43**: 1649-1663

Bandelow B (1997): *Panik- und Agoraphobie-Skala (PAS).* Göttingen: Hogrefe

Bandelow B, Wedekind D, Leon T (2007): Pregabalin for the treatment of generalized anxiety disorder: a novel pharmacological intervention. *Expert Review of Neurotherapeutics* **7**: 769-781

Beutel ME, Kyser E, Vorndran A, Farley A, Bleichner F (1998): Die integrierte berufliche Belastungserprobung in der medizinischen Rehabilitation – Erfahrungen und Perspektiven am Beispiel der psychosomatischen Rehabilitation. *Die Rehabilitation* **37:** 85-92

Beutel ME, Kayser, E, Vorndran, A, Schlüter K, Bleichner F (1998): Berufliche Integration psychosomatisch Kranker – Ergebnisse einer Verlaufsuntersuchung mit Teilnehmer der beruflichen Belastungserprobung. *Praxis Klinische Verhaltensmedizin und Rehabilitation* **42:** 22-27

Beutel ME, Gerhard C, Wagner S, Bittner HR, Bleicher F, Schattenburg L, Knickenberg R, Freiling T, Kreher S, Martin H (2004): Reduction of technology fears in psychosomatic rehabilitation – concepts and results based on a computer training for older employees. *Zeitschrift für Gerontologie und Geriatrie* **37**: 221-230

Bilgel N, Aytac S, Bayram N (2006): Bullying in Turkish white-collar workers. *Occupational Medicine* **56:** 226-231

Bisson J & Andrew M (2007): Psychological treatment of posttraumatic stress disorder (PTSD). *Cochrane Database of Systematic Reviews* **18**: in print.

Bouton ME (2002): Context, ambiguity and unlearning: Sources or relapse after behavioral extinction. *Biological Psychiatry* **52**: 976-986.

Brodsky CM (1988): The psychiatric epidemic in the American workplace. *Occupational Medicine* **3:** 633-62

Buddeberg-Fischer B, Klaghofer R, Buddeberg C (2005): Arbeitsstress und gesundheitliches Wohlbefinden junger Ärztinnen und Ärzte. *Zeitschrift für Psychosomatische Medizin und Psychotherapie* **51:** 163-178

Bulheller S, Ibrahimovic N, Häckler H (2002): *Intelligenz Struktur Analyse (ISA-L). Neu-Normierung*. Frankfurt am Main: Swets Test Services

Bürger W & Koch U (1995): Hilft stationäre psychosomatische Rehabilitation im Arbeitsleben? Eine Längsschnittuntersuchung zum Erfolg stationärer psychosomatischer Rehabilitation im beruflichen Bereich. *Praxis Klinische Verhaltensmedizin und Rehabilitation* **44:** 60-76

Campbell DG, Felker BL, Liu CF, Yano EM, Kirchner JE, Chan D, Rubenstein LV, Chaney EF (2007): Prevalence of depression-PTSD comorbidity: implications for clinical practice guidelines and primary care-based interventions. *Journal of General Internal Medicine* **22**: 711-718

Campbell R & Pepper L (2006): Downsizing and social cohesion: the case of downsizing survivors. *New Solut.* **16:** 373-393

Casey P (2001): Adult adjustment disorder: a review of its current diagnostic status. *Journal of Psychiatric Practice* **7**: 32-40.

Castaneda AE, Tuulio-Henriksson A, Marttunen M, Suvisaari J, Lönnqvist J (2007): A review on cognitive impairments in depressive and anxiety disorders with a focus on young adults. *Journal of Affective Disorders* **17:** ahead of print

Chevalier A, Bonenfant S, Picot MC, Chastang JF, Luce D (1996): Occupational factors of anxiety and depressive disorders in the French National Electricity and Gas Company. The Anxiety-Depression-Group. *Journal of Occupational Environmental Medicine* **38:** 1098-1107

Choy Y, Fyer AJ, Goodwin RD (2007): Specific phobia and comorbid depression: a closer look at the National Comorbidity Survey data. *Comprehensive Psychiatry* **48:** 132-136

Clark C, Rodgers B, Caldwell T, Power C, Stansfeld S (2007): Childhood and adulthood ill health of midlife affective and anxiety disorders: the 1958 British Birth Cohort. *Archives of General Psychiatry* **64**: 668-678

Cosci F, Schruers KR, Abrams K, Griez EJ (2007): Alcohol use disorders and panic disorder: a review of the evidence of a direct relationship. *Journal of Clinical Psychiatry* **68**: 874-880

Costa G, Sartori S, Akerstedt T (2006): Influence of flexibility and variability of working hours on health and well-being. *Chronobiology International* **23:** 1125-1137

Cramer C & Davidhizar R (2000): The health care employee with an “attitude”. *Hospital Materiel Management Quarterly* **22:** 27-33

Davis M, Myers KM, Chhatwal J, Ressler KJ (2006): Pharmacological treatments that faciliate extinction of fear: relevance to psychotherapy. *NeuroRx* **1**: 82-96

Deutsche Rentenversicherung Bund (DRV) (2007): *Regionale Initiative Betriebliches Eingliederungsmanagement. Abschlussbericht zum Modellprojekt*. Berlin: DRV

Dormann C, Zapf D, Isic A (2002): Emotionale Arbeitsanforderungen und ihre Konsequenzen bei Call-Center-Arbeitsplätzen. *Zeitschrift für Arbeits- und Organisationspsychologie* **46:** 201-215

Ecker W (1999): *Die Krankheit des Zweifelns. Wege zur Überwindung von Zwangsgedanken und Zwangshandlungen*. CIP-Medien

Eriksen W, Tambs K, Knardahl S (2006): Work factors and psychological distress in nurses' aides: a prospective cohort study. *BMC Public Health* **28:** 290

Fehm L & Schmidt K (2006): Performance anxiety in gifted adolescent musicians. *Journal of Anxiety Disorders* **20:** 98-109

Festinger L (1957): *A theory of cognitive dissonance*. Stanford: Stanford University Press

Fincham FD & Bradbury TN (1987): Cognitive processes and conflict in close relationships: an attribution-efficacy model. *Journal of Personality and Social Psychology* **53**: 1106-1118

Franke G. (1995): *Die Symptom-Checkliste von Derogatis – Deutsche Version*. Weinheim: Beltz

Frese M (1989): Gütekriterien zur Operationalisierung von sozialer Unterstützung am Arbeitsplatz. *Zeitschrfit für Arbeitswissenschaft* **43**: 112-121

Frese M (1992): *Die Führung der eigenen Person. Stress-Management*. München: Mensch und Arbeit

Frese M & Zapf D (1989): Eine Skala zur Erfassung von sozialen Stressoren am Arbeitsplatz. *Zeitschrift für Arbeitswissenschaft* **41**: 134-142

Galinowski A, Benkelfat C, Lajeunesse C (1986) : Cognitive therapies of depression. *Acta Psychiatrica Belgica* **86**: 305-315

Girardi P, Monaco E, Prestigiacomo C, Talamo A, Ruberto A, Tatarelli R (2007): Personality and psychopathological profiles in individuals exposed to mobbing. *Violence and Victims* **22**: 172-188

Gur S, Hermesh H, Laufer N, Gogol M, Gross-Isseroff R (2005): Adjustment disorder: a review of diagnostic pitfalls. *Israel Medical Association Journal* **7**: 726-731

Greenberg PE, Sisitsky T, Kessler RC, Finkelstein SN, Berndt ER, Davidson JR (1999): The economic burden of anxiety disorders in the 1990s. *Journal of Clinical Psychiatry* **60**: 427-435

Griffin JM, Fuhrer R, Stansfeld SA, Marmot M (2002): The importance of low control at work and home on depression and anxiety: do these effects vary by gender and class? *Social Science and Medicine* **54:** 783-798

Hackman JR & Oldham GR (1975): Development of the Job Diagnostic Survey. *Journal of Applied Psychology* **60**: 159-170

Halbreich U & Kahn LS (2007): Atypical depression, somatic depression and anxious depression in women: Are they gender-preferred phenotypes? *Journal of Affective Disorders* **102**: 245-258

Hallowell EM (1999): The human moment at work. *Harvard Business Review* **77:** 58-64, 66

Hand I & Wittchen HU (1986) (eds): *Panic and Phobias*. Berlin: Springer

Hansen AM, Hogh A, Perrson R, Karlson B, Garde AH, Orbaek P (2006): Bullying at work, health outcomes, and physiological stress response. *Journal of Psychosomatic Research* **60**: 63-72

Haines J, Williams CL, Carson JM (2002): Workplace Phobia: Psychological and psychophysiological Mechanisms. *International Journal of Stress Management* **9:** 129-145.

Haslam C, Atkinson S, Brown SS, Haslam RA (2005a): Anxiety and depression in the workplace: Effects on the individual and organisation (a focus group investigation). *Journal of Affective Disorders* **88:** 209-215

Haslam C, Atkinson S, Brown SS, Haslam RA (2005b): Perceptions of the impact of depression and anxiety and the medication for these conditions on safety in the workplace. *Occupational Environmental Medicine* **62:** 538-545

Hegel MT, Unützer J, Tang L, Areàn PA, Kation W, Noel PH, Williams JW, Lin EH (2005): Impact of comorbid panic and posttraumatic stress disorder on outcomes of collaborative care for late-life depression primary care. *American Journal of Geriatric Psychiatry* **13:**48-58

Helge D (2001): Turning workplace anger and anxiety into peak performance. Strategies for enhancing employee health and productivity. *American Association of Occupational Health Nurses Journal* **49:** 399-406

Hillert A, Lehr D, Pecho L (2001): Berufsgruppen bezogene Therapieansätze? Zur Relativität therapeutischer Perspektiven am Beispiel psychosomatisch erkrankter Lehrer / innen. In: Bassler M (Hrsg.): *Störungsspezifische Ansätze in der stationären Psychotherapie*. Giessen: Psychosozial-Verlag, 74-87

Hobson J & Beach JR (2000): An investigation of the relationship between psychological health and workload among managers. *Occupational Medicine* **50:** 518-22

Jacobi F, Wittchen HU, Holting C, Höfler M, Pfister H, Müller N, Lieb R (2004): Prevalence, co-morbidity and correlates of mental disorders in the general population: results from the German Health Interview and Examination Survey (GHS). *Evidence Based Mental Health* **8**: 28

Katon W, Lin EH, Kroenke K (2007): The association of depression and anxiety with medical symptom burden in patients with chronic medical illness. *General Hospital Psychiatry* **29**: 147-155

Kawakami N, Iwata N, Tanigawa T, Oga H, Araki S, Fujihara S, Kitamura T (1996): Prevalence of mood and anxiety disorders in a working population in Japan. *Journal of Occupational and Environmental Medicine* **38:** 899-905

Kittel J (2007): Effekte berufsorientierter Interventionen in der kardiologischen Rehabilitation ein Jahr nach der Rehabilitation – Ergebnisse einer randomisierten Kontrollgruppenstudie. *DRV-Schriften* **72:** 259-260

Kittner C (2003): *Angst im Job*. München: Hampp

Kirk KW (1982): Women in male-dominated professions. *American Journal of Hospital Pharmacology* **39:** 2089-2093

Kobelt A, Grosch EV, Gutenbrunner C (2006): Wie bedeutsam ist die berufliche Reintegration (Leistungen zur Teilhabe am Arbeitsleben) nach stationärer psychosomatischer Rehabilitation? *Psychotherapie Psychosomatik Medizinische Psychologie* **56:**15-22

Koch U & Laschinsky D (1979): Ein Fragebogen zur Erfassung der Situation am Arbeitsplatz und in der Familie (KOLA). *Psychologie und Praxis* **4:** 165-173

Kroenke K & Spitzer RL (1998): Gender differences in the reporting of physical and somatoform symptoms. *Psychosomatic Medicine* **60**: 150-155

Kroenke K, Spitzer RL, Williams JB, Monahan PO, Löwe B (2007): Anxiety disorders in primary care: prevalence, impairment, comorbbiditiy and detection. *Annals of Internal Medicine* **146:** 317-325

Langlieb AM & Kahn JP (2005): How much does quality mental health care profit employers? *Journal of Occupational and Environmental Medicine* **47:** 1099-1109

Laposa JM, Alden LE, Fullerton LM (2003): Work stress and posttraumatic stress disorder in ED nurses/personnel. *Journal of Emergency Nursering* **29:** 23-8

Lee JH & Dunner DL (2007): The effect of anxiety disorder comorbidity on treatment resistant bipolar disorders. *Depression and Anxiety,* ahead of print

Leyman H (1993): *Mobbing. Psychoterror am Arbeitsplatz und wie man sich dagegen wehren kann*. Hamburg: Rohwolt

Lindblom KM, Linton SJ, Fedeli C, Bryngelsson IL (2006): Burnout in the working population: relations to psychosocial work factors. *International Journal of Behavior Medicine* **13**: 51-59

Linden M (2003): Posttraumatic Embitterment Disorder (PTED): A subform of adjustment disorder. *Psychotherapy and Psychosomatics* **72:** 195 – 202

Linden M & Hautzinger M (2005) (eds): *Verhaltenstherapiemanual*. Heidelberg: Springer

Linden M & Muschalla B (2007a): Anxiety disorders and workplace-related anxieties, *Journal of Anxiety Disorders* **21:** 467-474

Linden M & Muschalla B (2007b): Arbeitsplatzphobie. *Der Nervenarzt* **78:** 39-44

Linden M, Muschalla B, Olbrich D (2007): Die Job-Angst-Skala (JAS): Ein neuer Fragebogen zur Erfassung arbeitsplatzbezogener Ängste, *Zeitschrift für Arbeits- und Organisationspsychologie:* in press.

Linden M, Oberle-Thiemann C, Weidner C (2003): Arbeitsplatzphobie. Krankschreiben kann schaden. *Münchener Medizinische Wochenschrift – Fortschritte der Medizin* **145:** 33-36

Linden M & Weidner C (2005): Arbeitsunfähigkeit bei psychischen Störungen. *Der Nervenarzt* **76:** 1421-1431

Livanou M, Kasvikis Y, Basoglu M, Mytskidou P, Sotiropoulou V, Spanea E, Mitsopoulou T, Voutsa N (2005) : Earthquake-related psychological distress and associated factors 4 years after the Parnitha earthquake in Greece. *European Psychiatry* **20**: 137-144

Lydiard RB (2000): An overview of generalized anxiety disorders: disease state –appropriate therapy. *Clinical Therapy* **22**: 3-24

MacDonald HA, Colota V, Flamer S, Karlinsky H (2003): Posttraumatic stress disorder (PTSD) in the workplace: a descriptive study of workers experiencing PTSD resulting from work injury, *Journal of Occupational Rehabilitation* **13**: 63-77

MacKinnon DF & Zamoiski R (2006): Panic comorbidity with bipolar disorder: what is the manic-panic connection? *Bipolar Disorders* **8:** 648-664

Marks I & Tobena A (1990): Learning and unlearning fear: a clinical and evolutionary perspective. *Neuroscience and Biobehavioral Reviews* **4**: 365-384

Martin A & Matiaske W (2002): Absentismus als Reaktion auf schädigendes Verhalten am Arbeitsplatz aus stresstheoretischer Sicht. In von Saldern M. (Hrsg.). *Mobbing. Theorie, Empirie, Praxis*. Hohengehren: Schneider

Maslach C & Jackson SE (1981): The measurement of Experienced Burnout. *Journal of Occupational Behavior* **2:** 99-113

McLaughlin TJ, Aupont O, Bambauer KZ, Stone P, Mullan MG, Colagiovanni J, Polishuk E, Johnstone M, Locke SE (2005) : Improving psychologic adjustment to chronic illness

in cardiac patients. The role of depression and anxiety. *Journal of General Internal Medicine* **20:** 1084-1090

Mestel R (2007): Reliabilität und Validität von Persönlichkeitsstörungsdiagnostik. *Der Nervenarzt* **78 (2):** 464-465

Mezerai M, Dahane A, Tachon JP (2006): Dépression dans le milieu du travail. *Presse Med* **35**: 823-830

Munir F, Yarker J, Haslam C, Long H, Leka S, Griffiths A, Cox S (2007): Work factors related to psychological and health-related distress among employees with chronic illnesses. *Journal of Occupational Rehabilitation* **17**: 259-277

Muschalla B (2005): *Arbeitsplatzängste und Arbeitsplatzphobie. Entwicklung des Fragebogens „Job-Angst-Skala" zur Erfassung arbeitsplatzbezogener Ängste und seine Erprobung bei Patienten in der psychosomatischen Rehabilitation.* Freie Universität Berlin, diploma thesis

Muschalla B, Linden M, Olbrich D (2007): The clinical meaning of job-anxiety. submitted.

Muschalla B, Herm K, Markova M, Dirks S, Linden M: Workplace-related anxieties in cardiologic inpatients assessed with the Mini-Work-Anxiety-Interview, in preparation

Moore RS, Light JM, Ames GM, Saltz RF (2001): General and job-related alcohol use and correlates in a municipal workforce. *American Journal of Drug and Alcohol Abuse* **27**: 543-560.

Nader PR, Bullock D, Caldwell B (1975): School phobia. *Pediatric Clinics of North America* **22**: 605-617

Nagata S (2000): Stress management in the workplace in the era of industrial and economic change. *Sangyo Eisaigaku Zasshi* **42:** 215-20

Nakazawa H, Ikeda H, Yamashita T, Hara I, Kumai Y, Endo G, Endo Y (2005): A case of sick building syndrome in a Japanese office worker. *Industrial Health* **43:** 341-345

Napoliello MJ (1980): Obsessions: source of inefficiency in the workplace. *Journal of Occupational Medicine* **22**: 410-420

Neilsen EH & Gypen J (1979): The subordinates´s predicaments. *Harvard Buisiness Review* **57:** 133-143

Nicholson PJ, Vincenti GE (1994): A case of phobic anxiety related to the inability to smell cyanide. *Occupational Medicine* **44:** 107-108

Nieuwenhuijsen K, Verbeek JH, de Boer AG, Blonk RW, van Dijk FJ (2006): Predicting the duration of sickness absence for patients with common mental disorders in occupational health care. *Scandinavian Journal of Work, Environment and Health* **32:** 67-74

Nishikitani M, Nakao M, Karita K, Nomura K, Yano E (2005): Influence of overtime work, sleep duration, and perceived job characteristics on the physical and mental status of software engineers. *Industrial Health* **43:** 623-629

Olbrich D, Cicholas B, Klenke-Bossek H (1998): Psychosomatisch-psychotherapeutische Rehabilitation bei sozialmediziischen Problempatienten – eine explorative Studie zu Nachuntersuchung und Behandlungsergebnissen. *Die Rehabilitation* **37:** 7-13

Perlow L & Williams S (2003): Is silence killing your company? *Harvard Business Review* **81:** 52-58, 128

Preckel D, von Känel R, Kudielka BM, Fischer JE (2005): Overcommitment at work is associated with vital exhaustion. *International Archives of Occupational Environmental Health* **78:** 117-122

Price JL, Monson CM, Callahan K, Rodriguez BF (2006): The role of emotional functioning in military-related PTSD and its treatment. *Journal of Anxiety Disorders* **20**: 661-674

Prümper J, Hartmannsgruber K, Frese M (1995): KFZA. Kurz-Fragebogen zur Arbeitsanalyse. *Zeitschrift für Arbeits- und Organisationspsychologie* **39**: 125-132

Rehabilitation Center Seehof (2005): *Qualitätsreport 2005 Rehabilitationszentrum Seehof Teltow/Berlin*. Deutsche Rentenversicherung Bund

Robinson J, Biley F, Dolk H (2007): Therapeutic touch for anxiety disorders. *Cochrane Database Systematic Reviews* **18**: in print

Rohmert W (1984): Das Belastungs-Beanspruchungskonzept. *Zeitschrift für Arbeitswissenschaft* **38:** 193-200

Rosenstiel von L, Falkenberg T, Hehn W, Henschel E, Warns I (1982): *Betriebsklima heute.* München: Bayerisches Staatsministerium für Arbeit und Sozialordnung

Ryan CM, Morrow LA (1992): Dysfunctional buildings or dysfunctional people: an examination of the sick building syndrome and allied disorders. *Journal of Consulting and Clinical Psychology* **60**: 220-224

Saile H, Weiland-Heil K, Schwenkmezger P (2000): Lassen sich in klinischen Erstgesprächen valide Diagnosen stellen? Vergleich von klinischem Erstgespräch, strukturiertem Interview und Symptom-Checkliste. *Zeitschrift für Klinische Psychologie und Psychotherapie* **29:** 214-220

Sakai Y, Akiyama T, Miyake Y, Kawamura Y, Tsuda H, Kurabayashi L, Tominaga M, Noda T, Akiskal K, Akiskal H (2005): Temperament and job stress in Japanese company employees. *Journal of Affective Disorders* **85:** 101-112

Salicoglu E, Basoglu M, Livanou M (2007): Post-traumatic stress disorder and comorbid depression among survivors of the 1999 earthquake in Turkey. *Disasters* **31:** 115-129

Sanne B, Mykletun A, Dahl AA, Moen BE, Tell GS (2005): Testing the Job Demand-Control -Support model with anxiety and depression as outcomes: the Hordaland Health Study. *Occupational Medicine* **55:** 463-473

Sanderson K & Andrews G (2006): Common mental disorders in the workforce: recent findings from descriptive and social epidemiology. *Canadian Journal of Psychiatry* **51**: 61-62

Sanderson K, Tilse E, Nicholson J, Oldenburg B, Graves N (2006): Which presenteeism measures are more sensitive to depression and anxiety? *Journal of Affective Disorders*: ahead of print

Sanford K (2005): Attributions and anger in early marriage: wives are event-dependent and husbands are schematic. *Journal of Family Psychology* **19:** 180-188

Schaarschmidt U & Fischer AW (1997): AVEM – ein diagnostisches Instrument zur Differenzierung von Typen gesundheitsrelevanten Verhaltens und Erlebens gegenüber der Arbeit. *Zeitschrift für Differentielle und Diagnostische Psychologie* **18:** 151-163

Schaarschmidt U, Kieschke U, Fischer AW (1999): Beanspruchungsmuster im Lehrerberuf. *Psychologie in Erziehung und Unterricht* **46:** 244-268

Schaarschmidt U & Fischer AW (2001): *Bewältigungsmuster im Beruf*. Göttingen: Vandenhoeck & Ruprecht

Schippan B, Baumann K, Linden M (2004): Weisheitstherapie – kognitive Therapie der Posttraumatischen Verbitterungsstörung. *Verhaltenstherapie* **14:** 284-293

Schlung E (1987): *Schulphobie. Kritische Sichtung der Literatur zu Erscheinungsformen, Entstehungsbedingungen und Behandlungsmöglichkeiten bei schulphobischem Verhalten.* Weinheim: Beltz

Schneider J & Michalak U (2007): Probleme mit der Arbeitswelt – zunehmend ein Problem für Patienten? *DRV-Schriften* **72:** 240-241

Sczesny S & Thau St (2004): Gesundheitsbewertung vs. Arbeitszufriedenheit: Der Zusammenhang von Indikatoren des subjektiven Wohlbefindens mit selbstberichteten Fehlzeiten. *Zeitschrift für Arbeits- und Organisationspsychologie* **48:** 17-24

Selye H (1983): The Stress Concept Today. Past, Present and Future. In Cooper CL (Ed.) *Stress Research-Issues for the Eighties.*. Chichester: Wiley

Semmer N (1984): *Stressbezogene Tätigkeitsanalyse: Psychologische Untersuchungen zur Analyse von Stress am Arbeitsplatz*. Weinheim: Beltz

Sheehan D, Janavs J, Baker R, Knapp E, Sheehan KH, Sheehan M (1994): *MINI. Mini International Neuropsychiatric Interview*. Tampa: University of South Florida

Simon NM, Zalta AK, Otto MW, Ostacher MJ, Fischmann D, Chow CW, Thompson EH, Stevens JC, Demopulos CM, Nierenberg AA, Pollack MH (2007): The association of

comorbid anxiety disorders with suicide attempts and suicidal ideation in outpatients with bipolar disorders. *Journal of Psychiatry Research* **41:** 255-264

Sjörgen T, Nissinen KJ, Järvenpää SK, Ojanen MT, Vanharanta H, Mälkiä EA (2006): Effects of a physical exercise intervention on subjective physical well-being, psychosocial functioning and general well-being among office workers. A cluster ranodomized -controlled cross-over design. *Scandinavian Journal of Medicine and Science in Sports* **16:** 381-390

Smith MJ, Conway FT, Karsh BT (1999): Occupational Stress in human computer interaction. *Industrial Health* **37:** 157-173

Sperry L, Kahn JP, Heidel SH (1994): Workplace mental health consultation. A primer of organizational and occupational psychiatry. *General Hospital Psychiatry* **16**: 103-111.

Spielberger CD, Laux L, Glanzmann P, Schaffner P (1981): *Das Stait-Trait-Angst-Inventar.* Weinheim: Beltz Testgesellschaft

Steiner JL, Tebes JK, Sledge WH, Walker ML (1995): A comparison of the structured clinical interview for DSM-III-R and clinical diagnoses. *The Journal of Nervous and Mental Disease* **183**: 365-369

Strazdins L, D´Souza RM, Lim LL, Broom DH, Rodgers B (2004): Job strain, job insecurity, and health: rethinking the relationship. *Journal of Occupational Health Psychology* **9**: 296-305

Thomas M & Hynes C (2007): The darker side of groups. *Journal of Nursing Management* **15**: 375-385

Toft T, Fink P, Oernboel E, Christensen K, Frostholm L, Olsen F (2005): Mental disorders in primary care: prevalence and co-morbidity among disorders. Results from the functional illness in primary care (FIP) study. *Psychological Medicine* **35**: 1175-1184

Thomsen S, Dallender J, Soares J, Nolan P, Arnetz B (1998): Predictors of a healthy workplace for Swedish and English psychiatrists. *British Journal of Psychiatry* **173:** 80-84

Treier M (2003): Belastungs- und Beanspruchungsmomente bei der Teleheimarbeit. *Zeitschrift für Arbeits- und Organisationspsychologie* **47:** 24-35

Turnipseed DL (1998): Anxiety and burnout in the health care work environment. *Psychological Reports* **82:** 627-42

Tyrer P & Baldwin D (2006): Generalized anxiety disorders. *The Lancet* **16:** 2156-2166

Udris I & Alioth A (1980): Der Fragebogen zur „Subjektiven Arbeitsanalyse“ (SAA). In Martin E, Ackermann U, Udris I, Oegerli K (Hrsg): *Monotonie in der Industrie*. Bern: Huber.

Uehata T (1991): Long working hours and occupational stress-related cardiovascular attacks among middle-aged workers in Japan. *J Human Ergol* **20:** 147-153

Wegge J & Neuhaus L (2002): Emotionen bei der Büroarbeit am PC: Ein Test der „affective events"-Theorie. *Zeitschrift für Arbeits- und Organisationspsychologie* **46:** 173-184

Wieclaw J (2006): Risk of affective and stress related disorders among employees in human service professions. *Occupational and Environmental Medicine* **63:** 314-319

Wittchen, HU (1994): Reliability and validity studies of the WHO-Composite International Diagnostic Interview (CIDI): A critical review. *Journal of Psychiatric Research* **28**: 57-84

World Health Organization (WHO) (1992): *International Statistical Classification of Diseases and Related Health Problems, 10th revision.* Geneva: World Health Organization

World Health Organization (WHO) (2001). *International Classification of Functioning, Disability and Health: ICF.* Geneva: World Health Organization

Yildirim A & Yildirim D (2007): Mobbing in the workplace by peers and managers: mobbing experienced by nurses working in healthcare facilities in Turkey and its effects on nurses. *Journal of Clinical Nursing* **16:** 1444-1453

Zapf D, Knorz C, Kulla M (1996): On the Relationship between Mobbing Factors and Job Content, Social Work Environment and health Outcomes. *European Journal of Work and Organizational Psycholoy,* **5:** 215-237

Zubin J & Spring B (1977): Vulnerability: A New View on Schizophrenia. *Journal of Abnormal Psychology* **86:** 103-126

8 GLOSSARY OF TERMINOLOGY

In order to clear the terminology used throughout the manuscript, the most important concepts of this work will be defined here briefly in alphabetic order. Names of assessment instruments and terms defined in this glossary are written *in italics.*

Avoidance
Avoidance in the context of *mental disorders* means that a person tries not to be confronted with a certain stimulus which potentially provokes an anxiety reaction. Avoidance is a classic coping reaction in patients with anxiety disorders. With the strategy of avoiding confrontation with the feared stimulus or avoiding situations in which anxiety symptoms are expected, the level of anxiety is reduced for a short time. On long term, the anxiety is maintained and may even be forced as the expectation of endangerment remains. Thus avoidance as a coping strategy in anxiety disorders is dysfunctional as the patient cannot make the experience of being able to stand the *symptoms* and the risk that the feared expectations might become true, or even the experience that the expected catastrophy does not occur.

Clinical diagnosis
Clinical diagnosis is a *diagnosis* of a *mental disorder* which is stated in the course of therapy by the psychotherapist. A clinical diagnosis in the context of psychosomatic rehabilitation is derived from detailed exploration, anamnesis, additional medical findings, in vivo observation of the patient and multiple sources of information including all co-therapists working together in the team.
(Compare *diagnosis)*

Cognitive fitness
The status of cognitive fitness is explored in the participants of the study with the intelligence test *Intelligence Structure Analysis* (ISA) measuring verbal and numerical intelligence, figural-spatial imagination and verbal memory functions.

Cognition of insufficiency
Dimension of the *Job-Anxiety-Scale* examining general cognition of insufficiency as well as fear of changes.

Comorbidity
Comorbidities are co-occurring *disorders*. The diagnostic assessment instrument used in this study design is especially prone to produce *diagnosis* in comorbidities as it uses a horizontal classificatory diagnostic: Thus a patient can get three diagnosis of *mental disorders* at the same time from the structured interview when the relevant diagnostic criteria of these three disorders are answered positively (like “depressive episode” and “agoraphobia” and “adjustment disorder”).
There are different approaches how to state *diagnosis* of mental disorders, either following the idea of a hierarchical classification (one primary diagnosis of higher importance includes accompagnying syndromes, i.e. this would mean a diagnosis of “depressive episode” subsumes secondary agoraphobic anxieties occuring within the frame of the depressive syndrome), or a horizontal classification whereby diagnosis of different disorders are standing next to each other. The debate on advantages and disadvantages in both variants of diagnostic is not further focused in this work.

Patients regularly get more than one diagnosis from the *Mini International Neuropsychiatric Interview* (MINI) as well as in the *Mini-Work-Anxiety-Interview* (Mini-WAI), as both structured diagnostic interviews are understood to assess *research diagnosis*.

Conventional mental disorders
Conventional mental disorders are mental disorders based on the diagnostic criteria of the DSM-IV, axis I. They are assessed with the *Mini International Neuropsychiatric Interview* (MINI): episode of major depression, dysthymia, manic (hypomanic) episode, panic disorder, agoraphobia, social phobia, obsessive compulsive disorder (OCD), generalized anxiety disorder, alcohol problem (addiction or abuse), problem with drugs (addiction or abuse), psychosis, anorexia nervosa, bulimia nervosa, risk of suicide / suicide trial in lifetime, posttraumatic stress disorder (PTSD), somatization disorder, adjustment disorder, hypochondriasis.

Conventional anxiety disorders
Conventional anxiety disorders are the anxiety diagnosis assessed with the *Mini International Neuropsychiatric Interview* (MINI), based on DSM-IV diagnostic criteria: Panic disorder, agoraphobia, social phobia, obsessive compulsive disorder (OCD), generalized anxiety disorder, posttraumatic stress disorder (PTSD), hypochondriasis. The diagnostic criteria of the conventional anxiety disorders have been adopted for operationalizing different qualities of *workplace-related anxieties*.

Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)
The *Diagnostic and Statistical Manual of Mental Disorders* is a classificatory system of *mental disorders* and *diagnosis* developed by the American Association of Psychiatry (APA). The diagnostic criteria of the DSM-diagnosis have traditionally been used for clinical research, and several diagnostic interviews have been developed for this purpose.

Diagnosis
Diagnosis are names for *disorders* in the sense of hypothetical constructs. They are derived from *symptoms, syndromes*, etiology and course of the disorder and allow prognosis and implications for treatment.
In this work, the term of diagnosis is used for both workplace-related mental disorders and conventional mental disorders, assessed with the *Mini-Work-Anxiety-Interview* (Mini-WAI) and the *Mini International Neuropsychiatric Interview* (MINI). These diagnosis are *research diagnosis* and should not be confused with the *clinical diagnosis* which is stated in the course of therapy, derived from detailed exploration and anamnesis, in vivo observation of the patient and multiple sources of information including all co-therapists working together in the team. A research diagnosis is a diagnosis of a mental disorder which has been assessed with a structured diagnostic interview.

Differential diagnostic
Differential diagnostic means stating a *dignosis* of a *disorder* whereby marking off another diagnosis which had also been considered to describe the relevant arrangement of *symptoms*. Differential diagnosis show similarities and certain overlaps concerning the symptom qualities, but they differ in etiology, course or prognosis.
Clinically assessed diagnosis allow stating differential diagnosis as they describe disorders within specific conditions of etiology and course and allow prognosis. Differential diagnostic in this study means stating differences in the symptomatic quality of workplace-related mental disorders and conventional mental disorders and inbetween workplace-related mental disorders.

For *clinical diagnosis* in the investigated patient sample the ICD-10 (chapter V) classification of mental disorders is used (see the case reports).

Disorders
Disorders are concepts of illness and are named as a certain *diagnosis*.
Both *conventional mental disorders* and *workplace-related mental disorders* in this study are assessed with (semi-)structured diagnostic interviews based on the DSM-IV criteria for the axis-I mental disorders.

Domain-specific (mental) disorder
A domain-specific mental disorder is related to special situational and stimulus conditions, but in its symptom qualities it shows similarities with the *conventional mental disorder*. A domain-specific disorder can be defined through the consequences of the *symptoms* for activity, that menas role performance and participation in a specific domain: *workplace-related anxieties* thus cause suffering and *work performance disorders* or *work participation disorders*. The domain-specific disorder may occur in *comorbiditiy* with a *conventional mental disorder* but also as an alone standing disorder. It has special requirements for treatment. Workplace-related anxieties and workplace-related adjustment reactions are defined as domain-specific mental disorders.

Fitness for work
The status of fitness for work concerns the question whether a person is able to fulfill role performance at the workplace or not (fit for work or unfit for work), that is carrying out certain activities at work. The unfit-for-work-status has to be justified by a medicine pointing out *work participation disorders* arising from functioning disorders (symptoms) and resulting capacity disorders (activity limitations). The capacity disorders must be immediately relevant for the patient´s work in the sense that they lead to restriction in *work performance* and general *work participation (work participation disorder)*. In a psychosomatic inpatient treatment the comparison of fit for work status at admission and dismissal from rehabilitation can be seen as one possible outcome criterion for a successful therapy.

General psychosomatic symptom load
The severity of symptom load perceived by patients and stated in self-report is meant. In this investigation the *Symptom Checklist* (SCL-90-R) functions as a measure for symptom load.

Health- and body-related anxiety
Dimension of the *Job-Anxiety-Scale* examining hypochondriac tendencies, panic and physiological symptoms and function-related anxieties.

Job-Anxiety
Job-anxiety includes different dimensions of anxiety which can be experienced when thinking of or being at the workplace. Job-anxiety appears as a *syndrome* and may occur with different degrees of severity in different people. A self-rating instrument assessing job-anxiety is the *Job-Anxiety-Scale* (JAS).

Job-Anxiety-Scale (JAS)
The Job-Anxiety-Scale is a self-rating questionnaire containing 70 items on five dimensions of *job-anxiety*: stimulus-related anxiety and avoidance behavior, social anxieties and cognition of mobbing, health- and symptom-related anxieties, cognition of insufficiency, job-related worrying.

Job-anxiety scores are meant as a measure of severity of a job-anxiety *syndrome* with anxious cognitions, physiological and behavior reactions occuring at the workplace, and avoidance behavior towards the workplace or in specific situations. The self-rating scale does not allow to state *diagnosis* of *workplace-related anxieties*.

Job-related / work-related symptom load
Job-related symptom load means symptoms experienced in connection with the workplace. The *Job-Anxiety-Scale* (JAS) mean score as well as JAS dimensions´ mean scores function as measures for the severity of experienced job-anxiety or job-related symptom load.

Job-related worrying
Dimension of the *Job-Anxiety-Scale* examining worrying in the sense of job-related general anxiety and anxiety concerning existence.

Mental disorders
Mental disorders are concepts of illness in the domain of mental functioning. Mental disorders are related to cognitive, affective, behavioral and psychophysiological functioning. In this study *conventional* and *workplace-related mental disorders* are distinguished. Conventional mental disorders as assessed here are classified in the *Diagnostic and Statistical Manual of Mental Disorders* DSM-IV, workplace-related mental disorders are a concept developed within this study.

Mini International Neuropsychiatric Interview (MINI)
Structured diagnostic interview for the assessment of *conventional mental disorders*, especially axis-I symptomatic *disorders*. Diagnostic criteria are based on the *Diagnostic and Statistical Manual of Mental Disorders* DSM-IV. *Diagnosis* are *research diagnosis* and do often appear in *comorbidities*.
The following *diagnosis* can be stated with the MINI: episode of major depression, dysthymia, manic (hypomanic) episode, panic disorder, agoraphobia, social phobia, obsessive compulsive disorder, generalized anxiety disorder, alcohol problem (addiction or abuse), problem with drugs (addiction or abuse), psychosis, anorexia nervosa, bulimia nervosa, risk of suicide / suicide trial in lifetime, posttraumatic stress disorder (PTSD), somatization disorder, adjustment disorder, personality disorder (here: accent in personality), anxiety and depression mixed, hypochondriasis.

Mini-Work-Anxiety-Interview (Mini-WAI)
Semi-structured diagnostic interview for the assessment of *workplace-related mental disorders,* especially *workplace-related anxieties* and *workplace phobia*. Diagnostic criteria for defining the disorders´ qualities have been adopted from the *Mini International Neuropsychiatric Interview* (MINI). The leading questions are formulated concretely referring to the workplace situation. *Diagnosis* are *research diagnosis* and do often appear in *comorbidities*.
The following *diagnosis* can be stated with the Mini-WAI: workplace-related posttraumatic stress disorder, workplace-related adjustment disorder with anxiety (additional category: workplace-related adjustment reaction with other symptoms or affect), workplace-related specific social phobia, workplace-related unspecific social phobia, workplace-related situational anxiety, workplace-related hypochondriac tendencies, workplace-related anxiety of insufficiency, workplace-related generalized anxiety (worrying), workplace phobia.

Occupational Reintegration Management (origin: Betriebliches Eingliederungsmanagement)
According to the SGB IX, employers in Germany are obliged to organize an occupational reintegration management for employees who are on long time *sick leave* for more than 6 weeks a year.
A model project on practical evaluation of the concept of reurn to work management has been carried out recently. Practical experience leads to the conclusion that this reintegration management is not possible without a narrow interaction with the primary care physician because he/she is the person who gives the judgement of the *fit for work status* and if necessary certifies sick leave for an employee.

Participation disorder
Disorders of functioning (symptoms) lead to disorders of capacity (disabilities) which may lead to participation disorders in different domains of life - e.g. activities in allday life, social contacts, family, work, as well as freetime behavior - in the sense that role performance in a special context cannot be shown sufficiently. In this work, *work participation disorders* and *work performance disorders* are relevant.

Research diagnosis
Mental disorders which have been assessed with the structured diagnostic interviews (*MINI, Mini-WAI)* in this study are understood as *research diagnosis*, in contrast to *clinical diagnosis*.
(Compare *diagnosis)*

Sick leave
An employee is on sick leave when having got certified by a medicine a mental or somatic disorder which makes him currently disabled to fulfill role expectations at the workplace or (if unemployed) any possible work. The person is certified to be *unfit for work.*

Social anxiety and cognition of mobbing
Dimension of the *Job-Anxiety-Scale* examining fear of exploitation, social anxiety in the sense of interactional anxiety, cognitions of mobbing and threat.

Stimulus-related anxiety and avoidance behavior
Dimension of the *Job-Anxiety-Scale* examining job-related anticipatory anxiety, phobic avoidance, conditioned anxiety and global workplace-anxiety.

Symptoms
Symptoms are signs of deviant states in functioning. The mental health concept regards symptoms on the level of cognition, emotion, physiological processes and behavior.

Syndrome
A syndrome is characterized by a special arrangement of *symptoms*, that means symptoms occuring at the same time. A syndrome can be a part of different *disorders*. Syndromes do not allow *differential diagnosis*. They can be seen as a marker of severity of the disorder.

Unfit for work
A person is unfit for work when suffering from a disorder which makes him impaired in role performance at work, thus *work performance* and *work participation*. Unfitness for work is stated by a medicine with a *sick leave* certification.

Work participation
The ability to come to the workplace and carry out work duties there. Work participation is here expected to be partly independent from *work performance*. It may be that work participation is possible but work performance is impaired. This is the case when a person goes to work, but suffers from anxiety symptoms which cause capacity- and *work performance disorders*.

Work participation disorders
Work participation disorders in this study are operationalised as (1) short time absence, (2) sick leave with certification by medicine, (3) loss or change of the workplace due to an underlying *workplace-related mental disorder*.

Work performance
Work performance is understood as the ability to carry out one´s duties at the workplace, according to the requirements of the job. Work performance usually requires abilities for cooperation with colleagues and superiors, working in a team, competency for the contents of work, structuring one´s duties and time, reaching and leaving the workplace by certain times, keeping a certain level of concentration on the work over time, being flexible to cope with structural changes or learn new processes or contents.

Work performance disorder
Work performance disorders may appear as carrying out work duties insufficiently, not finishing the work in time, or the need to be supported by colleagues. They may go along with problems in *work participation* in the sense of absence from work.
In the context of this investigation, work performance disorders are operationalised as observable strategies of (1) working overtime or (2) delegating own work duties to colleagues, both in order to compensate own capacity disorders.

Workplace phobia
This is a special form of *workplace-related anxiety* not only affecting specific aspects at work, but the whole workplace. The main criterion for the *diagnosis* is a strong feeling of anxiety and avoidance towards the whole workplace, as well as a panic-like reaction with physiological arousal when thinking of the workplace or approaching. There are regularly underlying workplace-related anxieties or *conventional mental disorders* to be identified as *comorbid* diagnosis. Workplace phobia is accompagnied by severe *work performance disorders* and/or *work participation disorders*.

Workplace-related adjustment disorders
Workplace-related adjustment disorders can occur with primary affect of anxiety or with another affect: embitterment, depressive affect or aggressivity. There can be more than one affective quality within a workplace-related adjustment disorder in one person, that means there can be comorbid *diagnosis* of workplace-related adjustment disorders. Workplace-related adjustment disorder with anxiety belongs to *workplace-related anxieties*.

Workplace-related anxieties (Workplace-related anxiety disorders)
Workplace-related anxieties are different qualities of anxiety one can experience at the workplace. *Diagnosis* of workplace-related anxieties according to the *Mini-Work-Anxiety-Interview* (Mini-WAI) are: Workplace-related posttraumatic stress disorder, workplace-related adjustment disorder with anxiety, workplace-related specific social phobia, workplace-related unspecific social phobia, workplace-related situational anxiety, workplace-related

hypochondriac anxiety, workplace-related anxiety of insufficiency, workplace-related generalized anxiety (worrying), workplace phobia. *Workplace phobia* has a special position within the concept of *workplace-related mental disorders*, as it is often a result from other basic workplace-related anxieties which have generalized. Workplace phobia can be understood as a marker of severity of workplace-related anxiety. Workplace-related anxieties are accompagnied by *work performance disorders* and/or *work participation disorders*.

Workplace-related mental disorders
Workplace-related mental disorders include *workplace-related anxiety disorders*, *workplace-related adjustment disorders* with anxiety or other affects (embitterment, aggressivity or depressive affect) and *workplace phobia*. Workplace-related mental disorders are often accompagnied by *work performance disorders* and/or *work participation disorders*.

Work-specific therapies / treatments
Therapy modules not belonging to the standard program in psychosomatic rehabilitation treatment, but added to the patient´s planning when indicated because of a *work participation disorder*. There are work-specific group therapies (time management, conflict management, job application training), single socio-therapy contacts and therapeutic working trials.

9 APPENDIX

INSTRUMENTS

The original instruments for the exploration of workplace-related anxieties were developed and used in German language. Their original titles are "*Arbeits-Angst-Interview*" (AAI, corresponding to *Mini-Work-Anxiety-Interview* (Mini-WAI)) and "*Job-Angst-Skala*" (JAS, corresponding to *Job-Anxiety-Scale*), the latter accompagnied by the self-rating questionnaire "*Kurzfragebogen zur Arbeits-Analyse*" (KFZA, corresponding to *Short Questionnaire for Job Analysis*). Here only the afterwards translated english versions are printed.
The further used instruments – the *Mini International Neuropsychiatric Interview* (MINI) and the *Symptom Checklist* (SCL-90-R) - are not reprinted here because of their lenght. They are internationally known and published instruments, thus they can easily be found elsewhere.

A
MINI-WORK-ANXIETY-INTERVIEW (MINI-WAI)

B
JOB-ANXIETY-SCALE (JAS) "QUESTIONNAIRE ON WORKPLACE-PROBLEMS" INCLUDING THE "SHORT QUESTIONNAIRE FOR JOB ANALYSIS" (KFZA)

MINI-
WORK-ANXIETY-INTERVIEW[8]
(MINI-WAI)

A SEMI-STRUCTURED DIAGNOSTIC INTERVIEW FOR THE EXPLORATION OF WORKPLACE-RELATED ANXIETIES

in addition to
the diagnostic interview
for mental disorders

MINI
MINI INTERNATIONAL NEUROPSYCHIATRIC INTERVIEW
based on DSM-IV, axis I

Beate Muschalla & Michael Linden
Research Group Psychosomatic Rehabilitation at Charité University Medicine Berlin
and Rehabilitation Center Seehof/Teltow of the Deutsche Rentenversicherung Bund,
Germany

[8] This is the translated version of the semi-structured diagnostic interview which was first developed and used in German language. The original title is "Arbeits-Angst-Interview (AAI)".

INSTRUCTIONS TO THE MINI-WORK-ANXIETY-INTERVIEW (MINI-WAI)

STRUCTURE

The Mini-WAI is divided into nine categories of workplace-related anxieties. Each category contains

- questions for systematic exploration of the disorder´s leading symptoms (marked with grey underground)
- questions to explore additional criteria and symptoms.

Each question shall be answered with "yes" or "no" and the answer shall be marked in the box in the end of the section. Each diagnostic category is marked with an abbreviation.

ADVICE FOR INTERVIEWING AND RATING

The interview has to be carried out according to the given order of the categories.
Questions written in small letters are those questions which have to be asked to the interviewed person.
Questions written in capital letters are instructions to the interviewer/rater.
The answers to all asked questions shall be marked at the end of the line ("Yes" or "No"). Answers with an arrow and abbreviation above (➔) show which question has to be explored next. A single arrow above an answer leads the interviewer to the next category.

DIFFERENTIAL DIAGNOSIS OF WORKPLACE-RELATED ANXIETIES

In the interview the following diagnostic categories are explored:

PTSD Workplace-related Posttraumatic Stress Disorder
ARA Workplace-related Adjustment Disorder with Anxiety
[ARS Workplace-related Adjustment Disorder with Other Affect]
SSP Workplace-related Specific Social Phobia
USP Workplace-related Unspecific Social Phobia
SA Workplace-related Situational Anxiety
H Workplace-related Hypochondriac Anxiety
IA Workplace-related Anxiety of Insufficiency
GA Workplace-related Generalized Anxiety (worrying)

WP Workplace Phobia

The categories shall be explored according to the current workplace-situation or – when currently out of work – according to the last workplace.
Questions explore symptoms and complaints "in relation to the workplace". This means that the symptoms

- are associated with the workplace and/or
- occur in intensified form at the workplace and/or
- are caused by the workplace and/or
- contain the workplace as the objective

It is a semi-structured diagnostic interview, that means the interviewer must make sure that the interviewed person understands and answers all the questions according to the special context. In the case of misunderstanding, the interviewer shall be free to give additional explanations to the questions.
In the end of each category, there are three questions concerning Work Participation Disorders and two questions on Work Performance Disorder which may result from the Workplace-related Anxiety:

INSTRUCTION BEFORE SWITCHING TO THE MINI-INTERVIEW

The Mini-WAI is carried out in connection with the MINI *Mini International Neuropsychiatric Interview.* Hereby the Mini-WAI is done first, then the MINI will be carried out in order to assess conventional mental disorders. Before switching to the exploration of conventional mental disorders with the MINI, the following instruction shall be given to the patient
"I will now ask you some questions concerning general psychological complaints. These questions refer to your life in general, that means not specifically to the workplace-situation. So please answer these questions in reference to your mental health status in general."

(PTSD) WORKPLACE-RELATED POSTTRAUMATIC STRESS DISORDER

PTSD01	At your workplace, have you ever experienced a life-endangering event? (for example an accident, attack, fire or other catastrophy, sudden death of a person)	NO YES ➔
PTSD02	Did you react with intensified threat, helplessness and fear?	NO YES
PTSD03	Have you re-experienced this event in the past month in a troubling manner? (for example in repeating dreams, intensified memories, flashbacks or physical reactions)?	➔ NO YES
	In the past month:	
PTSD04	Have you avoided thinking about the event?	NO YES
PTBS05	Have you avoided activities, places or persons which could remind you of the event?	NO YES
PTSD06	Was it difficult for you to remember significant details from the event?	NO YES
PTSD07	Have you felt deteriorated interest in hobbies or social activities?	NO YES
PTSD08	Do you feel like being seperated from your surrounding or do you feel all things being like foreign?	NO YES
PTSD09	Is it difficult for you to recognize your feelings, like if you were not able to love any more?	NO YES
PTSD10	Do you have the idea that your life will never again be like it was before, that you look towards the future with another view?	NO YES
		➔
PTSD11	AMONG PTSD04–PTSD10, WERE THERE AT LEAST 3 QUESTIONS ANSWERED YES?	NO YES
	In the last month:	
PTSD12	Have you had sleep disorders?	NO YES
PTSD13	Have you been unusually irritable or have you had fits of rage?	NO YES
PTSD14	Have you had problems with concentration?	NO YES
PTSD15	Did you feel restless or permanently „on the jump“?	NO YES
PTSD16	Have you been unusually jumpy?	NO YES
		➔
PTSD17	AMONG PTSD12-PTBS16, WERE THERE AT LEAST 2 QUESTIONS ANSWERED YES?	NO YES
PTSD18	Have you felt restricted while working because of the symptoms?	NO YES
	or	
PTSD19	Have you been suffering very much from the symptoms?	NO YES
		➔
PTSD20	HAVE PTSD18 or PTSD19 BEEN ANSWERED YES?	**NO YES**
		Workplace-Related Posttraumatic Stress Disorder
[PTSD21]	[BEGINNING] ____ ____ _____	
PTSD22	Have you ever – because of these symptoms – stayed away from your workplace for a short time?	**NO YES**
PTSD23	Have you been on sick leave because of these symptoms?	**NO YES**
PTSD24	Did this lead to change or loss of the workplace (no matter if self initiated or not)?	**NO YES**
		Work Participation Disorder
PTSD25	In consequence of the symptoms, were you forced to work overtime regularly?	**NO YES**
	or	**NO YES**
PTSD26	Were you forced to delegate parts of your work to colleagues in order to make sure all the work is completed?	***Work Performance Disorder***

(ARA) WORKPLACE-RELATED ADJUSTMENT DISORDER

ARA01	Do you have irritations in your feelings or behaviour as a result of a stressful event at your workplace? (Examples for stressful events: new superior, new colleague(s), new kinds of work, changes in circumstances at work, transfer into another department, conflicts with colleagues) Which kind of event was it? [ ] structural change in place or times of work, [ ] changes in quality or quantity of the work itself [ ] social conflict or changes in personnel	→ NO	YES
ARA02	Was it -or were the results of the event - connected with intensive fear or nervousness for you?	→ARA03 NO	YES
ARA03	Were there other feelings?	→ NO	→ARS YES
ARA04	Have these irritations in your feelings or behaviour been persisting up from the troubling event until now?	→ NO	YES
	In the past month:		
ARA05	Have you had sleep disorders?	NO	YES
ARA06	Were you unusually irritable or have you had fits of rage?	NO	YES
ARA07	Have you had problems to concentrate?	NO	YES
ARA08	Did you feel restless or permanently „on the jump“?	NO	YES
ARA09	Have you been unusually jumpy?	NO	YES
ARA10	AMONG ARA05-ARA09 WERE THERE AT LEAST 2 QUESTIONS ANSWERED YES?	→ NO	YES
ARA11	Have you felt restricted while working because of the symptoms? or	NO	YES
ARA12	Have you been suffering very much from the symptoms?	NO	YES
ARA13	HAS ARA11 or ARA12 BEEN ANSWERED YES?	→ **NO**	**YES**
[ARA14]	[BEGINNING] ____ ____ _____	***Workplace-Related Adjustment Disorder with Anxiety***	
ARA15	Have you ever – because of these symptoms – stayed away from your workplace for a short time?	**NO**	**YES**
ARA16	Have you been on sick leave because of these symptoms?	**NO**	**YES**
ARA17	Did this lead to change or loss of the workplace (no matter if self initiated or not)?	**NO**	**YES**
		Work Participation Disorder	
ARA18	In consequence of the symptoms, were you forced to work overtime regularly? or	**NO**	**YES**
ARA19	Were you forced to delegate parts of your work to colleagues in order to make sure all the work is completed?	**NO**	**YES**
		Work Performance Disorder	

ADDITIONAL CATEGORY: (ARS) WORKPLACE-RELATED ADJUSTMENT DISORDER WITH OTHER AFFECT

ARS	**WORKPLACE-RELATED ADJUSTMENT REACTIONS WITH OTHER AFFECTS** [FOR EACH AFFECTIVE QUALITY AT LEAST 2 OUT OF 3 QUESTIONS HAVE TO BE ANSWERED YES FOR MARKING THIS AFFECTIVE QUALITY YES]	
	Because of this event and its results, ….	
ARS01	…do you feel depressed and without energy? ...have you got sleep disturbances or changes in appetite or libido? ...do you have negative thoughts about yourself and the future?	NO YES *Adjustment Reaction with Depressive Affect*
ARS02	...do you feel deeply hurt? ...do you feel being treated unfair? ...do you have a strong feeling of bitterness?	NO YES *Adjustment Reaction with Affect of Embitterment*
ARS03	...have you been aggressive against colleagues, superiors or other persons? ...did you hurt somebody or shout at someone? ... have you had some angry outbursts?	NO YES *Adjustment Reaction with Aggressive Affect*
ARS04	HAS ARS01, ARS02 or ARS03 BEEN ANSWERED YES?	→ →ARA11+12 **NO YES**
	HAS ARA11 or ARA12 BEEN ANWERED YES?	→ **NO YES** ***Workplace-Related Adjustment Disorder with*** ***[ ]Depressive Affect*** ***[ ] Affect of Embitterment*** ***[ ] Aggressive Affect***
ARS05	Have you ever – because of these symptoms – stayed away from your workplace for a short time?	**NO YES**
ARS06	Have you been on sick leave because of these symptoms?	**NO YES**
ARS07	Did this lead to change or loss of the workplace (no matter if self initiated or not)?	**NO YES** ***Work Participation Disorder***
ARS07	In consequence of the symptoms, were you forced to work overtime regularly? or	**NO YES**
ARS08	Were you forced to delegate parts of your work to colleagues in order to make sure all the work is completed?	**NO YES** ***Work Performance Disorder***

(SSP) WORKPLACE-RELATED SPECIFIC SOCIAL PHOBIA

SSP01	At your workplace, are there special persons or groups of persons towards whom you feel in a special way frightened, unsure and tense while you normally do not have problems with other colleagues/superiors/clients?	➔ NO	YES
SSP02	Do you believe this anxiety is exaggerated or senseless?	NO	YES
SSP03	Do you avoid meeting these persons whenever possible?	NO	YES
SSP04	Do you feel intensive anxiety or tension when being together with these persons(s)?	NO	YES
SSP05	Do you have the idea that there are intrigues specially against you, that people ally behind your back?	NO	YES
SSP06	Do you have evidence that colleagues or superiors are persecuting you and manipulate your work (e.g. papers on the desk are in wrong order, somebody is watching you in a special way?)	NO	YES
SSP07	FOR THE INTERVIEWER: IS THERE A PARANOID TENDENCY IN AFFECTIVE EXPRESSION? (DEDUCE FROM INTERACTIONAL BEHAVIOUR)	NO	YES
SSP08	Have you felt restricted while working because of the symptoms?	NO	YES
	or		
SSP09	Have you been suffering very much from the symptoms?	NO	YES
SSP10	HAVE SSP03 or SSP04, and SSP08 or SSP09 BEEN ANSWERED YES?	➔ **NO**	**YES**
[SSP11]	[BEGINNING] _____	***Workplace-Related Specific Social Phobia***	
SSP12	Have you ever – because of these symptoms – stayed away from your workplace for a short time?	**NO**	**YES**
SSP13	Have you been on sick leave because of these symptoms?	**NO**	**YES**
SSP14	Did this lead to change or loss of the workplace (no matter if self initiated or not)?	**NO**	**YES**
		Work Participation Disorder	
SSP15	In consequence of the symptoms, were you forced to work overtime regularly?	**NO**	**YES**
	or		
SSP16	Were you forced to delegate parts of your work to colleagues in order to make sure all the work is completed?	**NO**	**YES**
		Work Performance Disorder	

(USP) WORKPLACE-RELATED UNSPECIFIC SOCIAL PHOBIA

USP01	Do you feel in a special way nervous, tense or frightened at your workplace when being in social situations, e.g. speaking in front of colleagues, eating in the canteen or working while another person is watching you?	➔ NO	YES
USP02	Do you believe this anxiety is exaggerated or senseless?	NO	YES
USP03	Do you avoid these situations whenever possible	NO	YES
	or		
USP04	Do you feel a strong inner tension and nervousness when you cannot avoid them?	NO	YES
USP05	Have you felt restricted while working because of the symptoms?	NO	YES
	or		
USP06	Have you been suffering very much from the symptoms?	NO	YES
USP07	HAVE USP03 or USP04 and USP05 or USP06 BEEN ANSWERED YES?	➔ **NO**	**YES**
[USP08]	[BEGINNING] _____	***Workplace-Related Unspecific Social Phobia***	
USP09	Have you ever – because of these symptoms – stayed away from your workplace for a short time?	**NO**	**YES**
USP10	Have you been on sick leave because of these symptoms?	**NO**	**YES**
USP11	Did this lead to change or loss of the workplace (no matter if self initiated or not)?	**NO**	**YES**
		Work Participation Disorder	
USP12	In consequence of the symptoms, were you forced to work overtime regularly?	**NO**	**YES**
	or		
USP13	Were you forced to delegate parts of your work to colleagues in order to make sure all the work is completed?	**NO**	**YES**
		Work Performance Disorder	

(SA) WORKPLACE-RELATED SITUATIONAL ANXIETY (EXCL. SOCIAL SITUATIONS)

SA01	Do you feel frightened and nervous in special situations or at special places when being at your workplace? Or even if you think about them? FOR THE INTERVIEWER: MAKE SURE IT IS NOT A SOCIAL SITUATION.	➔ NO	YES
SA02	Do you try to avoid these situations or places whenever possible?	NO	YES
SA03	When thinking of these situations or places at your workplace, do you get feelings of nervousness, anxiety, tension?	NO	YES
SA04	When thinking of these situations or places or when being in/at:		
SA0401	Did you have skipping, racing or pounding of your heart?	NO	YES
SA0402	Did you have sweating or clammy hands?	NO	YES
SA0403	Were you trembling or shaking?	NO	YES
SA0404	Did you have shortness of breath or difficulty breathing?	NO	YES
SA0405	Did you have a choking sensation or a lump in your throat?	NO	YES
SA0406	Did you have chest pain, pressure or discomfort?	NO	YES
SA0407	Did you have nausea, stomach problems or sudden diarrhea?	NO	YES
SA0408	Did you feel dizzy, unsteady, lightheaded or faint?	NO	YES
SA0409	Did things around you feel strange, unreal, detached or unfamiliar, or did you feel outside of or detached from part or all of your body?	NO	YES
SA0410	Did you fear that you were losing control or going crazy?	NO	YES
SA0411	Did you fear that you were dying?	NO	YES
SA0412	Did you have tingling or numbness in parts of your body?	NO	YES
SA0413	Did you have hot flushes or chills?	NO	YES
SA05	NUMBER OF SYMPTOMS: _____		
SA06	Have you felt restricted while working because of the symptoms? or	NO	YES
SA07	Have you been suffering very much from the symptoms?	NO	YES
SA08	HAS SA02 or SA03 and SA06 or SA07 BEEN ANSWERED YES?	➔ **NO**	**YES**
[SA09]	[BEGINNING] ___ ____ _____		

Workplace-Related Situational Anxiety

SA10	Have you ever – because of these symptoms – stayed away from your workplace for a short time?	**NO**	**YES**
SA11	Have you been on sick leave because of these symptoms?	**NO**	**YES**
SA12	Did this lead to change or loss of the workplace (no matter if self initiated or not)?	**NO**	**YES**

Work Participation Disorder

SA13	In consequence of the symptoms, were you forced to work overtime regularly? or	**NO**	**YES**
SA14	Were you forced to delegate parts of your work to colleagues in order to make sure all the work is completed?	**NO**	**YES**

Work Performance Disorder

(H) WORKPLACE-RELATED HYPOCHONDRIAC ANXIETY

H01	Do you have evidence that your health is negatively influenced by your workplace or the kind of work?	NO	YES
H02	Do you think that ill health symptoms are intensified at your workplace or because of workplace conditions?	NO	YES
H03	Are you permanently worrying about a possible or actual endangerment of health at the workplace or because of your symptoms?	NO	YES
H04	FOR THE INTERVIEWER: HAS H01 or H02 BEEN ANSWERED YES AS WELL AS H03 AND IS THERE AN EXCESSIVE FOCUSING OF ILL HEALTH BECAUSE OF OR AT THE WORKPLACE? Or IS THERE AN EXAGGERATED OBSERVATION OF SOMATIC COMPLAINTS IN RELATION TO THE WORKPLACE?	➔ NO	YES
H05	At your workplace, have you been observing your body concerning symptoms possibly provoked by work conditions or the work, more than colleagues were doing?	NO	YES
H06	Do you regularly avoid situations at work that you think might be dangerous for your health? Or Do you carefully observe the conditions at your workplace (temperature, stress, noise) in order to avoid health injury?	NO NO	YES YES
H07	Have you counselled one ore more doctors because of these work-related symptoms?	NO	YES
H08	Have you felt restricted while working because of the symptoms? or	NO	YES
H09	Have you been suffering very much from the symptoms?	NO	YES
H10	AMONG H05-H07 HAS THERE BEEN AT LEAST ONE QUESTION ANSWERED YES AND HAVE H08 or H09 BEEN ANSWERED YES?	➔ **NO**	**YES**
[H11]	[BEGINNING]_____		

Workplace-Related Hypochondriac Anxieties

H12	Have you ever – because of these symptoms – stayed away from your workplace for a short time?	**NO**	**YES**
H13	Have you been on sick leave because of these symptoms?	**NO**	**YES**
H14	Did this lead to change or loss of the workplace (no matter if self initiated or not)?	**NO**	**YES**

Work Participation Disorder

H15	In consequence of the symptoms, were you forced to work overtime regularly? or	**NO**	**YES**
H16	Were you forced to delegate parts of your work to colleagues in order to make sure all the work is completed?	**NO**	**YES**

Work Performance Disorder

(IA) WORKPLACE-RELATED ANXIETY OF INSUFFICIENCY

IA01	Do you permanently feel overtaxed with your work or do you often have doubts to fulfil your duties at work adequately or to reach your achievements?	NO	YES
IA02	Are you doubting to be able to cope with changes at your workplace or in your work organisation?	NO	YES
		➔	
IA03	HAS IA01 or IA02 BEEN ANSWERED YES?	NO	YES
IA04	Is this due to the fact that the demands are to high so that also colleagues cannot cope with it?	NO	YES
	Or		
IA05	Is this due to the fact that you are not sufficiently educated for the job or that you do not have sufficient power?	NO	YES
IA06	Have you got advice from colleagues or superiors that you are not sufficiently fulfilling your work duties?	NO	YES
IA07	Do you have problems especially getting along with changes at the workplace (new technologies, new tasks, new colleagues, superiors)?	NO	YES
IA08	Have you felt restricted while working because of the symptoms?	NO	YES
	or		
IA09	Have you been suffering very much from the symptoms?	NO	YES
		➔	
	HAS IA08 or IA09 BEEN ANSWERED YES?	NO	YES
		➔	
IA10	AMONG IA04–IA07 HAVE THERE AT LEAST 2 QUESTIONS BEEN ANSWERED YES?	**NO**	**YES**
[IA11]	[BEGINNING]____ ____ _____		

Workplace-Related Anxiety of Insufficiency

IA12	Have you ever – because of these symptoms – stayed away from your workplace for a short time?	**NO**	**YES**
IA13	Have you been on sick leave because of these symptoms?	**NO**	**YES**
IA14	Did this lead to change or loss of the workplace (no matter if self initiated or not)?	**NO**	**YES**

Work Participation Disorder

IA15	In consequence of the symptoms, were you forced to work overtime regularly?	**NO**	**YES**
	or		
IA16	Were you forced to delegate parts of your work to colleagues in order to make sure all the work is completed?	**NO**	**YES**

Work Performance Disorder

(GA) WORKPLACE-RELATED GENERALIZED ANXIETY (WORRYING)

GA01	When thinking of your workplace and work, would you say about yourself that you worry too much and persistently about minor matters at work (like what could go wrong, if everything is done perfectly, what my come up next), about what most other colleagues do not worry so much?	NO	YES
	or		
GA02	Do you worry about the future extremely and permanently (like who will come as a new colleague or superior, which department will be closed)?	NO	YES
	FOR THE INTERVIEWER: IT HAS TO BE RATED WHETHER THERE IS A TENDENCY TO WORRY ABOUT MINOR MATTERS, NOT ABOUT SPECIAL PROJECTS, SPECIAL SITUATIONS, PERSONS OR PROBLEMS.		
GA03	Have you been told by colleagues or family that you are worrying too much about your work?	NO	YES
		➔	
GA04	HAS GA01 or GA02 BEEN ANSWERED YES?	NO	YES
		➔	
GA05	When you tend to worry so much about work: is it nearly every day?	NO	YES
		➔	
GA06	Is it a problem for you to control this worrying?	NO	YES
GA07	Have you felt restricted while working because of the symptoms?	NO	YES
	or		
GA08	Have you been suffering very much from the symptoms?	NO	YES
	When you are in a special way nervous and tense at your workplace, do you feel:		
GA09	tense, irritable, the nerves are lying bare	NO	YES
GA10	muscles are strained	NO	YES
GA11	tired, weak, easily exhausted	NO	YES
GA12	problems of concentration or the feeling of emptiness in your brain	NO	YES
GA13	problems with sleep at night	NO	YES
		➔	
GA14	AMONG GA09 – GA13 HAVE THERE AT LEAST 3 QUESTIONS BEEN ANSWERED YES?	**NO**	**YES**
[GA15]	[BEGINNING] ___ ____ _____		***Workplace-Related Generalized Anxiety (Worrying)***
GA16	Have you ever – because of these symptoms – stayed away from your workplace for a short time?	**NO**	**YES**
GA17	Have you been on sick leave because of these symptoms?	**NO**	**YES**
GA18	Did this lead to change or loss of the workplace (no matter if self initiated or not)?	**NO**	**YES**
			Work Participation Disorder
GA19	In consequence of the symptoms, were you forced to work overtime regularly?	**NO**	**YES**
	or		
GA20	Were you forced to delegate parts of your work to colleagues in order to make sure all the work is completed?	**NO**	**YES**
			Work Performance Disorder

(WP) WORKPLACE PHOBIA

WP01	When being at or thinking of your workplace in general, do you feel in special way nervous, tense and/or frightened?	➔ NO	YES
WP02	Do you try to leave your workplace whenever possible or do you avoid going past your workplace if you can?	NO	YES
WP03	When thinking of your workplace in general, do you get feelings of severe anxiety, tension and nervousness?	NO	YES
WP04	When being at your workplace or thinking of it or going to your workplace, do/did you regularly have spells or attacks with:		
WP0401	skipping, racing or pounding of your heart?	NO	YES
WP0402	sweating or clammy hands?	NO	YES
WP0403	trembling or shaking?	NO	YES
WP0404	shortness of breath or difficulty breathing?	NO	YES
WP0405	a choking sensation or a lump in your throat?	NO	YES
WP0406	chest pain, pressure or discomfort?	NO	YES
WP0407	nausea, stomach problems or sudden diarrhea?	NO	YES
WP0408	feeling dizzy, unsteady, lightheaded or faint?	NO	YES
WP0409	things around you feeling strange, unreal, detached or unfamiliar, or did you feel outside of or detached from part or all of your body?	NO	YES
WP0410	fear that you were losing control or going crazy?	NO	YES
WP0411	fear that you were dying?	NO	YES
WP0412	tingling or numbness in parts of your body?	NO	YES
WP0413	hot flushes or chills?	NO	YES
WP05	NUMBER OF SYMPTOMS: _____		
WP06	Have you felt restricted while working because of the symptoms?	NO	YES
	or		
WP07	Have you been suffering very much from the symptoms?	NO	YES
WP08	IS WP02 or WAP03 and WP06 or WP07 ANWERED YES? IN WP04 HAVE THERE AT LEAST 4 SYMPTOMS BEEN ANSWERED YES?	➔ **NO**	**YES**
[WP09]	[BEGINNING] ____ ____ _____		***Workplace Phobia***
WP10	Have you ever – because of these symptoms – stayed away from your workplace for a short time?	**NO**	**YES**
WP11	Have you been on sick leave because of these symptoms?	**NO**	**YES**
WP12	Did this lead to change or loss of the workplace (no matter if self initiated or not)?	**NO**	**YES**
			Work Participation Disorder
WP13	In consequence of the symptoms, were you forced to do work overtime regularly?	**NO**	**YES**
	or		
WP14	Were you forced to delegate parts of your work to colleagues in order to make sure all the work is completed?	**NO**	**YES**
			Work Performance Disorder

(G) WORKPLACE-RELATED LOADS – GLOBAL RATING

G	
Workplace-Related Complaints: Global Rating	When thinking of your acute complaints, to what degree would you say they are related to the workplace – in the sense that they are provoked, caused or forced by the workplace? Please give a percentage according to your subjective estimation. _____ percent

DIAGNOSIS

YES	DIAGNOSIS	WORK PERFORMANCE DISORDER	WORK PARTICIPATION DISORDER
	WORKPLACE-RELATED POSTTRAUMATIC STRESS DISORDER (life-endangering event)	[ ] delegating [ ] working overtime	[ ] staying away [ ] unfit for work [ ] loss or change of workplace
	WORKPLACE-RELATED ADJUSTMENT DISORDER WITH ANXIETY (stressful event, not life-endangering)	[ ] delegating [ ] working overtime	[ ] staying away [ ] unfit for work [ ] loss or change of workplace
	WORKPLACE-RELATED SPECIFIC SOCIAL PHOBIA	[ ] delegating [ ] working overtime	[ ] staying away [ ] unfit for work [ ] loss or change of workplace
	WORKPLACE-RELATED UNSPECIFIC SOCIAL PHOBIA	[ ] delegating [ ] working overtime	[ ] staying away [ ] unfit for work [ ] loss or change of workplace
	WORKPLACE-RELATED SITUATIONAL ANXIETY	[ ] delegating [ ] working overtime	[ ] staying away [ ] unfit for work [ ] loss or change of workplace
	WORKPLACE-RELATED HYPOCHONDRIAC ANXIETY	[ ] delegating [ ] working overtime	[ ] staying away [ ] unfit for work [ ] loss or change of workplace
	WORKPLACE-RELATED ANXIETY OF INSUFFICIENCY	[ ] delegating [ ] working overtime	[ ] staying away [ ] unfit for work [ ] loss or change of workplace
	WORKPLACE-RELATED GENERALIZED ANXIETY (WORRYING)	[ ] delegating [ ] working overtime	[ ] staying away [ ] unfit for work [ ] loss or change of workplace
	WORKPLACE PHOBIA	[ ] delegating [ ] working overtime	[ ] staying away [ ] unfit for work [ ] loss or change of workplace
	WORKPLACE-RELATED ADJUSTMENT DISORDER WITH OTHER AFFECT [ ] depressive affect [ ] affect of embitterment [ ] aggressive affect	[ ] delegating [ ] working overtime	[ ] staying away [ ] unfit for work [ ] loss or change of workplace

Research Group Psychosomatic Rehabilitation at the Charité University Medicine Berlin
Hindenburgdamm 30, House II, Room E 01.
12203 Berlin
www.charite.de/fpr

QUESTIONNAIRE ON WORKPLACE-PROBLEMS

by Beate Muschalla & Michael Linden

Dear patient,
work is an important part of life. Problems at the workplace therefore may lead to mental problems as well. The kind of loads at the workplace may be very different. In the following questionnaire you will be asked to judge in which degree you have got problems at your workplace or with your work.
Please make a cross for each statement at the degree this statement is true for you personally in your special situation at your workplace.

QUESTIONNAIRE ON JOB-RELATED THOUGHTS, FEELINGS AND BEHAVIOR (JAS)

The statements on the following pages are statements on situations, thoughts and feelings which one can have experienced in connection with the workplace. Please make a sign for each statement to which degree it is reflecting your personal job-situation.
If you are currently out of work, please imagine the situation that you would return to you last or a similar workplace.
If you are currently working parallel at more than one workplaces, please think about which of these workplaces has the highest influence on your allday life and wellbeing and give your judgements according to this workplace or job domain.
Make a cross in „0“ in the case you absolutely disagree with the statement, in „4“ if you absolutely agree and in “1”, “2” or “3” in the case you agree a little bit, partly or predominantly.
Plaese do not leave out questions!

The circumstances at my workplace make me sick.	do not agree at all 0 1 2 3 4 totally agree
When thinking about my workplace, everything in my body is tense.	do not agree at all 0 1 2 3 4 totally agree
My state of health causes problems for me in my working day.	do not agree at all 0 1 2 3 4 totally agree
I suffer from the fact that I never know what comes up next at my workplace.	do not agree at all 0 1 2 3 4 totally agree
When imagining having to pass a complete working day at this workplace, I get feelings of panic.	do not agree at all 0 1 2 3 4 totally agree
In special situations at the workplace I am afraid of getting symptoms like trembling, blushing, sweating, heartbeating.	do not agree at all 0 1 2 3 4 totally agree
I have experienced that in special situations at my workplace, I get symptoms like trembling, blushing, sweating, heartbeating.	do not agree at all 0 1 2 3 4 totally agree
I have miserable feelings at my workplace which restrict my capacities for achievement.	do not agree at all 0 1 2 3 4 totally agree
I often have pictures and memories in front of my inner eye which remind me of worst experiences that happened at the workplace.	do not agree at all 0 1 2 3 4 totally agree
I rather take a roundabout way insead of passing the street where my workplace is situated.	do not agree at all 0 1 2 3 4 totally agree
I feel overtaxed with my work.	do not agree at all 0 1 2 3 4 totally agree
My working circumstances are negative stress for me.	do not agree at all 0 1 2 3 4 totally agree

I suffer because I cannot feel sure that everything will not be changed at work.	do not agree at all 0 1 2 3 4 totally agree
Colleagues or family have already told me that I should not always worry that much about work.	do not agree at all 0 1 2 3 4 totally agree
At my work, everything always ends remaining at me.	do not agree at all 0 1 2 3 4 totally agree
I do not know how to react when I am confronted with new tasks at work.	do not agree at all 0 1 2 3 4 totally agree
I have the feeling that my knowledge is not sufficient for the work I am carrying out.	do not agree at all 0 1 2 3 4 totally agree
The conditions under which I work make me nervous.	do not agree at all 0 1 2 3 4 totally agree
My sleep is worse before working days in contrast to non-working-days.	do not agree at all 0 1 2 3 4 totally agree
Also in my freetime I continue thinking about work.	do not agree at all 0 1 2 3 4 totally agree
My work ruins my state of health.	do not agree at all 0 1 2 3 4 totally agree
I feel tense when entering public places (like the supermarket of my town) where I could meet colleagues or superiors.	do not agree at all 0 1 2 3 4 totally agree
Whenever possible, I avoid coming near to the site of my workplace.	do not agree at all 0 1 2 3 4 totally agree
In my work one does not get the proper salary for the achievements that one has to do.	do not agree at all 0 1 2 3 4 totally agree
When I see special colleagues or superior only from far away at work, I try not to meet them directly.	do not agree at all 0 1 2 3 4 totally agree
When I see special colleagues or superior only from far away outside my workplace, I try not to meet them directly.	do not agree at all 0 1 2 3 4 totally agree
My colleagues are looking after themselves and the work remains with me.	do not agree at all 0 1 2 3 4 totally agree
I had to go on sick leave once or for several times because I could not stand any longer the problems at my workplace.	do not agree at all 0 1 2 3 4 totally agree
If I stay any longer at this workplace, this will cause harm to my health.	do not agree at all 0 1 2 3 4 totally agree
On my way to my workplace I would rather turn and walk back.	do not agree at all 0 1 2 3 4 totally agree
At the workplace I have got problems with clients (or patients, students, customers…)	do not agree at all 0 1 2 3 4 totally agree

The nearer I come to my workplace, the more I get symptoms, like trembling, sweating, heatwaves or heartbeating.	do not agree at all 0 1 2 3 4 totally agree
After work I hurry up more than others just to get away from that place.	do not agree at all 0 1 2 3 4 totally agree
In special situations at work I regularly get panic.	do not agree at all 0 1 2 3 4 totally agree
I believe that – no matter how engaged one is working - the workplace is always endangered.	do not agree at all 0 1 2 3 4 totally agree
Special situations at work remind me of bad situations in the past and make me nervous.	do not agree at all 0 1 2 3 4 totally agree
I have the idea my impairments cause deficits in my working achievements.	do not agree at all 0 1 2 3 4 totally agree
I have got problems with one or more superiors.	do not agree at all 0 1 2 3 4 totally agree
My colleagues exploit me.	do not agree at all 0 1 2 3 4 totally agree
My superior exploits me.	do not agree at all 0 1 2 3 4 totally agree
I have once experienced a terrible event at the workplace which is still present in my mind and makes me feel frightened at work.	do not agree at all 0 1 2 3 4 totally agree
When I have to speak with colleagues or superiors I am afraid of getting symptoms like e.g. trembling, sweating, heartbeating, blushing.	do not agree at all 0 1 2 3 4 totally agree
I do many mistakes at work or I am too slow.	do not agree at all 0 1 2 3 4 totally agree
I feel unsure when I have to work together with special persons.	do not agree at all 0 1 2 3 4 totally agree
I am suffering from the fact that I am always left in unclearness what will come up to me at work.	do not agree at all 0 1 2 3 4 totally agree
I get panic when I am ordered to come to my superior.	do not agree at all 0 1 2 3 4 totally agree
I feel unsure when somebody observes me while I am working.	do not agree at all 0 1 2 3 4 totally agree
While working, I am always paying attention what could happen next.	do not agree at all 0 1 2 3 4 totally agree
At this workplace, they make me stand outside.	do not agree at all 0 1 2 3 4 totally agree
The stress at my workplace is causing ill health.	do not agree at all 0 1 2 3 4 totally agree
My superior is harassing me.	do not agree at all 0 1 2 3 4 totally agree
My colleagues are harassing me.	do not agree at all 0 1 2 3 4 totally agree

If one becomes unemployed nowadays, one will never find a job again. — do not agree at all 0 1 2 3 4 totally agree

At my workplace I am in the mercy of persons´ arbitrary behaviors and unfairness. — do not agree at all 0 1 2 3 4 totally agree

I have the idea that I can no more get along with changes at my workplace. — do not agree at all 0 1 2 3 4 totally agree

At my workplace they intentionally made awful working circumstances for me. — do not agree at all 0 1 2 3 4 totally agree

My thoughts about work problems hinder me to carry out other allday activities. — do not agree at all 0 1 2 3 4 totally agree

I have health-related impairments which reduce my capacities in working achievement. — do not agree at all 0 1 2 3 4 totally agree

I am not enough qualified for new tasks at work. — do not agree at all 0 1 2 3 4 totally agree

I fear that colleagues could judge me negatively because of my health impairments. — do not agree at all 0 1 2 3 4 totally agree

I believe it is realistic that nowadays one is easily fired because of times of absence. — do not agree at all 0 1 2 3 4 totally agree

At the workplace, I have got problems with one or more colleagues. — do not agree at all 0 1 2 3 4 totally agree

I feel severly uncomfortable and tense when I <u>am at</u> my workplace. — do not agree at all 0 1 2 3 4 totally agree

I feel severly uncomfortable and tense when I <u>think of</u> my workplace. — do not agree at all 0 1 2 3 4 totally agree

It is only since a stressful event that I have this feeling of tension and uncomfortability at the workplace. — do not agree at all 0 1 2 3 4 totally agree

With my acute health problems, I normally should not be able to work at this workplace. — do not agree at all 0 1 2 3 4 totally agree

I am always worrying about minor matters in my work and during all the working day. — do not agree at all 0 1 2 3 4 totally agree

I am suffering from the worries which I cannot put away or stop. — do not agree at all 0 1 2 3 4 totally agree

Being out of work means for me loosing all my image and reputation. — do not agree at all 0 1 2 3 4 totally agree

A loss of my workplace is/would be existentially threatening. — do not agree at all 0 1 2 3 4 totally agree

SHORT QUESTIONNAIRE FOR JOB ANALYSIS

In the following, please judge <u>your work for itself</u> independently from emotional reactions you may have towards your workplace.

When thinking about your work altogether, to what degree can you plan the steps of working procedure on your own?	very little 0 1 2 3 4 very much
How much influence do you have onto the decision which kind of work you are given?	very little 0 1 2 3 4 very much
Can you plan and structure your work on your own?	very little 0 1 2 3 4 very much
Can you learn new things within your work?	very little 0 1 2 3 4 very much
Can you bring in all your knowledge and abilities in your work?	very little 0 1 2 3 4 very much
I usually have changing and different tasks in my work.	do not agree at all 0 1 2 3 4 totally agree
In my work, I can see by myself from the results whether my work was good or not.	do not agree at all 0 1 2 3 4 totally agree
My work is structured in a way that I have the possibility to produce a whole work product from the beginning to the end.	do not agree at all 0 1 2 3 4 totally agree
I can depend on my colleagues when there are difficulties coming up in the work.	do not agree at all 0 1 2 3 4 totally agree
I can depend on my direct superior when there are difficulties coming up in the work.	do not agree at all 0 1 2 3 4 totally agree
In our department, there is good sticking together.	do not agree at all 0 1 2 3 4 totally agree
This work requires strong working together with other people in the firm.	do not agree at all 0 1 2 3 4 totally agree
During the working day I can speak about professional and private things with colleagues.	do not agree at all 0 1 2 3 4 totally agree
I always get feedback about the quality of my work from colleagues or superiors.	do not agree at all 0 1 2 3 4 totally agree
In this work, there are things which are too complicated.	do not agree at all 0 1 2 3 4 totally agree
The demands on my concentration are too high.	do not agree at all 0 1 2 3 4 totally agree
I am often under pressure of time.	do not agree at all 0 1 2 3 4 totally agree
I have got too much work.	do not agree at all 0 1 2 3 4 totally agree

Often I do not have the necessary information, material and tools for my work.	do not agree at all 0 1 2 3 4 totally agree
I am often disturbed during my proper work (e.g. by the phone, people coming in)	do not agree at all 0 1 2 3 4 totally agree
At my workplace, there are unfavourable conditions like climate, noise, dust.	do not agree at all 0 1 2 3 4 totally agree
At my workplace rooms and furniture are insufficient.	do not agree at all 0 1 2 3 4 totally agree
We are sufficiently informed about important things and processes in our firm.	do not agree at all 0 1 2 3 4 totally agree
The leaders of the firm are open minded to take in consideration ideas and proposes from the employees.	do not agree at all 0 1 2 3 4 totally agree
Our firm offers good possibilities for continuation of professional studies.	do not agree at all 0 1 2 3 4 totally agree
There are good possibilities for promotion.	do not agree at all 0 1 2 3 4 totally agree

CURRICULUM VITAE

Thesis written by	Dipl.-Psych. Beate Muschalla Born on march 24th 1981 in Potsdam
Living in	Goethestraße 1, 14532 Kleinmachnow, Germany
School	1989-2000: Primary school, Secondary school: Weinberg Gymnasium Kleinmachnow
Studies	At Free University Berlin: 2000-2002 Cultural anthropology, Literature, Aegyptology. 2003-2006 Psychology, final diploma in 04/2006
Professional training	Since 07/2006 training as psychotherapist at the Institute for Behavior Therapy Berlin (IVB), Internship at the Department of Behaviour Therapy and Psychosomatics at the Rehabilitation Center Seehof/Teltow
Occupations	Since 09/2004 research assistent in the Research Group Psychosomatic Rehabilitation at the Charité University Medicine and Rehabilitation Center Seehof. Topics of research: workplace-related anxieties, ICF and disorders of functioning and participation, occupational reintegration management
Congress participation	Annual meeting of the Society for Anxiety Research 2006, 2007 DGPPN Congress Berlin 2006, 2007 Colloquium for Rehabilitation Research 2007, 2008 International Congress of Psychology 2008